US Army Corps
of Engineers
Baltimore District

Maryland Port
Administration

Baltimore Harbor Anchorages and Channels, Maryland

Integrated Feasibility Report and Environmental Impact Statement

Technical Appendices

APPENDIX C - ECONOMICS

March 1997

ECONOMICS APPENDIX

Many organizations and individuals contributed to the success of the economic investigation of channel and anchorage improvements conducted by the Economics Section, Planning Resources Branch, Planning Division, Baltimore District, Corps of Engineers. Major contributors to the Baltimore Harbor Anchorages and Channels Feasibility Study include the Institute for Water Resources-Navigation Division; the Waterborne Commerce Statistics Center of the Navigation Data Center; The Philadelphia District, Corps of Engineers; the Maryland Port Administration, the Association of Maryland Pilots and Mr. David W. Stambaugh III of the Baltimore Maritime Exchange. This appendix represents an integrated effort on the part of these organizations to identify relevant issues, data needs, and sources, and to acquire and use the data to support the economic analyses.

This Economics Appendix contains detailed presentations of several major activities. The first presentation is an in-depth analysis of 1993 commodity flows and vessel movements through the Port of Baltimore which is reflected in the Existing Conditions report. The Without Project Conditions report represents the next major activity and provides the rationale for the commodity and vessel forecasts relevant to the Port of Baltimore and the Baltimore Harbor Anchorages and Channels feasibility analysis. The Trade and Transportation Group of DRI/McGraw-Hill was a major contributor to these activities.

Concurrent with the development of the without project forecasts, Professor Michael Racer, University of Memphis, developed a simulation modeling tool for use in the Baltimore Harbor Anchorage and Channels Feasibility study and incorporated major physical and operational features of the Port of Baltimore vessel movement system. This simulation tool, coupled with vessel fleet forecasts, channel locations and configurations, anchorages, time parameters and cost parameters, was employed to evaluate various improvement scenarios. This simulation model is the other major activity reported on in this appendix.

The sections contained in the Economics Appendix are:

Existing Conditions Report;

Without Project Conditions Report (with annexes A-G);

Expert Review of Simulation Model Development and Application;

Simulation Analysis of Anchorages and Channels Modifications
Baltimore Harbor Channel Simulation User's Manual;

Example Benefit Determinations and Channel and Anchorage Alternatives.

US Army Corps
of Engineers
BALTIMORE DISTRICT

BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MARYLAND

EXISTING CONDITIONS REPORT

Prepared as part of
BALTIMORE HARBOR ANCHORAGES AND CHANNELS INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

Prepared for
US Army Engineer District, Baltimore
10 South Howard Street
Baltimore, MD 21201

and

Maryland Port Administration

by:
DRI/McGraw-Hill
1200 G Street, N.W.
Washington, D.C. 20005

BALTIMORE HARBOR ANCHORAGES

AND BRANCH CHANNELS

FEASIBILITY STUDY

PORT OF BALTIMORE

EXISTING CONDITIONS PROFILE

AND

VESSEL OPERATING CHARACTERISTICS

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Chapter 1

This chapter will present the purpose of the study, as well as provide a general description of the Port of Baltimore's anchorages and branch channels, and other improvements. In addition experience and qualifications of the consultant, DRI/McGraw-Hill will also be introduced as well as an explanation of the report presentation.

Purpose of Study

This study will develop and provide historical and baseline information on vessel movements and commodity flows for use in the Baltimore Harbor Anchorages and Branch Channels Feasibility Study. The information to be developed will serve as input to a simulation model which is to be the basis for full development and evaluation of the "without project" condition and the "with project" condition.

Through Senate Committee Resolution, 23 June 1988, the Corps of Engineers was authorized to: ". . . review the reports of the Chief of Engineers on Baltimore Harbor and Channels, Maryland, and Virginia, contained in House Documents Number 94-181, 94th Congress, 1st Session and Number 86, 85th Congress, 1st Session and prior reports, with a view to determining if further improvements for navigation, including anchorages and access channels, are advisable at this time." As a result of this authorization, the Baltimore Harbor Anchorages and Branch Channels Reconnaissance Study was initiated to examine the adequacy of the existing anchorages and branch channels network in the Port of Baltimore. Along with approval of the Reconnaissance Report in 1992, it was determined that queuing/simulation analysis would be required as a basis for any economic studies undertaken and any decisions made as part of the feasibility study effort. This 1995 study includes data development and collection to support the Baltimore District's utilization of simulation modeling technology to evaluate potential improvements to the Port of Baltimore navigation system.

Anchorages, Branch Channels, and other Improvements

Since 1824, the Baltimore District of the United States Army Corps of Engineers (COE) has constructed and maintained the channel system within the Port of Baltimore (POB). The COE maintains the channels in order to accommodate the large, deep draft commercial shipping vessels calling on the port. A number of anchorages are also managed within the port to provide a means for vessels to safely layover for various reasons. Originally authorized between 1909 and 1945, the anchorage areas were designed to serve the

vessels calling on the port during that era. Over time, working vessels grew considerably, making the original size of the anchorages obsolete. For example, the anchorages were originally designed to safely accommodate a 600 foot length overall (LOA) vessel in a free swinging berth (ship may move with the tide and wind around the anchor). Currently, over 1000 vessels calling the port have 600 foot LOA or greater (see Chart 1). This represents 50% of the total merchant fleet calling at the POB. Furthermore, the older fleet is being replaced by new generation vessels which possess a LOA of between 600 and 990 feet. Vessels calling at the port with 900 LOA or greater make up 3% of the visiting fleet.

Chart 1

Vessel Drafts-LOAs Percentage Breakdown for 1993

LOAs	1993
0-299	2%
300-399	5%
400-499	10%
500-599	33%
600-699	25%
700-799	16%
800-899	6%
900+	3%

Source: DRI/McGraw-Hill from BME data

Thus, many vessels are forced to wait south of the harbor in the naturally deep water of the Annapolis Anchorage. Vessels waiting in this southern location, endure delays and incur additional costs for their owners, charterers, and customers. For example, in 1989, vessel delays resulted in increased costs for the "at sea" operation of the vessel, pilotage fees, and labor amounting to $822,000 for more than 100 vessels. (Figures based on April 1992, US Army Corps of Engineers, Baltimore District "Baltimore Harbor Anchorages and Channels, Maryland, Reconnaissance Report." A more in-depth discussion of these delay costs based on a separate analysis of cost factors will follow in Chapter 2.)

During the 1990's, many interested groups recognized the need for the Port of Baltimore to fundamentally improve the anchorage areas to make the port more operationally efficient and attractive to global shipping traffic. This heightened concern and increased need for larger anchorage areas led to the identification of other performance problems. Branch channels which serve some of the public marine terminals were not deep enough to accommodate the size of vessels currently calling at the port. The limited width of the branch channels at Seagirt and Dundalk Marine Terminals requires time consuming maneuvers to navigate vessels safely during berthing and deberthing operations. This additional time for operations at Seagirt and Dundalk totaled $874,000 for over 900 ships in 1989. South Locust Point Marine Terminal's inadequate facilities resulted in $567,000 extra costs for over 300 vessels in 1989. The Federally authorized Curtis Creek Channel, reported as insufficient for vessels calling at this facility,

requires vessels to "lighten" or discharge cargo onto smaller vessels. In 1991, costs associated with lightering 31 vessels to shallower drafts in order to safely navigate the channel totaled $615,000. (1992 Reconnaissance Report).

Anchorages - Current Status

Data for this section is based on information derived from the "Baltimore Harbor Anchorages and Channels, Maryland Reconnaissance Report", April 1992.

The four anchorages authorized under the existing Baltimore Harbor and Channels projects are detailed in Figures 2 and 3. These anchorages are maintained by the Federal government and regulated by the U.S. Coast Guard (USCG). The Quarantine Anchorage was authorized by the COE, but is not shown on any maps since it is no longer used due to the construction of the Francis Scott Key Bridge (regulation of this anchorage was canceled by USCG effective January 15, 1970).

- Anchorage #1: Fort McHenry Anchorage:
  In the Patapsco River near the intersection of the Fort McHenry Channel and the Ferry Bar Channel; 35 feet deep, 3500 feet long, and 400 feet wide.

- Anchorage # 2, General Anchorage:
  In the Patapsco River, adjacent to Seagirt Marine Terminal and Anchorage #3, depth range from 19 to 35 feet.

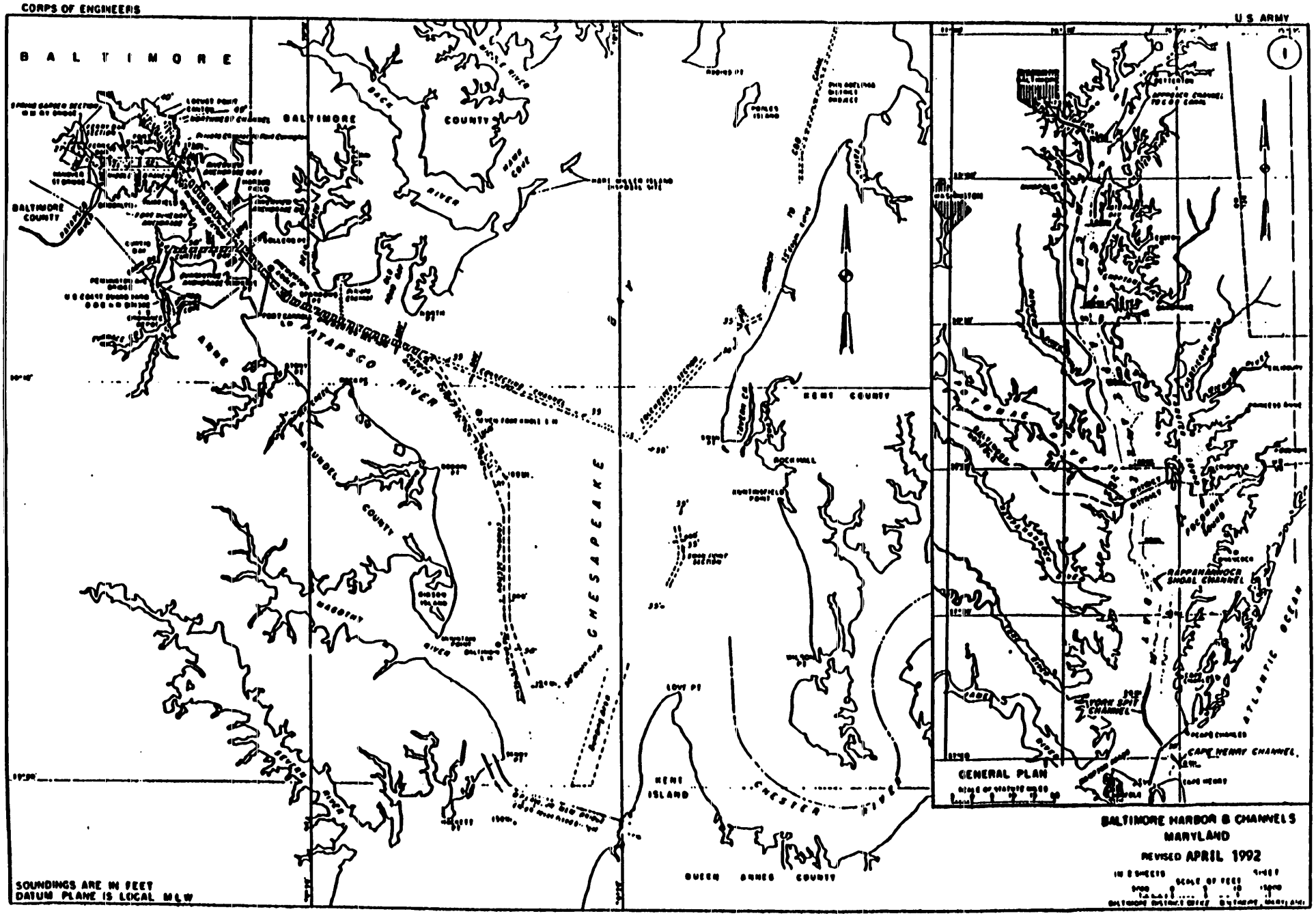
- Anchorage #3: Riverview Anchorage #1:
  In the Patapsco River, on the northeast side of the Fort McHenry Channel, adjacent to Seagirt Marine Terminal; 35 feet deep, 4500 feet long, and 1500 feet wide.

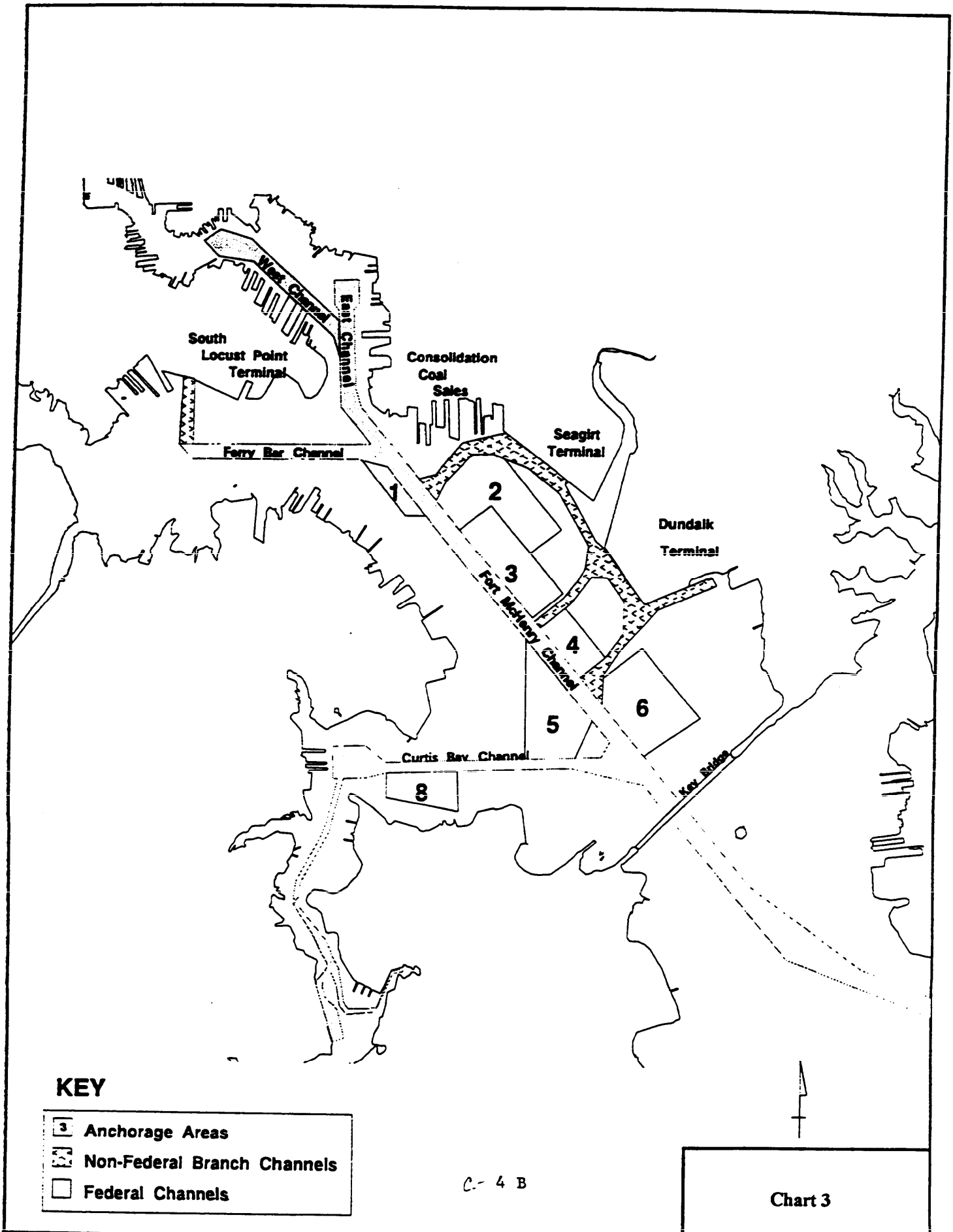
- Anchorage #4, Riverview Anchorage #2:
  In the Patapsco River, 1000 yards southwest of the Dundalk Marine Terminal; 30 feet deep, 2400 feet long, and 1300 feet wide.

- Anchorage #5, General Anchorage:
  In the Patapsco River in the angle between Fort McHenry and Curtis Bay Channel; depths range from 18 to 23 feet over the 305 acre area.

There are four additional federally regulated anchorages established at Baltimore, illustrated in Chart 4. These additional anchorages are not authorized under the existing Baltimore Harbor Channels project and are not maintained by the Federal government. These anchorages are regulated by the USCG and can accommodate vessels with drafts ranging in depth from 19 to 24 feet. (Note Anchorage #7 was previously the Quarantine Anchorage and is now reserved for any potential new anchorages.) In addition to the anchorages located in the harbor, there is a fifth federally regulated anchorage area at the Annapolis Anchorage Grounds (Chart 5). This anchorage is also regulated by the USCG and can accommodate any

Chart 2


CORPS OF ENGINEERS
U S ARMY
BALTIMORE
BALTIMORE COUNTY
BALTIMORE
BACK RIVER
COUNTY
ANNE ARUNDEL COUNTY
PATAPSCO RIVER
CHESAPEAKE
KENT COUNTY
ROCK HALL
KENT ISLAND
CHESTER RIVER
QUEEN ANNES COUNTY
RAPPAHANNOCK SHOAL CHANNEL
YORK SPIT CHANNEL
CAPE HENRY CHANNEL
ATLANTIC OCEAN
GENERAL PLAN
BALTIMORE HARBOR & CHANNELS
MARYLAND
REVISED APRIL 1992
SOUNDINGS ARE IN FEET
DATUM PLANE IS LOCAL MLW


West Channel
East Channel
South
Locust Point
Terminal
Consolidation
Coal
Sales
Seagirt
Terminal
Ferry Bar Channel
1
2
3
4
5
6
8
Dundalk
Terminal
Fort McHenry Channel
Curtis Bay Channel
Key Bridge
KEY
Anchorage Areas
Non-Federal Branch Channels
Federal Channels

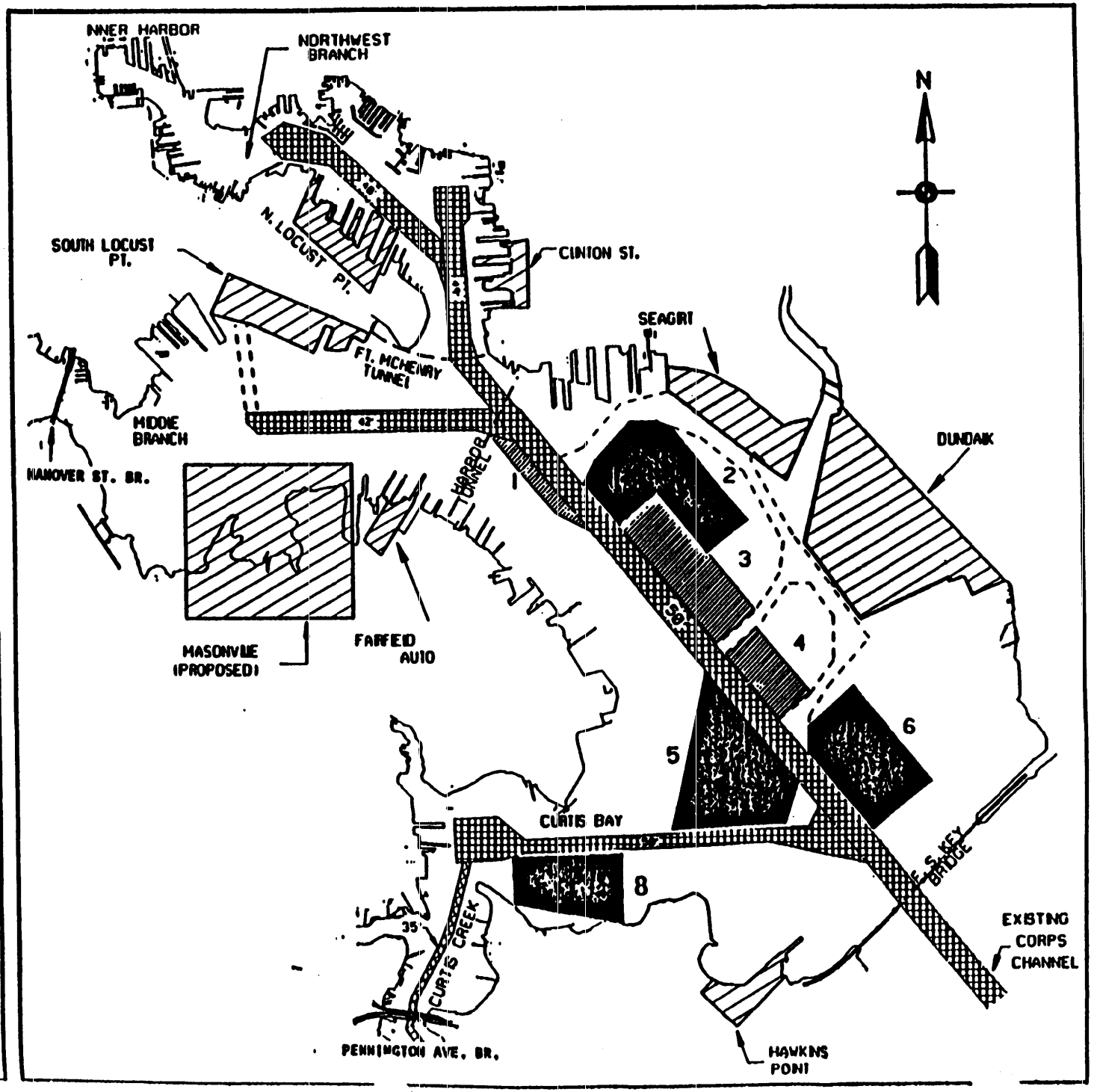
C-4 B

Chart 3

Chart 4

BALTIMORE HARBOR

ANCHORAGES & CHANNELS



MAP KEY

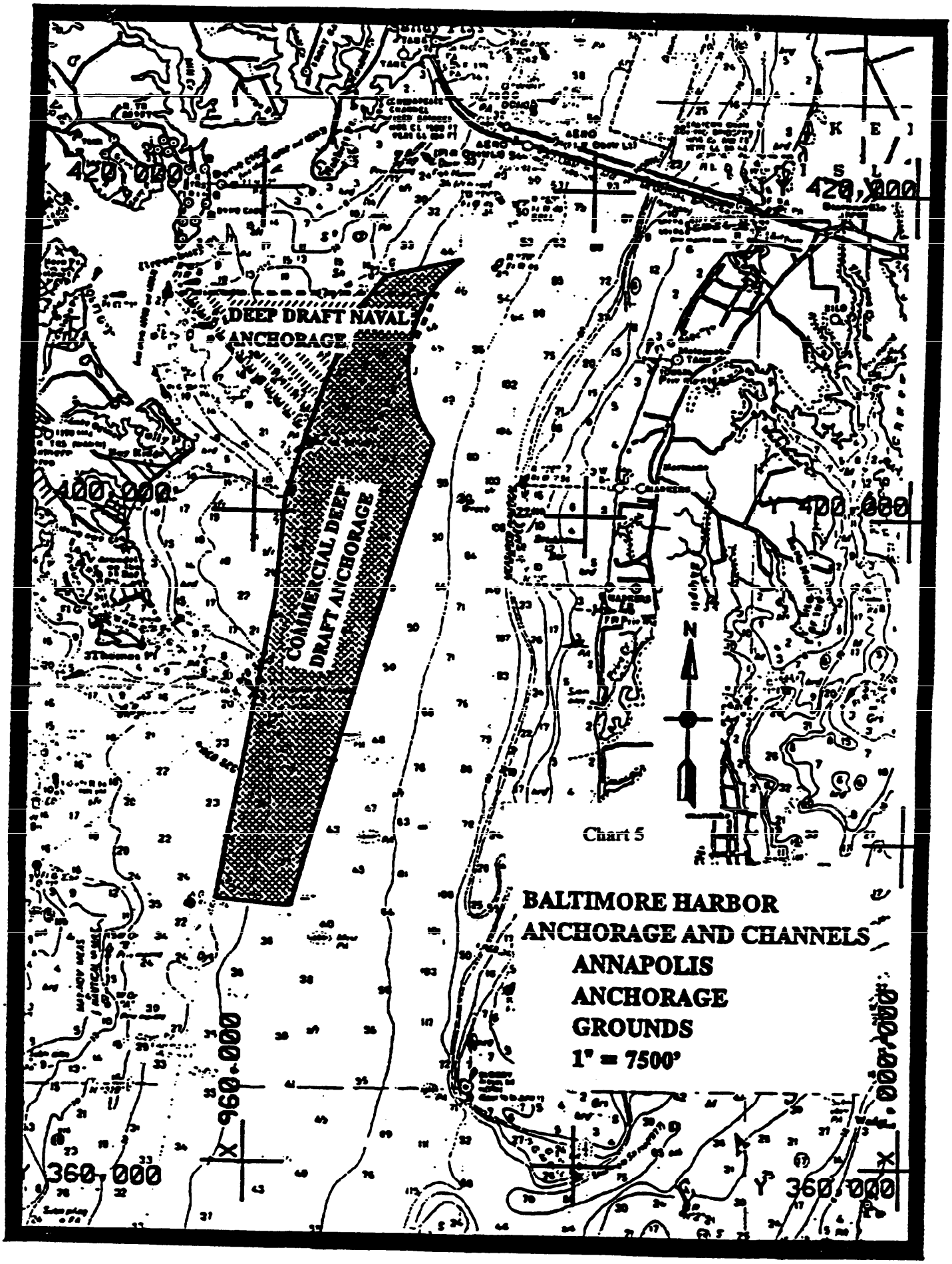
EXISTING CORPS ANCHORAGES

1. FORT MCHENRY	35'
3. RIVERVIEW NO. 1	35'
4. RIVERVIEW NO. 2	30'

OTHER FEDERAL ANCHORAGES

POTENTIAL FEDERAL BRANCH CHANNELS

PUBLIC TERMINALS


DEEP DRAFT NAVAL
ANCHORAGE
COMMERCIAL DEEP
DRAFT ANCHORAGE
420,000
400,000
360,000
N
Chart 5
BALTIMORE HARBOR
ANCHORAGE AND CHANNELS
ANNAPOLIS
ANCHORAGE
GROUNDS
1" = 7500'

size vessel transiting the shipping channel. In addition to the established anchorage area, commercial vessels also anchor in the area just south of the Naval Anchorage.

- Anchorage #6, reserved

- Anchorage #8, Dead Ship Anchorage:
  In the Curtis Bay just south of the Curtis Bay Channel, between Sledds Point and Leading Point; depths range from 15 to 22 feet over the 165 acre area.

- Annapolis Anchorage Grounds, Naval Anchorage for Deep Draft Vessels:
  In the Chesapeake Bay, east of Annapolis and just south of the William Preston Lane, Jr., Memorial Bridge (Chesapeake Bay Bridge). This anchorage is located in naturally deep water and is reserved for deep draft Naval vessels. The Annapolis Anchorage is also used by deep draft commercial ships.

- Quarantine Anchorage:
  In the Patapsco River near Hawkins Point, southeast of the angle between Fort McHenry Channel and Curtis Bay Channel; 35 feet deep, 3500 feet long, and 600 feet wide.

Procedures

Use of the designated anchorage areas in Baltimore Harbor is regulated by the USCG, Marine Safety Office. Vessels calling on the Port of Baltimore are required to notify the USCG 24 hours prior to arrival. At this time, the captain of the vessel requests the use of the anchorage and/or berth space. This request is entered into the Marine Safety Information System database. The selection of a safe anchorage area for a vessel is the responsibility of the USCG in accordance with the Code of Federal Regulations, and is based on several factors, including information provided by the Association of Maryland Pilots (AMP), berth availability, docking time, and the physical characteristics of the ship (overall length, beam and draft.)

Federal regulations limit anchorage use within Baltimore Harbor to periods of 12 to 72 hours, depending on the anchorage used. Vessels requiring longer periods at anchor must obtain a written permit from the captain of the port. With the exception of anchorages #1 and #8, standard use is 72 hours. Anchorage #1, Fort McHenry anchorage, is limited to 12 hours. Ships using this location generally require tug assistance to avoid projecting into the main shipping channel. Anchorage #8, Dead Ship anchorage, requires written permission for any period of use. Vessels anchored in Baltimore Harbor and the Patapsco River outside the designated anchorage areas are not to exceed 24 hours. This is limited to small vessels as the water depths are less than 20 feet and the regulations require that no vessel be positioned so as to obstruct the passage of any vessel or extend into established channel limits.

Baltimore Harbor anchorages are used mainly by smaller bulk cargo vessels waiting for a berth to clear, cargo to arrive, or a letter of credit. Container and grain ships rarely anchor due to scheduling constraints and available berth space. However, they will anchor during poor weather conditions. A designated anchorage area located in deep water east of Annapolis is used for long-term anchoring of deep draft vessels. If adequate anchorage area or berth space is not available at the Baltimore Harbor, vessels use the Annapolis anchorage, or vary their speed while navigating through the bay, in order to arrive at the berth at a scheduled time.

Positioning or repositioning of foreign flagged ships or American vessels engaged in foreign trade within a designated anchorage area is the responsibility of the AMP. The exception is when vessels are maneuvering in a designated anchorage area during berthing or unberthing operations, and/or shifting within the confines of the Baltimore Harbor. If a licensed pilot is not aboard, tug assistance and a docking master aboard the ship are required.

Branches - Current Status

The existing project for the Baltimore Harbor and Channels was adopted by the River and Harbor Act of August 8, 1917, and later modified by the River and Harbor Acts of January 21, 1927; July 3, 1930; March 2, 1945; July 3, 1958; and December 31, 1970.

The existing project (all data based on 1992 Reconnaissance Report) includes a 50 feet deep main channel, between Cape Henry, Virginia and Fort McHenry, Baltimore, Maryland. The authorized dimensions of the channel are as follows:

- Cape Henry Channel:

  50 feet deep and 1000 feet wide-length of channel from bay to ocean is 3 miles.

- York Spit Channel:

  50 feet deep and 1000 feet wide-length of channel from bay to York River is 18.4 miles.

- Rappahannock Shoal Channel

  50 feet deep and 1000 feet wide-length of channel from bay to opposite Rappahannock River is 10.3 miles.

- Craighill Approach Channel to Fort McHenry

  50 feet deep and generally 800 feet wide, widened at the entrance and bends, with a length from bay at the mouth of the Magothy River to Fort McHenry on the Patapsco River, a distance of 20.7 miles.

The existing project also authorizes a series of branch channels, providing access to the various public and private terminals serving the Port of Baltimore and connecting the main channel with the C&D Canal. The dimensions of the branch channels are as follows:

- Connecting Channel to Chesapeake Bay and Delaware Canal Approach Channel:

  35 feet deep, 600 feet wide, and 15.6 miles long from the cutoff angle in the main channel to the 35 foot depth curves in the natural channel on the east side of the Chesapeake Bay, which is part of the inland waterway from the Delaware River to the Chesapeake Bay. The channel includes the Brewerton Channel Eastern Extension, Swan Point, and Tolchester Channels.

- Curtis Bay Channel:

  50 feet deep , 600 feet wide, and 2.2 miles long from the main channel to and including a 1275-foot wide turning basin at the head of Curtis Bay.

- Curtis Creek:

  This channel provides access to multiple facilities which are used for several purposes: shipment and receiving of fuel oil, petroleum products, liquid fertilizers, asphalt, sulfuric acid, potash, bulk cement, sodium hydroxide, and sodium silicate, marine repair work, and marine construction. Most of the ships calling on these facilities are barges, although some fuel tankers also call. These tankers must be lightered prior to entering the channel (vessels navigating Curtis Creek are limited to a maximum draft of 33 feet). This lightering is conducted in the Annapolis Anchorage or at another berth.

  1 A channel 35 deep and 200 feet wide from the 50 foot channel in Curtis Bay to 750 feet downstream of the Pennington Avenue Bridge (.9 miles).

  2 A channel 22 feet deep and 200 feet wide from the 35 foot channel to and along the marginal wharf of the Curtis Bay Ordinance Depot.

  3 An irregular shaped basin 18 feet deep and 320 feet wide, adjacent to the head of the 22-foot channel, a distance of 600 feet.

  4 A basin 15 feet deep and 450 feet wide, from the end of the 22 foot channel to the end of the marginal wharf, a distance of .2 miles.

  5 A channel 22 feet deep and 200 feet wide, from the 22 foot channel of the CSX Rail Transport bridge to close to Arundel Cove, a distance of 2800 feet, then 100 feet wide in Arundel Cove for 2100 feet, with an anchorage basin 700 feet square adjacent to the channel and southwest of the wharf of the Coast Guard Depot at Curtis Bay.

- Middle Branch:

  Ferry Bar East Section:
  A channel 42 feet deep and 600 feet wide, the distance from the main channel at Fort McHenry to Ferry Bar is 1.4 miles.

  (The West Ferry Bar and Spring Garden Sections of the existing project were deauthoirzed by Section 1001 of the Water Resources Development Act of 1986, PL 99-662.)

- Northwest Branch

  1 East Channel:
  600 feet wide and 49 feet deep for 1.3 miles, having a 950 foot wide turning basin at the head of the channel.

  2 West Channel:
  600 feet wide and 40 feet deep for 1.3 miles, with a 1050 foot wide turning basin at the head of the channel.

There are several other non-Federal branch channels which serve to connect the main shipping channels with various public facilities throughout the port. The branch channels range from 36 to 42 feet deep and 300 to 500 feet wide. The branch channels are illustrated in figure D. They include West Seagirt Branch Channel, Seagirt/Dundalk Connecting Channel; West Dundalk Branch Channel; East Dundalk Branch Channel, and South Locust Point Branch Channel and turning basin. Maintenance of these branch channels and the berthing areas is the responsibility of the MPA.

Detailed Existing Conditions

The Port-Physical

The navigable portion of the Baltimore Harbor includes the Patapsco River area south of Hanover Street; the Northwest and Middle Branches; and Curtis Bay and its tributary, Curtis Creek. The Northwest Branch varies in width from 1200 to 3000 feet, and extends 3 miles to its head. Baltimore's Inner Harbor is located at the head of the Northwest Branch. The Middle Branch, also known as Spring Garden, extends 1.5 miles northwest of Ferry Bar past Hanover Street, and varies in width from 1000 to 4000 feet. Curtis Bay averages .7 miles wide and extends 2 miles west of the Fort McHenry Channel. Curtis Creek empties into the head of Curtis Bay and extends in a southerly direction.

The Patapsco River, a major tributary into the bay, originates near Westminster, in Carroll County, Maryland, and flows southeasterly for 65 miles to enter the Chesapeake Bay 9 miles south of Fort McHenry. The lower 15 miles of the river are tidal. Navigation for deep draft vessels is limited to the area south of the Hanover Street Bridge, where the width of the river increases abruptly to nearly 1 mile. From this point to the mouth, the width gradually increases to about 4 miles.

The mean range of tides is 2.8 feet at Cape Henry Channel, 2.3 feet at the York Spit Channel, 1.4 feet at the Rappahannock Shoal Channel, .8 feet at the Craighill Entrance, .9 feet in the Craighill Upper Range, 1.1 feet at Fort McHenry, and 1.2 feet at Pooles Island in the upper Chesapeake Bay. Prolonged high

winds from the north tend to blow water out of the bay, causing very low tides. Thus, prolonged high winds from the south blow water into the bay, creating very high tides.

The velocity of the flood current ranges from 1 knot at the entrance to the Chesapeake Bay to approximately .6 knots at the Craighill Entrance Channel. A vessel entering the Chesapeake Bay through the Virginia Capes at a speed of 12 knots can pass Cape Henry two to three hours prior to high tide and carry a favorable current all the way to Baltimore. A vessel leaving Baltimore at the same speed at high tide can carry a favorable current about two-thirds of the way to Cape Henry.

The salinity of the Chesapeake Bay ranges from the highest at the mouth of the bay, where seawater enters the estuary through the Virginia Capes, to fresh water along the Susquehanna flats at the upper bay. Salinity also varies considerably throughout the bay along the longitudinal and depth gradients, according to the seasonality. The salinity of the bay is easily effected by periods of drought and heavy rains, and unseasonably warmer temperatures. At Baltimore, the salinity varies from an average 5 parts per thousand (ppt) in the spring to 10 ppt in the fall. The salinity at the mouth of the Potomac River varies from 11 to 18 ppt, while at Cape Henry it varies from 23 to 29 ppt. The brackish nature of the water at Baltimore can effect the buoyancy of large bulk carriers, sometimes resulting in a 1 foot increase in the draft of vessels at Baltimore over that at Cape Henry.

The bottom sediments in the Chesapeake Bay and the approach channels to the Baltimore Harbor are predominantly clay-silts, with some locations of sand-silt-clay. The upper Chesapeake Bay is a zone of deposition of sediments, with the Susquehanna River as the principle source of new sediment. Sediments which shoal in the channels are comprised predominantly of the local sediments, and are mostly clay and silt.

Baltimore Harbor is considered the tidal portion of the Patapsco River and the adjacent lands. The natural water depths are generally less than 20 feet.

The Port-Commercial

The Port of Baltimore is located on a 32 square-mile area of the Patapsco River and its tributaries, approximately 12 miles northwest of the Chesapeake Bay. The port may be reached from the Atlantic Ocean by two distinct shipping routes; from the south through the Virginia Capes and the Chesapeake Bay, or from the east through the Delaware River, Delaware Bay, C&D Canal, and the Chesapeake Bay.

The Patapsco River estuary has a long maritime history dating back to 1608. The port was established in 1706, nearly 20 years prior to the incorporation of Baltimore City. The settlers were attracted by the Jones Falls' natural water power and the naturally deep port at Fells Point. By the end of the Revolutionary War, Baltimore had established regularly scheduled sailing services. In the 19th century, ship building, warehouses, and piers continued to expand to meet the needs of the growing local and regional markets. By the 1830's, the Baltimore Clipper, cargo carrying vessels, steam powered vessels, and railroads supported the prospering Baltimore commercial market. Beginning in the 1850s, dredging of the navigation channels enabled even larger vessels to call on the port. Continuing into the 1990s, the Port of Baltimore remains a growing commercial center.

Handling over 22 million metric tons of foreign cargo and over 11 million metric tons of domestic cargo in 1993, the Port of Baltimore remains a major facilitator in the thriving Baltimore-Washington megalopolis.
It is a major node in the distribution networks feeding the markets of New York, Philadelphia, Newark, and Washington, DC. The Port is the most inland seaport on the east coast providing easy connections to America's industrial heartland. Baltimore also contributes to east coast markets as far north as Boston, Massachusetts and as far south as Charlotte, North Carolina.

The Port-Vessel Activity

As previously discussed, vessels arrive and depart the Port of Baltimore via the southern Chesapeake Bay (Cape Henry) route or the northern Chesapeake Bay route through the C&D Canal. Vessels using the C&D canal for passage to or from the Port of Baltimore must have a draft of 33 feet or less. Vessels with sailing drafts greater than 33 feet must use the main shipping channel (Cape Henry) route into the Port of Baltimore. Deepening of this channel system to 50 feet was completed in October 1990, as part of the Baltimore Harbor and Channels 50-foot project.

Vessel types calling on the Port of Baltimore may include autocarriers, break bulk, containers, dry bulk, tankers, RORO (roll on - roll off) carriers, general cargo, cableships, naval ships, tugs, and tug/barge combinations. DRI's World Fleet Forecasting Service will use the following classes to describe the fleet: cellular (container), bulk, combination, tanker, RORO, vehicle carrier, product tankers, general cargo, reefer, gas tankers and other ships.

The Port of Baltimore is one of America's busiest deep-water ports. For container business, this harbor has ranked between 33 (1989) and 40 (1990) in the top 100 Global Container ports, (Containerization

International Yearbook.) Within the United States, POB ranked 13th (1993) and 9th (1992) for total foreign waterborne tonnage (based on Waterborne commerce data). POB also ranked 9th (1993 and 1992) in the nation for total value of foreign waterborne cargo (waterborne commerce data). The port's 45-mile shoreline supports many modern public and private cargo terminals which handle a wide variety of general (containerizable) and bulk cargoes.

Foreign commerce at the Port of Baltimore is a mix of bulk, general, and specialized cargoes (these cargo flows are further discussed in Chapter 2). The level of international trade has varied in the last ten years and is a topic under review in both the public and private sector of the commercial shipping industry. These non-standard trade flows make it difficult for the port to effectively plan and, as a result, to operate efficiently.

Ocean Carriers

Steamship lines have increased the size of container vessels dramatically over the last decade doubling the length and sextupling capacity. This extreme growth was the result of market demands when the original container ships were constructed. In order to meet customer service requirements, shipowners were forced to build enough ships to continue original call schedules. However, the new container vessels were considerably larger, resulting in the new fleet replacing the older vessels in the ratio of one to three. Shipowners had to build nearly twice as many ships as the trades could support financially. Thus, their capacity outsized cargo considerably.

Overcapacity in the steamship industry led many operators to merge efforts, resulting in the consolidation of some lines. In addition, steamship companies charter space on one another's vessels (vessel sharing), substituting cooperation for competition. Due to the large size of the containerships, an oceangoing ship is more economically efficient when operated from one loading port to one discharging port. Dispatching ships after cargo is not an economically rewarding system. Therefore, steamship lines utilize smaller ships (feeders) to distribute and pick up cargo at outlying ports. Thus, feeders carry cargo to and from the mother ship for final loading or discharge. Feeders improve the deep sea service by sailing on a regular schedule, enabling the larger operators to better control costs and perform a consistent service to the ultimate customer.

In response to increased competition, the shipping industry has become very focused on costs and cost-cutting measures. Steamship lines strive to have their container vessels complete as many annual ocean transits as possible. To maximize revenue opportunities and earn a return on the huge capital investment

to build the vessels, lines must minimize containership time in port as much as possible. Most lines operate on the principle that it is more efficient to have the cargo come to the ship rather than sending the ship to meet the cargo. The entire container concept is based on the fact that for larger vessels it is cheaper to move cargo to the vessel than the vessel to the cargo. This concept of consolidating cargo at designated "load centers" favors ports closest to the ocean. Baltimore's location 150 miles up the Chesapeake Bay can put it at a disadvantage to the Port of Hampton Roads which is only 18 miles from open ocean.

Most containerized cargo is carried on commercial ships calling at various ports according to a fixed schedule, unlike vessels contracted (chartered) for a specific trip, use, or time period. On time delivery is a crucial competitive factor in the shipping industry. Steamship lines offer their customers intermodal door-to-door (moving goods via more than one mode of transport to reduce handling and expense) to their customers in order to provide the shipper with the convenience of one bill of lading, one rate and one company to deal with on a shipment. This flexibility allows the operator to move cargo, to make calls according to schedule, or skip ports as a means to save time. The end customer is not usually concerned how or where the cargo is transported, as long as it arrives at its final destination in good condition and on time. As a result of this trend, over the last 10 years, steamship lines have shown a preference for ports near the open ocean like Hampton Roads. Ports located in close proximity to large bodies of deep water are generally have deeper harbors and can accommodate larger vessels. Larger vessels can complete operations with fewer obstructions, enabling them to discharge and or load cargo with minimum time investment.

Another factor forcing ships to maintain a strict schedule and stay close to open water is the concept of just-in-time distribution (J-I-T). J-I-T is a distribution strategy which aims for the lowest inventories while continually striving for constant improvement in the logistics process. This system "pulls" the distribution process into the entire manufacturing approach, rather than "pushing" unneeded or unnecessary parts/products onto suppliers/customers. With J-I-T, consumption dictates production needs. Thus, manufacturers limit inventories and respond to demand. This orchestrated responsive distribution system also eases cash flow by avoiding intensive cash investment on goods in storage. However, because this system is so time sensitive, schedule failures can have detrimental affects. Due to this sensitivity, a vessel which is late because of bad weather or the required use of an anchorage, may attempt to make up the time by increasing its speed. This faster travel usually poses no problem in the open sea, but vessels seeking to gain time in the Chesapeake Bay must deal with environmental and traffic regulations, necessitating much slower speeds for 12 to 16 hours each way. For example, Chart 6 presents the average deep draft speeds in knots for vessel traffic to and from Baltimore Harbor.

Chart 6

Average deep draft speeds in knots for Baltimore Harbor Navigation

location	avg speed (knots)	tugs
Intraharbor vessel movement (Ft. Carroll to berth)	3	Y
Ft Carroll to North Point	8 to 10	N
North Point through Brewerton E. Extension swann Point up to C & D Canal approaches	12	N
North Point to southern approaches to Cape Henry (Brewerton, Craighill to Chesapeake City)	15	N
Channel and naturally deep waters from Chesapeake City to Cape Henry approaches	15 to 20	N

Source: Baltimore Maritime Exchange 2/95

Vessels seeking a shorter route to the Port of Baltimore may consider utilizing the C&D Canal. As noted before, because of its size it is not usable for all types of vessels. The existing depth of the Canal is a disadvantage for vessels sailing with actual drafts greater than 33 feet. Vessels going to or from POB to northern ports with sailing drafts above 33 feet are restricted from using the C&D canal and must navigate south to the ocean. This trip requires the vessel to steam 12-16 hours down Cape Henry, and then 16 additional hours up the coast to arrive at the same place as if they had used the C&D Canal. The POB's documented deepest access channel, Cape Henry at 50 feet, compares to other major world ports (see Chart 7). The C&D Canal is the alternative route to the port. Currently, studies are being conducted to determine the feasibility of deepening the C&D canal.

Ports

U.S. container ports are expanding despite slow growth and sharp competition, each potentially leading to overcapacity and cargo rate wars. The expansion is due in part to container trade growth. Global trade forecasts expect U.S. container traffic to increase. This rise in exports and imports will continue as countries expand and develop trade relationships. Another reason for expansion is the shift to larger container ships making fewer port calls. In response, ports are building longer berths, bigger cranes and larger container yards. For example, the largest U.S. port infrastructure investment in the U.S. is the $5 billion, 30-year port expansion proposed by Long Beach and Los Angeles to keep pace with the containers shipped from the Far East, discharging their cargo on the west coast, and then railing across the U.S. (landbridge) to east coast destinations. In addition, Charleston, South Carolina plans to invest $400 million to double its container dock capacity by the year 2005. Its rival Savannah, Georgia, intends to develop Mulberry Grove, a former cotton plantation, into a huge container terminal. New York (Kill Van Kull) has no expansion underway. The Staten Island container terminal has not reached capacity levels since U.S. Lines Inc. ceased operations in 1986. New York, the nation's largest general cargo port, is

Chart 7

Major Ports of Call by Containership Lines

Trade Area	Port	Channel depth (ft.)
North America	Los Angeles	45.00
	San Francisco	42.70
	Baltimore via Cape Henry	50.00
	Baltimore via C&D Canal	35.00
	Long Beach	42.00
	Charleston, SC	42.00
	Norfolk	50.00
	Halifax	40.00
	Mobile	40.00
	Oakland	40.00
	Houston	40.00
	New York	40.00
	Miami	38.00
	New Orleans	38.00
	Savannah	38.00
	Wilmington, NC	38.00
Far East	Singapore	45.90
	Kobe	42.70
	Tokyo	42.70
	Busan	41.00
	Hong Kong	40.00
	Kaohsiung	39.40
	Keelung	39.40
	Nagoya	39.40
	Osaka	39.40
	Yokohama	39.40
Northern Europe	Antwerp	50.20
	Bremerhaven	46.60
	Le Havre	44.30
	Felixstowe	44.00
	Rotterdam	42.70
	Hamburg	41.00
Southern Europe	Barcelona	45.90
	FOS	45.90
	Valencia	45.90
	Haofa	42.70
	Piraeus	41.00
	Cadiz	39.40
	Leghorn	39.40

Source: Containerization International Yearbook

concerned that rival East Coast ports will not recover their investments and that their overcapacity will pull rates down.

The Port of Baltimore established the publicly-financed Maryland Port Administration (MPA) in 1956, allowing the port to concentrate on developing general cargo trade. MPA built, among other facilities, a marine terminal to handle specialized shipments, and within a few years handled 100,000 imported cars a year, plus military equipment and a growing container trade. In 1991, it completed its $250 million Seagirt Marine Terminal, a state-of-the-art, highly automated container transport facility. With this addition, the port is well positioned to take advantage of the movement to intermodalism. (A complete list of all facilities, including numbers of berths, cranes, etc. is contained in Annex G of the Without Project Conditions report.)

Trade

International trade has grown quickly; in fact, more quickly than output and has become a large part of both the U.S. and world economies. Manufactured exports grew especially fast, beginning with small items like toys, and expanding to automobiles and consumer electronics in the 1960s and 1970s. The exports originated in countries that previously had not exported substantially (especially Japan and other Asian locations). Coupled with this trend, was a large increase in U.S. consumption of these goods. This was accompanied by structural changes in the U.S. economy as many of the manufacturing and producing industries in the U.S. that had previously been the prime suppliers of these commodities lost domestic market share to imports.

Trade through ports in the North Atlantic region, which includes the ports of New York, Philadelphia, Baltimore and Hampton Roads, grew 32 percent from 1976 to 1986. During this same period trade through California ports grew 130 percent, South Atlantic ports 99 percent and North Pacific ports 65 percent. Since this period, the number of ship calls at every North Atlantic port has declined or remained constant, though the volume of world trade has expanded. This is due to the growing practice of landbridging cargo (supplementing ocean transport with the use of truck or rail to move cargo over land). This method is used to move approximately 75 percent of cargo from the Far East to the Midwest and 50 percent to the East Coast. This distribution method reduces operating costs and time expense as ships call at fewer ports and avoid navigating the Panama Canal. Delivery of a container via landbridge requires just 13 to 17 days to move from North Asia to Baltimore. This compares with 23 to 31 days using the all water route through the Panama Canal. As a result, many East Coast ports now focus heavily on European trade.

One major trend that could potentially work in Baltimore's favor is the apparent shift in export manufacturing from North Asia (Japan, Korea and Taiwan) to South Asia (Thailand, Malaysia and Indonesia). As more and more manufacturing moves south, the trend to use a new ocean route may increase. For example, cargo exported from Singapore transported via the Suez and then to the U.S. east coast will take about 22 days. This same cargo moved via the West Coast to the East Coast would take 28 to 32 days. This will bring the source of some imports closer to the East Coast.

Conclusion

These issues present critical considerations for the Port of Baltimore. As vessel operators merge efforts and reduce calls, competition among ports continues to intensify. A port seeking to gain the greatest share of business, must capitalize on recent developments. Ports that understand "load centers" and support "feeder operations" can offer attractive services for ship owners and operators. Ports that diversify their marketing efforts can avoid the risk of a specialty that becomes outdated and unwanted.

DRI's Role

For the economic study, DRI/McGraw-Hill (DRI) acts as the primary consultant, collaborating with other transportation and maritime experts to provide a thorough evaluation. Work on the Baltimore Harbor Anchorages and Channel Feasibility Study commenced in September 1994, with preliminary investigations and fact finding. DRI continued to provide the majority of the data processing required for a concise analytical evaluation of the port's current commercial and vessel activity. The data sources utilized include: the Baltimore Maritime Exchange (BME), Waterborne Commerce Statistics Center of the Water Resource Support Center, Journal of Commerce's PIERS database (PIERS), Lloyd's Maritime Information Services (Lloyd's), DRI's World Fleet Forecast Service (WFFS) and World Sea Trade Service (WSTS), and the Fairplay database (Fairplay). These databases and the methodology used will be discussed in detail in Chapter 4.

DRI's Experience and Expertise

The DRI/McGraw-Hill study team for the Baltimore Harbor Anchorages and Channels Feasibility Study is qualified to complete this study based on accumulated maritime experience. Our team members contribute unique skills which enable DRI to approach and execute this report effectively and efficiently. Team members include former maritime and intermodal professionals, as well as, data analysts and programmers. DRI has significant experience in maritime port feasibility studies (see details below).

DRI/McGraw-Hill Corporate Qualifications

DRI/McGraw-Hill has performed economic consulting for more than 25 years, providing a wide range of analysis and forecasting services to clients worldwide. DRI/McGraw-Hill is a firm of more than 400 professionals located in offices in the United States, Canada, Europe, and Asia. It is a recognized leader in the areas of quantitative economic research and forecasting. DRI is also recognized as the leading consultancy focusing on international transportation and trade analysis. DRI has completed dozens of policy and planning studies for Federal clients such as the U. S. Army Corps of Engineers, the Maritime Administration, NATO, the Panama Canal Commission, the Federal Highway Administration, and the Federal Railroad Administration. DRI's Trade and Transportation Group has also completed numerous planning and policy studies for public sector clients at the state and local levels.

Transportation Experience

DRI's Trade and Transportation Group is responsible for serving DRI clients in the transportation industry, including the 10 largest railroads, commercial airlines and air freight carriers, trucking and maritime shipping firms, including most of the largest global container operators, sea and air port authorities and government transportation agencies.

DRI's Trade and Transportation Group provides planning analysis and consulting services to a diverse group of clients concerned with the performance of transportation markets. DRI has worked closely with government agencies, companies, and associations to address a wide variety of demand forecasting, tactical and strategic planning, business planning process, and public policy issues. The Trade and Transportation Group works closely with DRI's domestic industry and regional economic service groups to provide dynamic analyses designed for individual clients' needs.

DRI's Trade and Transportation Group produces a number of ongoing and customized consulting services for client organizations covering both domestic and international transportation. In the U.S. and the rest of North America, DRI provides tailored analytical consulting services to railroads, motor carriers, passenger airlines and parcel/express carriers to assist them to identify market opportunities, evaluate their competitive position, and create strategies and services to address market and client demands.
The following is a partial list of recent corporate experience and performance.

Completed Projects

Maritime/Port/Navigation Studies

Chesapeake and Delaware Canal Study -- In this project feasibility study for the Philadelphia District of the U.S. Army Corps of Engineers and the Maryland Port Administration, DRI performed an economic analysis of the costs and National Economic Development benefits associated with improving the Chesapeake and Delaware Canal. This study included interviews with major shippers currently using the Port of Baltimore and included an assessment on the likelihood of these shippers increasing their commitment to the Port if the waterway were improved. Both an economic and trade forecast were prepared and DRI analyzed classes of ships currently using the canal and potentially using the canal in the future. World Sea Trade forecasts of United States trade with the world were used along with detailed analysis of ship movements from DRI's World Fleet Forecasting Service. (1994)

The National Dredging Needs Study of Ports and Harbors -- On behalf of the U.S. Army Corps of Engineers, Institute for Water Resources, DRI is conducting a comprehensive national study of dredging needs. This study, when complete, will provide an analysis and estimates of the dredging needs of the United States now and in the future. In this study, models are being developed which link the regional economic growth in trade, both domestic and international, to the characteristics and operating characteristics of the world ocean vessel fleet and port system now and in the future. (1994-1995)

South Atlantic Containership Market Study -- On behalf of the Army Corps of Engineers, Savannah District, DRI completed a project analyzing the market for containership traffic through the ports in the South Atlantic region of the U.S. This study included a detailed assessment of the demand for imports and the export generating capacity by region of the United States. Models were developed which assessed the competitive position of the South Atlantic region based upon competitive cost factors and the availability of port and inland infrastructure required to serve inland markets. This study included an analysis of freight flows, by corridor, in and out of the South Atlantic states and the intermodal facilities and links for this freight. (1992)

Roll-On/Roll-Off Market Analysis -- DRI was part of a consulting team which analyzed the market for a new generation of high speed Roll-On/Roll-Off ships for the U. S. Maritime Administration and the Department of the Navy. The study's objective was to assess the constraints to commercial viability for a set of proposed new fast cargo ships under consideration. The study required DRI to link our existing long-term cargo forecasts by route and commodity with the current and potential routes for RO/RO deployment, current rates and operating costs and potential technology efficiencies which could increase the likelihood of commercial viability. The study incorporated analysis of US ports and regional sources of commercial cargo for these vessels. Included as part of this study was a DRI developed Required Freight Rate Model designed to allow analysts at MarAd to alter various parameters associated with these ships in order to assess potential for diversion from other, existing ships currently operating. (1993)

Panama Canal Traffic Forecasting System -- For the Panama Canal Commission, DRI, in conjunction with a co-contractor, developed an analysis of Panama Canal traffic based on DRI's forecast for the world's tanker, dry bulk, and liner cargo markets. This project also included an analysis of the Canal's toll structure and related forecasts of toll revenues for the Canal. The Canal received a toll forecasting model at the end of the project giving the Canal Commission the ability to work with global commodity demand forecasts from DRI to maintain its own toll revenue forecast. This project required the analysis of North American land bridge intermodal freight corridors which compete with the canal.

Suez Canal Traffic Forecasting System -- DRI, along with two subcontractors, developed long-term projections of Suez Canal traffic measured in cargo tons by type of commodity and in vessel transits. The model incorporates commodity demand and supply considerations from the World Sea Trade Service, world fleet projections from the World Fleet Forecast Service, and a cost model by route that feeds a route-choice decision model. The entire model was made available to the client in a PC format for sensitivity analyses concerning various traffic and economic alternatives. This project required examining

alternative routes for international cargo flows including such competitive international US-Asian cargo routes as the Transpacific and US landbridge versus a combined Indian Ocean-Transatlantic routing.

Impact of Waterway User Charges -- On behalf of the U.S. Department of Transportation and the Department of Commerce, DRI analyzed the impact of waterway user charges and their impact on: waterway traffic, commodity prices, U.S. international trade, competitive transport modes, and the feasibility of inland waterway improvement projects.

Suez Canal Expansion Assessment -- On behalf of the Suez Canal Authority (SCA), DRI led a study team who reviewed and evaluated a study of the potential for widening and deepening the Suez Canal. The original study was commissioned by the SCA to determine the feasibility, including economic, financial, and engineering dimensions, of pursuing phase II of the SCA's long-term expansion plans. The SCA requested the study team to perform a thorough evaluation of the global economics, trade lane and commodity projections; fleet projections by ship type and size; and Suez Canal traffic forecasts developed by an earlier consultant. To carry out the review, the study team tailored models of Suez traffic to global economic and fleet variables and used these models to forecast Suez Canal traffic.

NATO Trade Studies -- DRI undertook for the North Atlantic Treaty Organization a number of studies of the existing and future trade on the North Atlantic and into NATO member states. These studies were designed to provide inputs to NATO planners in the event of a forced resupply of Europe in the event of a war in Europe. The study's fully integrated DRI's global economic outlook; demand projections for the tanker, dry bulk, and liner markets; analysis and projections of vessel availability in the future; and detailed projections of trade by route. In addition to studies, DRI also developed for NATO standalone analytical packages designed to allow alternative levels of seaborne requirements (imports) to be tested.

Global Fleet Forecast -- On behalf of an organization of major industrialized nations, DRI and two subcontractors developed a forecast of the world merchant shipping fleet by ship type and size, based on consistent macroeconomic projections for major regions of the world. Projections of the movement of trade in 55 commodities across 200 routes determine the demand for certain types and sizes of ships, while supply data, new building estimates, route capacity information, and scrappage and loss data are combined to form the supply side. The result is a balanced outlook for the world fleet, with complete supporting detail.

TVA Traffic Outlook -- For the Tennessee Valley Authority, DRI studied the long-term outlook for traffic on the Tennessee River system for major commodity groups: grain, coal, forest products, chemicals, petroleum, steel. DRI developed models which linked traffic in these markets to industry and regional economic indicators, and also incorporated the impact of modal competition with railroads.

Sea Trade Forecasting System -- For the Office of Policy and Plans of the U.S. Maritime Administration, DRI built an ocean-borne trade modeling and forecasting system encompassing detailed commodity flows on all 28 essential routes of U.S. foreign trade by five coastal regions. DRI developed the customized commodity trade route database and the trade route specific forecasts linked to DRI's country specific forecasting models. Commodity flows originating and destinating within various regions of the U.S. were included in the system at the regional level

St. Lawrence Shipping Forecast -- On behalf of the St. Lawrence Seaway Authority, DRI assisted in the development of model which forecast commodity-specific freight volumes and movements on the Seaway over a 20-year forecast horizon. The analysis covered the major market area (interlake Canada/U.S., overseas), and included volume projections for through, local and total cargoes. A computer model was developed to allow for performing sensitivity analysis. The model includes the capability to test factors such as changes in patterns of regional economic growth and resource availability, and changes in relative shipping costs by route and by mode.

Specialized Port Traffic Studies

DRI has, over the last several years, carried out numerous analyses of US and foreign port activity. Each of these has been based on the regularly updated forecasts from the World Sea Trade Service. Many of these studies are performed on a recurring basis as input to the client's planning process. Forecasts and reports have been prepared for the:

Delaware River Port Authority
Jacksonville Port Authority
Maryland Port Administration
Port Authority of New York/New Jersey
Port of Greater Port Arthur
Ports Canada
Port of Charleston
Port Development Board of Hong Kong
Port Everglades
Port of Georgia
Port of Hamburg
Port of Houston Authority
Port of Kachsiung (China)
Port of Long Beach
Port of Los Angeles
Port of Oakland
Port of Portland
Port of Rotterdam
Port of Seattle
Vancouver Ports Corporation
Virginia Port Authority

DRI's Interaction With Other Study Team Elements

For this study, the DRI team collaborated with Dr. Micheal Racer at University of Memphis, the Planning Division Staff, Baltimore District Office (BDO) of the Corps of Engineers, and the Water Resources Support Center's Institute for Water Resources. DRI provided data processing and analysis of existing vessel traffic required, and provided the data to Dr. Racer. Dr. Racer used this data for his port simulation model. His analysis includes the costs for vessels using the Port of Baltimore. DRI's contribution is the underlying economic demand for cargo and the composition of the world cargo vessel fleet. DRI participated in several project planning and coordination meetings with Dr. Racer and members of the planning division of BDO. The economic analysis for the project was organized and managed by the Economics Section of the Planning Division at BDO. The staff at the IWR, Water Resources Support Center, also contributed guidance in the execution and analysis for this navigation study.

Explanation of the Report Presentation and Discussion of the Result of Existing Conditions Analysis.

This report presents the existing economic activity at the Port of Baltimore from several different perspectives. First, the current patterns in trade activity were examined. This activity is presented both in terms of the cargo moving in the Port of Baltimore and also in terms of the vessels on which the cargo is moving. The interrelationship between the cargo, the routes on which commerce moves, and the types of vessels sailing is also examined. Next, the Port of Baltimore's role in the region, country, and the world is presented in terms of the existing nature of the cargo moving to, from, and through (via) the Port of Baltimore. This analysis is followed by backup information, documenting the data sources used in the analysis.

Chapter 2

This chapter will present current patterns of trade activity detailed by commodity flows, fleet characteristics, and trade routes. Levels of analysis will include global, national, regional, and local sectors. In addition, this chapter will discuss the interrelationships between the trade and the merchant fleet.

Introduction

The port of Baltimore is situated in a sheltered harbor and is accessible to major American and foreign ports. This combination attracted manufacturing industries profiting from the inexpensive shipment of bulk raw materials. Since the turn of the century, the bulk commodities trade has held a prominent position in the types of cargo moving through the port. Imports of iron ore (from Chile & Canada) fed Bethlehem Steel, and West Virginia coal exports provided fuel around the world. In addition, large flows of grain have continued to move out of the port to various global destinations. The port's proximity to East Coast and Midwestern markets has been an added attraction to manufacturers.

The port is the third largest handler of containerized cargo on the eastern seaboard, with 200 berths used by more than 2500 ships, handling over 25 million metric tons in waterborne foreign cargo in 1993. The port also has the world's largest coastal facilities for loading and unloading dry bulk commodities. It benefits from its proximity to the Midwestern markets, with a 150-mile inland advantage over its Atlantic port neighbors.

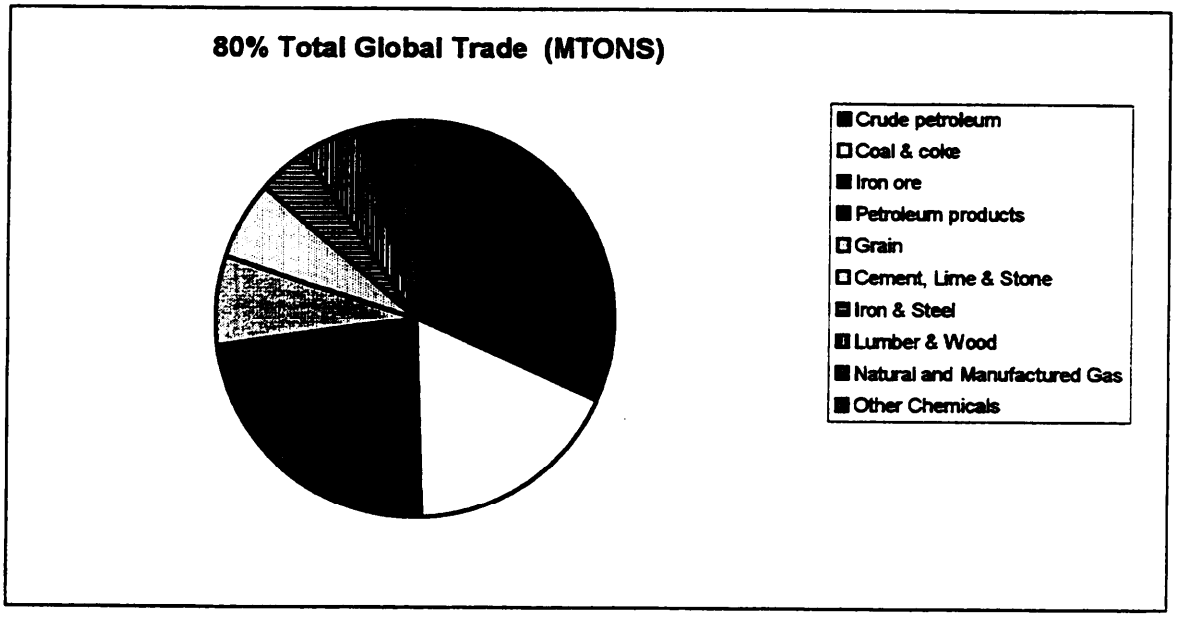
1993 Commodity Movement Analysis

Global

To better understand the commerce conditions at the Port of Baltimore, a brief study of trade in larger geographical trading areas will be presented. The discussion will begin with a global view, followed by national, regional, and, finally, a local Baltimore presentation. In order to present a more managed study, using the 80/20 rule, the top 80% of Metric Tons moved during 1993 are analyzed (see Chart 8), however a full detailed table of all commodities is available in Chart 9.

Chart 8

Chart Detailing the 10 Largest Commodities Traded in the World



Source: DRI/Mercer World Sea Trade Service, 1993

A review of 80 percent of the total tonnage moved around the globe in 1993, provides a list of ten commodities: crude petroleum, coal & coke, iron ore, petroleum products, grain, cement, lime & stone, iron & steel, lumber & wood, natural and manufactured gas, and other chemicals. Crude petroleum represents 26 percent of the total tonnage moved in 1993. Coal & coke represents 14 percent, iron ore 10 percent, and petroleum products are 8 percent of the total tons. Grain makes up nearly 6 percent of all global moves, with cement, lime & stone at approximately 5 percent. Iron & steel and lumber & wood each represent 4 percent of the 1993 total tonnage moves.

Natural and manufactured gas are 2 percent of global tonnage, followed by other chemicals (2 percent). Based on these statistics, energy movements make nearly 50 percent of all commodity moves worldwide, excluding lumber.

Chart 9

Top Ten Commodities Comprising Total Global Moves for 1993

commodity	1993 mtons	% total
Crude petroleum	990,794,100	26%
Coal & coke	560,273,900	14%
Iron ore	397,672,900	10%
Petroleum products	327,584,800	8%
Grain	231,288,200	6%
Cement, Lime & Stone	193,188,600	5%
Iron & Steel	138,608,800	4%
Lumber & Wood	136,074,100	4%
Natural and Manufactured Gas	85,600,160	2%
Other Chemicals	70,098,820	2%
Subtotal	3,131,184,380	
Percentage of total	80.91%	81%
Total	3,870,192,757	

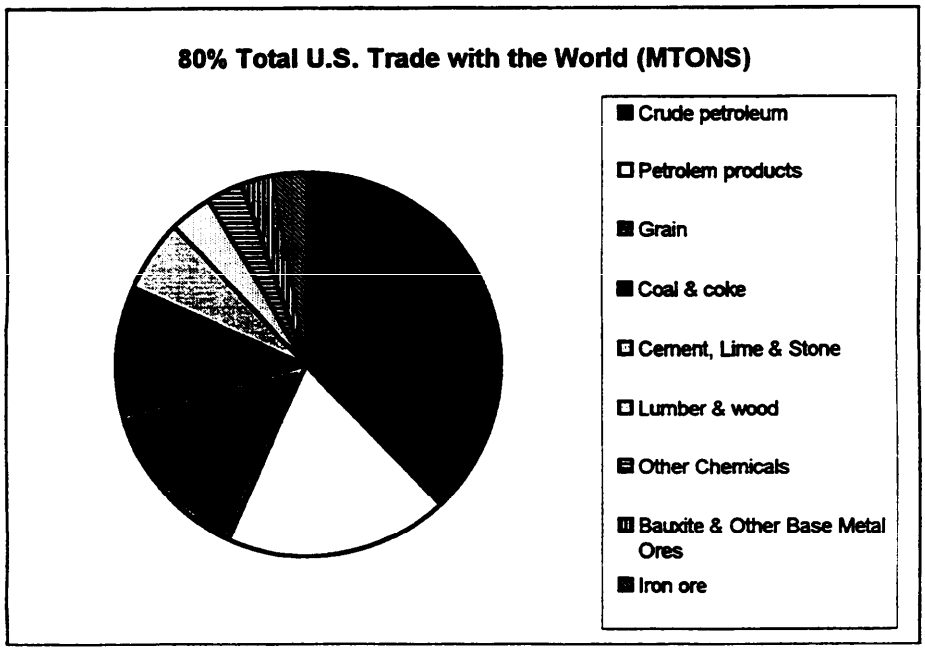
Source: DRI/Mercer World Sea Trade Service, 1993

National

On a national level, trade into and out of the United States varies slightly from the previous global patterns. Nine commodity groups make up 80% of total cargo moving to and from the United States in 1993 (see Chart 10). In addition, U.S. trade in the various commodity groups represent different shares of the global trade thus identifying the effects of US commodity trade on total worldwide trade.

Chart 10

Chart Detailing the 10 Largest Commodities Traded by the U.S. and the World



Source: DRI/Mercer World Sea Trade Service, 1993

The largest commodity traded in the U.S. continues to be crude petroleum representing over 30 percent of total tons traded-compared to a U.S. share of global crude moves of 28 percent. Petroleum products hold second place, representing 15 percent of total tonnage traded. Grain makes up 11 percent of U.S. trade with the world, and U.S. grain shipments represent 44 percent of total grain moves worldwide. In addition, coal & coke represents 8.6 percent of tonnage moved in and out of the United States, with the U.S. holding a nearly 8 percent market share of total global coal & coke moves. Cement, lime & stone hold nearly 5 percent of total tonnage, lumber & wood 3 percent, and finally, other chemicals, bauxite, and iron ore each maintain 2 percent of the total tonnage moved between the United States and the world trade. Total US trade in metric tons is 23 percent of total worldwide trade.

The chart below, Chart 11, details the relationship of each commodity to the total number of metric tons traded between the U.S. and the world, as well as the impact that US trade has on total global trade. The column "% total" details the share of each commodity toward the total metric tons traded between the United States and the rest of the world. The column titled "% world" looks at total global trade and illustrates the contribution that U.S. trade makes toward this global total.

Chart 11
United States Trade with the World Commodities - Top 80%
Comparative Market Shares

commodity	1993 mtons	% total	% world
Crude petroleum	275,092,300	31%	28%
Petroleum products	134,082,000	15%	41%
Grain	101,778,000	11%	44%
Coal & coke	77,743,260	9%	8%
Cement, Lime & Stone	44,080,490	5%	23%
Lumber & wood	26,813,470	3%	20%
Other Chemicals	21,494,850	2%	31%
Bauxite & Other Base Metal Ores	20,830,480	2%	33%
Iron ore	19,351,960	2%	5%
Subtotal	721,266,810	81%	
% of total	80.68%		
Total	893,984,043		

Source: DRI/Mercer World Sea Trade Service, 1993

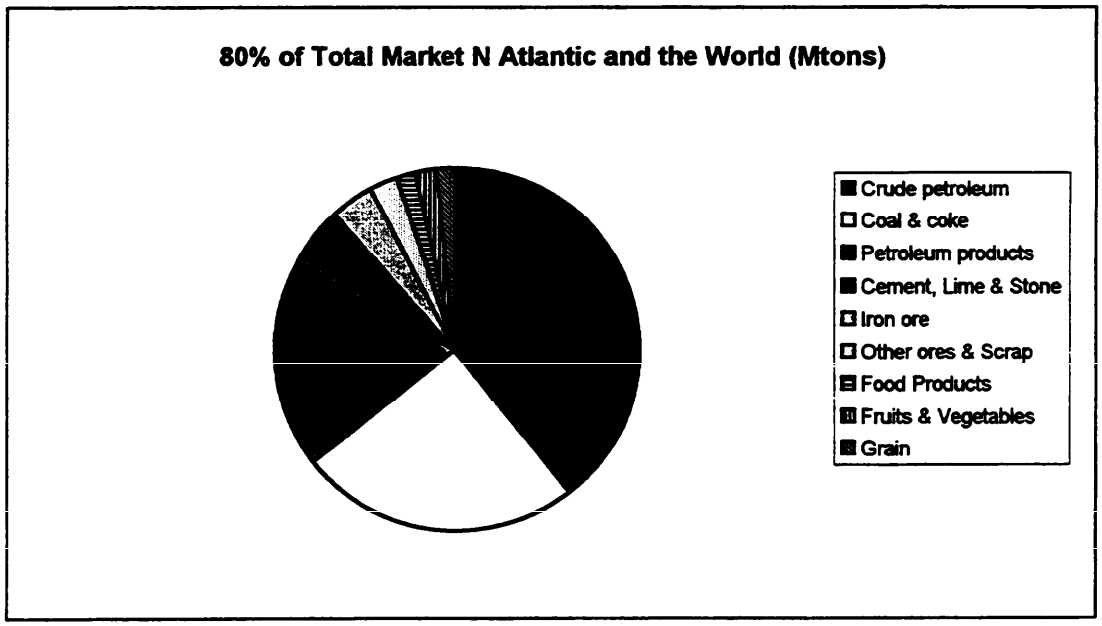
East Coast Regional

These two regions are involved in different trades at much different levels (see Chart 12 and 13). The commodities listed in the 80 percent group for the North Atlantic are characterized by several very large bulk commodities. The North Atlantic's 80 percent market activity includes nine commodities, with 70

percent of total tons moved comprising crude petroleum, coal & coke, and petroleum products. The South Atlantic, however, maintains a diverse collection of twelve commodities within its 80 percent range-a mix of bulk and general cargo, as illustrated in the following charts (commodities in metric tons). Total tonnage moved between the two regions varies considerably with the North Atlantic shipping almost three times that of the South Atlantic (210 million metric tons compared to 72 million metric tons in 1993).

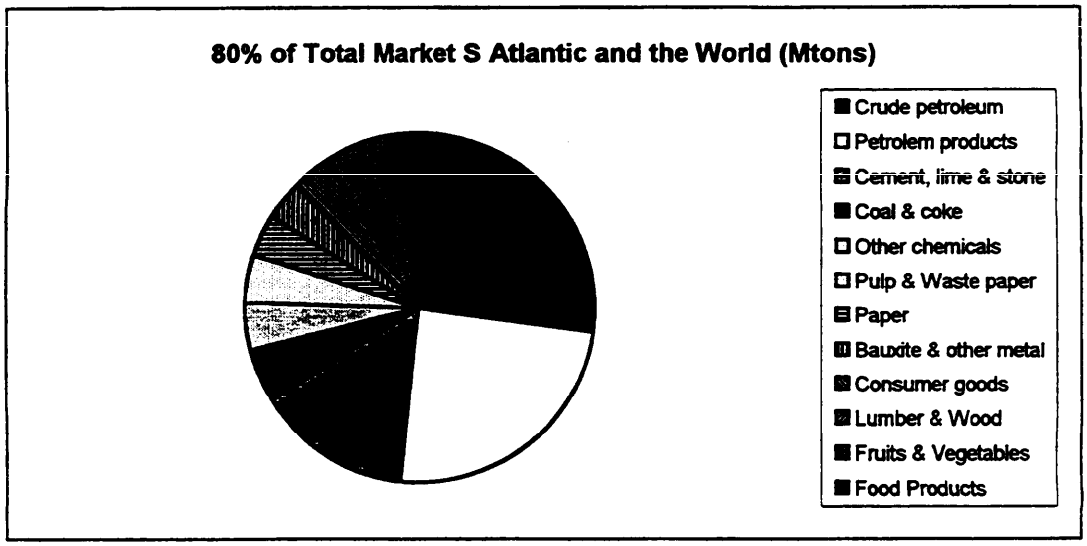
Charts Comparing Commodity Mix of North Atlantic Trade with the World 1993 with Commodity Mix of the South Atlantic Trade with the World 1993.

Chart 12



Source: DRI/Mercer World Sea Trade Service, 1993

Chart 13



Source: DRI/Mercer World Sea Trade Service, 1993

North Atlantic

Ports of the North Atlantic region are both densely populated and experience extreme cold weather necessitating the delivery of more petroleum and heating oil. These factors influence this regions trade with the world.

Like the previous Chart 11, Chart 13 below shows the weight amount of each commodity shipped and its comprehensive share as a percentage of the region's U.S. and global trade. The column "% total" reflects the breakdown of various commodities within the North Atlantic trade. The next column "% USA" describes the North Atlantic's contribution to the trade involving the United States and the rest of the world. In this column, the North Atlantic's participation in overall US trade is identified on a per commodity basis. Finally, "% world" presents the North Atlantic's influence of overall global trade on a per commodity basis.

Chart 13
North Atlantic Commodities - 80% - Top Tonnage
With Comparative Shares

commodity	1993 mtons	% total	% USA	% world
Crude petroleum	70,070,480	33%	25%	7%
Coal & coke	44,683,960	21%	57%	8%
Petroleum products	34,094,710	16%	25%	10%
Cement, Lime & Stone	8,503,726	4%	19%	4%
Iron ore	6,592,207	3%	34%	2%
Other ores & Scrap	4,379,394	2%	46%	15%
Food Products	3,323,292	2%	36%	9%
Fruits & Vegetables	3,257,124	2%	29%	7%
Grain	2,956,134	1%	3%	1%
Subtotal	177,861,027	85%		
% of total	84.76%			
Total	209,852,155			

Source: DRI/Mercer World Sea Trade Service

From the chart above, the majority of commodity moves for the region may be reviewed. Crude petroleum (33 percent of all trade for the North Atlantic region in 1993), coal & coke (21 percent) and petroleum products (16 percent) are large participants. It is also interesting to note the North Atlantic's commodity trade in relationship to that of the nation. As indicated, 21 percent of total trade tonnage is coal & coke, at the same time, this region 57 percent of the total national tonnage of coal & coke. Other ores and scrap, although only representing 2 percent of the total North Atlantic trade with the world by metric tons, actually represents 46 percent of that commodity category traded among the United States and the world. Therefore, although other ores & scrap may seem to be a small contributor within the North Atlantic, this region's trade in this commodity is quite significant on a national scale. In addition, this same commodity

makes up 15% of total other ores & scrap traded on the world market. Iron ore, 3 percent of the region's tonnage, makes up 34 percent of all iron ore traded between the nation and the world. The food products and fruits and vegetables commodity groups are small compared with the gross tonnage of the North Atlantic's bulk cargo. However, these food items represent nearly a third of all food stuffs traded between the United States and the world. A further look details the region's position in other commodity shipments around the globe, petroleum products trade (10 percent) and food products (9 percent) hold significant shares of global trade for their commodity sectors.

South Atlantic

This region participates in several diverse commodity trades as shown in the relatively high number of commodities in the top 80 percent range- a total of twelve.

Chart 14 below shows the weight of each commodity shipped and its comparative share a as percentage of the region's U.S. and global trade. The column "% total" reflects the breakdown of various commodities within the South Atlantic trade. The next column "% USA" describes the South Atlantic's contribution to the trade involving the United States and the rest of the world. In this column, the South Atlantic's participation in overall US trade is identified on a per commodity basis. Finally, "% world" presents the South Atlantic's influence on overall global trade on a per commodity basis.

Chart 14
South Atlantic Commodities - 80% - Top Tonnage
With Comparative Shares

commodity	1993 mtons	% total	% USA	% world
Crude petroleum	15,765,420	27%	6%	2%
Petroleum products	14,243,520	25%	11%	4%
Cement, lime & stone	8,451,250	15%	19%	4%
Coal & coke	2,841,412	5%	4%	1%
Other chemicals	2,629,488	5%	12%	4%
Pulp & Waste paper	2,618,231	5%	27%	8%
Paper	2,237,102	4%	24%	6%
Bauxite & other metal	2,126,302	4%	10%	3%
Consumer goods	2,103,460	4%	16%	5%
Lumber & Wood	1,888,126	3%	7%	1%
Fruits & Vegetables	1,636,631	3%	15%	4%
Food Products	1,581,881	3%	17%	4%
Subtotal	58,122,823			
% of total	81%			
Total	71,638,056			

Source: DRI/Mercer World Sea Trade Service, 1993

The trade in the South Atlantic region includes many different types of commodities. Crude petroleum makes up 27 percent of this region's trade, 6 percent lass than the North Atlantic region profile. Petroleum products make up 25 percent of total tonnage; however, this is 9 percent higher than for the North Atlantic. The south trades more intensively in the cement, lime & stone business, 15 percent of total, compared with the North Atlantic (north 4 percent). In addition, the southern region's accounts for 19 percent of U.S. world trade in this commodity category. The north maintains a larger share of coal & coke tonnage traded than the southern states 21 percent compared to 5 percent. Pulp & waste paper and paper commodities, although only contributing 5 percent to the overall tonnage moved for the South Atlantic region, represent 27 percent of the U.S. trade in this category and 24 percent of global trade. The pulp & waste paper figures reflect an 8 percent share in tonnages moved worldwide. In non-bulk categories, the south's trade in consumer goods represents 16 percent of the U.S. total. Additionally, fruits and vegetables make up 15 percent of overall US trade, while food products have a 17 percent share.

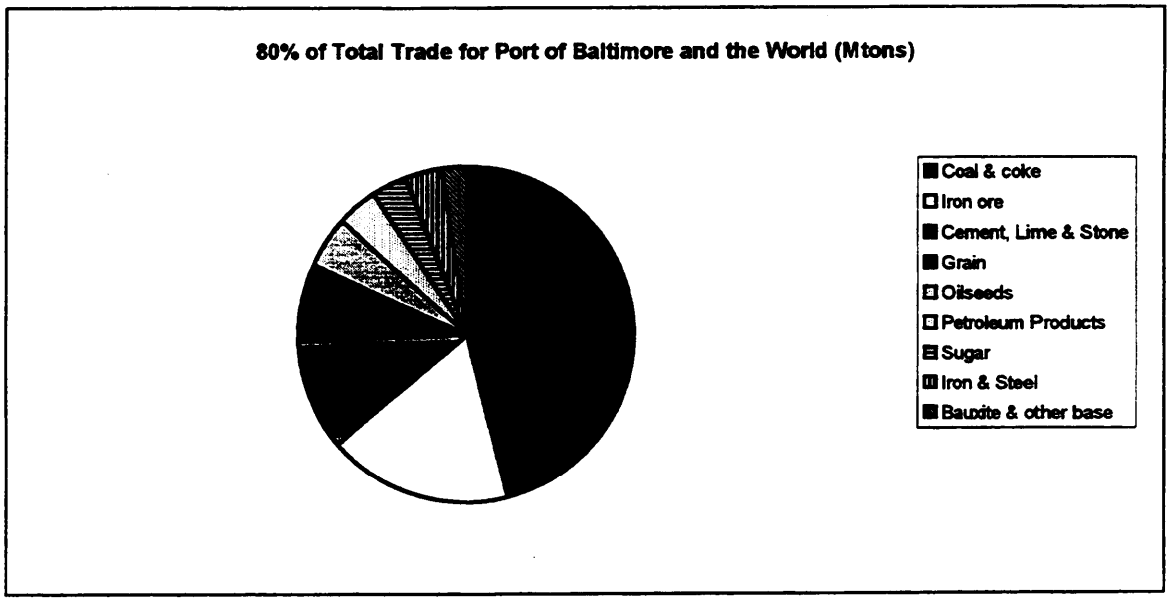
Baltimore

General Commodity Flows

The commodity tonnage profile of the Port of Baltimore (again using the top 80% analysis) is similar to that of the North Atlantic ports, in that it maintains a strong bulk orientation (see Chart 15). However, where the North Atlantic profile has crude petroleum in the number one position, in Baltimore, coal is the primary commodity. Based on total metric tons moved during 1993, the POB's greatest tonnage category /commodity group was coal & coke at 8.6 million metric tons--38% of its total tonnage. Baltimore's top moving commodities after coal are iron ore, cement, lime & stone, grain, oilseeds, and petroleum products. These commodities (excluding oilseeds) are also world trade's top six movers. Chart 15 details the top 80% of total tonnage moved in 1993 between the Port of Baltimore and the world.

Chart 15

Chart Detailing the 10 Largest Commodities Making up Baltimore Trade



Source: DRI/Mercer World Sea Trade Service, 1993

Chart 16 depicts the different relationships associated with commodity flows at different levels. The column "% total" shows the breakdown of various commodities within the Baltimore trade. Next, the column marked "%NATL" reflects Baltimore's participation in the overall trade between the North Atlantic region and the world. The next column "% USA" describes the port contribution to the trade involving the United States and the rest of the world. In this column, Baltimore's participation in overall US trade is identified on a per commodity basis. Finally, "% world" presents the North Atlantic's share of overall global trade on a per commodity basis.

When comparing POB to the total North Atlantic ports, commodities unique to Baltimore are: oilseeds, sugar, and iron & steel. As illustrated in the chart below, these commodities are major participants in trade between the North Atlantic and the world, with oilseeds maintaining an 80 percent share, sugar 46 percent, and iron & steel 26 percent. Additionally, the Baltimore port contributes to the tonnage moved between the North Atlantic region and the world by providing the following commodities and shares: iron ore 50 percent, grain 47 percent, and bauxite and other base metals 42 percent. Thus, POB's 1993 total of 3.3 million metric tons of iron ore made up 14 percent of the total 23 million metric tons between Baltimore and the world. This same tonnage represented 50 percent of all iron ore tonnage moved between the entire North Atlantic region and the world (6.5 metric tons). Finally, this same iron ore maintained a 17 percent share of the almost 20,000 million metric tons of iron ore traded between the

U.S. and the globe. For total tonnage moved around the world, POB's portion is a small 1 percent share of the 397.6 million metric ton total.

Chart 16
Baltimore Commodities - 80% Total (Inbound + Outbound) Tonnage
With Comparative Shares

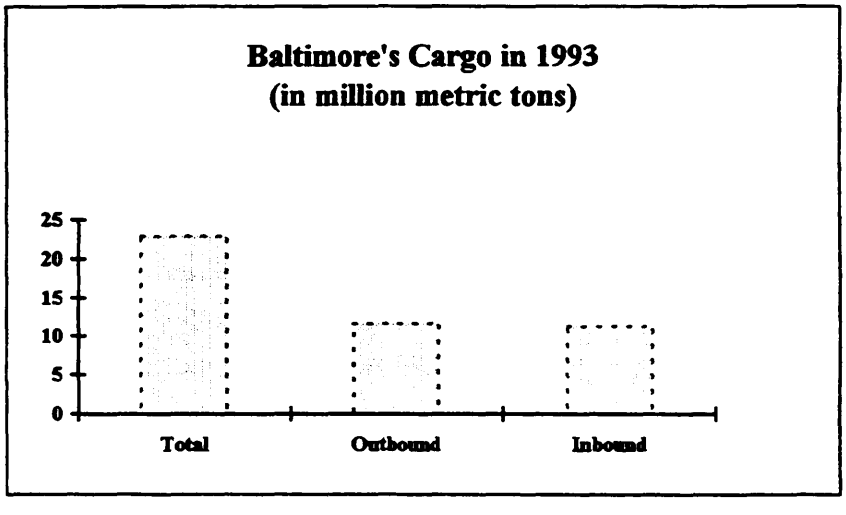
commodity	1993 mtons	% total	% NATL region	% USA	% world
Coal & coke	8,615,467	38%	19%	11%	2%
Iron ore	3,279,103	14%	50%	17%	1%
Cement, Lime & Stone	2,004,274	9%	24%	5%	1%
Grain	1,389,019	6%	47%	1%	1%
Oilseeds	966,008	4%	80%	5%	2%
Petroleum Products	727,667	3%	2%	1%	0%
Sugar	617,242	3%	46%	19%	3%
Iron & Steel	606,644	3%	26%	3%	0%
Bauxite & other base	462,121	2%	42%	2%	1%
Subtotal	18,667,545	82%			
% of total	81.50%				
Total	22,904,319				

Source: DRI/Mercer World Sea Trade Service, 1993

Baltimore: Trade Direction

As illustrated in Chart 17, Baltimore handled more than 24 million metric tons of cargo in 1993. Inbound and outbound tonnages were evenly split.

Chart 17

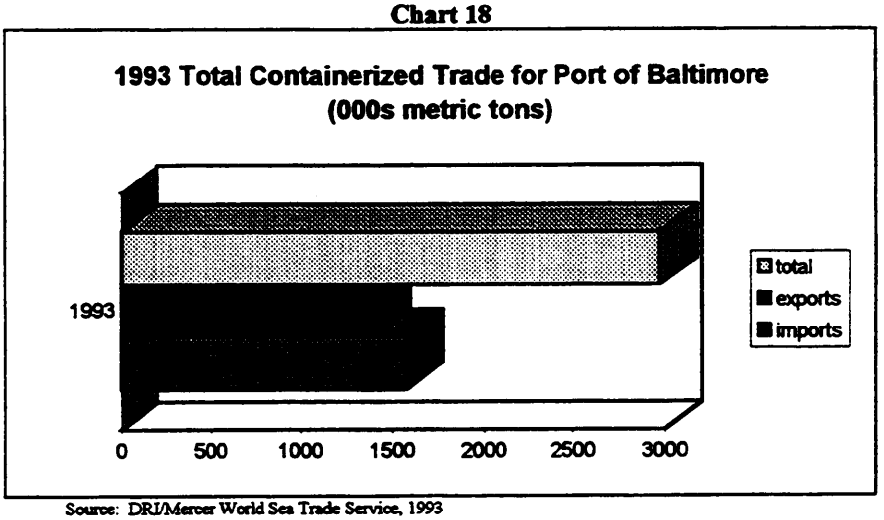


Source: DRI/McGraw-Hill World Sea Trade Service

Port of Baltimore Containerized Cargoes for 1993

Of the 24 million metric tons moved in 1993, about 12 percent of these metric tons moved in containers. Chart 18 depicts the split in containerized cargoes for inbound and outbound. Imports are slightly larger than exports-by 11 percent.

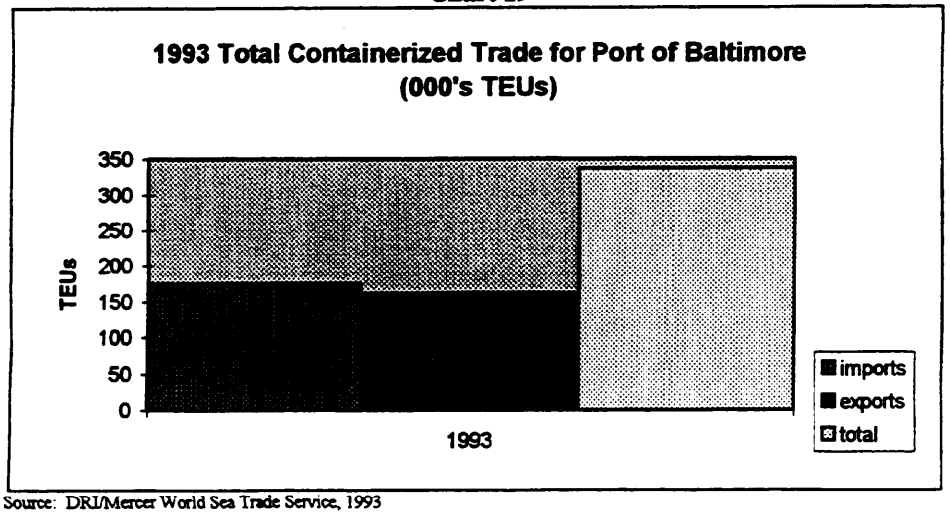
Chart 18



Source: DRI/Mercer World Sea Trade Service, 1993

It is important to note the prevalence of containerized shipping at the port of Baltimore, as container vessels play an important role in the distribution of finished goods. In addition, cargo moving in containers is generally high value. Containerized cargoes are also measured in TEUs or Twenty-Foot Equivalent Units. Chart 19 presents total containerized cargoes in TEUs. Total containerized trade in and out of Baltimore is balanced, with the number of boxes moving in and out nearly the same, indicating optimal equipment usage.

Chart 19



Source: DRI/Mercer World Sea Trade Service, 1993

Baltimore's Commodity Trade with the World-Inbound

For the 1993, the inbound trade was dominated (in volume) by iron ore, cement and petroleum products (see Chart 20). Coal and iron-steel products are also a major part of the inbound business.

Chart 20

Baltimore's Top Import Commodities
1993
(in thousand metric tons)

Commodity Category	1993
Iron Ore	3.3
Cement, Lime	1.9
Petroleum Products	0.7
Coal & Coke	1.0
Total of Above	6.9
Percent of Total	59%
Total All Commodities	**11.6**

Source: DRI/Mercer World Sea Trade Service, 1993

Other prominent bulk imports are sugar and bauxite (see Chart 21). However, passenger cars and heavy transportation equipment also are major contributors to inbound activity as well as lumber, oils & fats, rubber, pulp & waste paper, other chemicals and paper, and non-ferrous metals. Typical bulk and tanker products are an important part of this trade. Bulk and tanker cargo together account for approximately 73 percent of the trade in tonnage terms. Imported general cargo products moving through the Port of Baltimore include fruits and vegetables, food products, and consumer goods.

Chart 21
Baltimore's Inbound 1993 Commodities
(in thousand metric tons)

Commodity	1993
Iron Ore	3,279
Cement, Lime	1,968
Coal & Coke	1,053
Petroleum Products	697
Sugar	612
Iron & Steel	524
Bauxite	453
Automobiles	246
Other Chemicals	213
Food, Beverages	173
Consumer Goods	146
Light Ind Machinery	116
Fruits, Vegetables	112
Paper	99
Other Min-Metallic Manf	75
Rubber	65
Meat, Fish	60
Lumber, Plywood	50
Chemical Products	39
Skins, Textile Fiber	11
Crude Petroleum	0
Total of Above	9,991
Total Imports	11,260

Source: DRI/Mercer World Sea Trade Service

Trading Partners - Imports

Since the late 1980s Baltimore has maintained leading inbound trading partnerships with Canada and Latin America (Chart 22).

Chart 22

Imports for Baltimore 1993

1993 Imports	
U.S.	0
Canada	3,232,172
N Europe	904,319
S Europe	379,333
Japan	878,422
Aust/NZ	944,086
Latin America	3,630,673
West Coast	396,603
East Coast	2,146,092
Caribbean	1,087,978
Africa	518,248
West Coast	307,612
East Coast	8,986
S Africa	201,650
Far East	413,111
SE Asia	243,922
Far East NIEs	80,278
China	88,911
Middle East	132,650
Arabian Gulf	8,773
Indian Subcontinent	59,274
Mediterranean	64,603
Eastern Europe	226,563
Other Regions	0
World	**11,259,580**

Source: DRI/Mercer World Sea Trade Service

From 1988 to 1993, the port imported an average of 3.9 million metric tons annually from Latin America (chiefly east coast countries) and 3.4 million metric tons of from Canada. Northern Europe imports averaged 1.14 million metric tons and from Japan 733 million metric tons. Trade from Eastern Europe, a yearly average of .132 million metric tons, shows growth during this period. However the average growth rate is 17.4 percent, with a large jump from 1992 to 1993 of 132 percent. Worldwide inbound cargo for Baltimore between 1988 and 1993, maintained an annual average of just over 12 million metric tons.

Commodity Trade with the World-Outbound

Exports from the port of Baltimore to the globe are dominated by coal & coke which makes up over half the total tonnage. Grain and oilseeds make up another large part of export categories/commodities exported.

Chart 23
Baltimore's Top Outbound Commodities 1993
(in thousand metric tons)

Commodity	1993
Coal & Coke	7,561.0
Oil Seeds	965.7
Grain	1,368.7
Total of Above	9,895.40
TOTAL	11,644.7
Percent of Total	
Coal & Coke	65
Oil Seeds	8
Grain	12
Total	**85**

Source: DRI/Mercer World Sea Trade Service

Baltimore's coal exports were lower in 1993 than 1989, mostly due to a decline in shipments to Northern Europe, where Germany's steel industry was hurt by its slowing economy and by a drop in demand for steel by its neighboring countries. Northern Europe's main economies have now returned to positive growth. Grain exports declined 37.8 percent between 1989 and 1993.

Referring to Chart 24, additional prominent Baltimore exports in 1993 include: lumber, chemical products, automobiles, other chemicals, heavy transportation equipment, light industrial machinery and consumer goods.

Chart 24
Baltimore's Outbound Commodities 1993
(in thousand metric tons)

Commodity	1993
Coal & Coke	7,561
Grain	1,368
Oilseeds	965
Lumber, Plywood	262
Chemical Products	123
Automobiles	119
Other Chemicals	109
Heavy Transp/Constr	89
Light Ind Machinery	87
Consumer Goods	88
Paper	85
Iron & Steel	82
Other Min/Metallic Manf	78
Food, Beverages	68
Meat, Fish	49
Pulp & Waste	47
Other Ores	44
Skins, Textile Fiber	35
Petroleum Products	32
Liquid Bulk Chemicals	7
Total of Above	11,190
Total Exports	**11,644**

Source: DRI/Mercer World Sea Trade Service

Trading Partners - Outbound

The Port of Baltimore's largest outbound trading partner region for 1988-1993 (Chart 25) was Northern Europe, averaging 2.62 million metric tons of cargo each year. For the first five years, the annual average growth rate for this trade was nearly 8 percent.

Chart 25

Exports for Baltimore 1993

1993 Exports	
U.S.	0
Canada	144,532
N Europe	3,269,002
S Europe	2,006,876
Japan	1,565,546
Aust/NZ	4,118
Latin America	1,033,314
West Coast	120,570
East Coast	774,982
Caribbean	137,762
Africa	216,609
West Coast	24,107
East Coast	31,130
S Africa	161,372
Far East	201,871
SE Asia	44,252
Far East NIEs	201,871
China	9,494
Middle East	2,098,904
Arabian Gulf	383,066
Indian Subcontinent	57,550
Mediterranean	1,658,288
Eastern Europe	1,103,970
Other Regions	0
World	**11,644,740**

Source: DRI/Mercer World Sea Trade Service

Exports to Southern Europe and Japan have yearly averages of 1.918 million metric tons and 1.678 million metric tons, respectively. Trade to the Middle East averages 1.7 million metric tons per year on average for the same time period. The Mediterranean makes up most of this with a yearly average of 1.4 million metric tons of cargo received from the Port of Baltimore. Other destinations which are receiving growing amounts of cargo from Baltimore are: Eastern Europe (.783 million metric tons on average each year, with average annual growth rate of 37.5 percent), Latin America (.714 million metric tons per year and an average annual growth rate of 33 percent), which is consistently positive and largely due to the east coast), the Caribbean (.136 million metric tons , with a growth rate of 30 percent, influenced by a

large increase between years 1989 and 1990), South Africa (.094 million metric tons, a growth rate of 12.2 percent for 1988-1993) and Canada (.063 million metric tons, a growth rate of 2400 percent based on very high peak from 1990-1991). Baltimore exports to the world averaged over 12 million metric tons each year for the time period 1988-1993.

1993 Fleet Analysis

To gain a clear sense of the types and profile of the ships calling the Port of Baltimore, a short overview on ship types on a broader scale will be presented. A global view will introduce all ships sailing all trades. Next, a national presentation will examine the types of vessels calling in the United States. More localized coverage will include the North Atlantic region, the South Atlantic region, and, finally, Baltimore.

Global

Different commodities require various vessel types. Below, Chart 26, details the estimated 1993 World Ship population. This worldwide fleet is split among each vessel type based on size. Size of a vessel is determined by DWT, dead weight tons, absolute weight carried by the ship, or for container vessels, TEU, Twenty foot Equivalent Units.

Chart 26

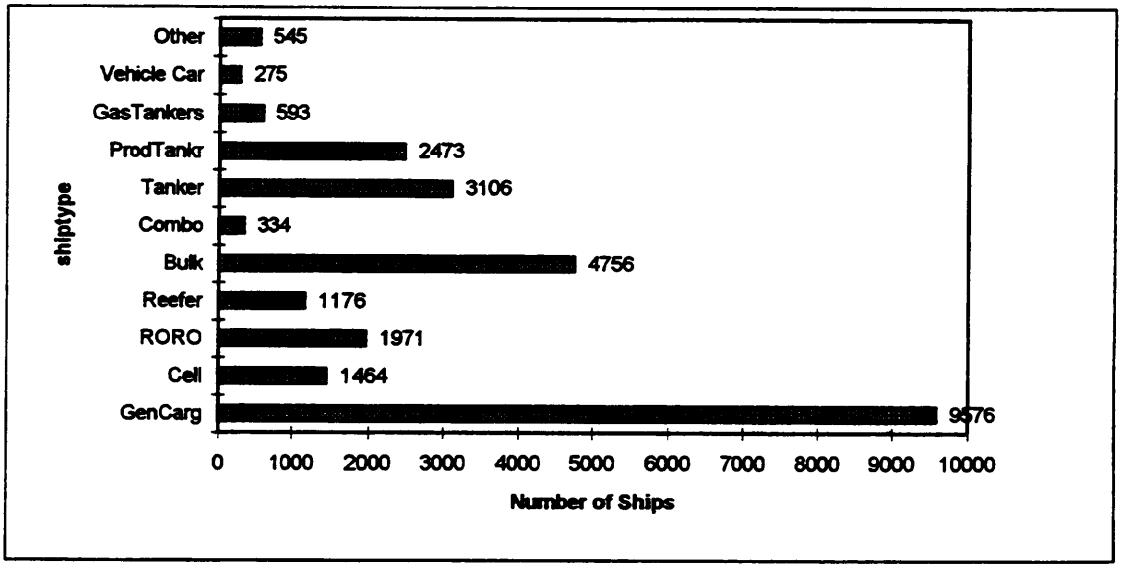
Estimated 1993 World Shipping Market (number of vessels)

	No. of Vessels in 1993
Genl Cargo > 10K DWT	3449
Genl Cargo < 10K DWT	6127
Cellular< 1000 TEU	565
Cellular 1000-2499 TEU	635
Cellular 2500-3999 TEU	229
Cellular 4000-5999 TEU	35
Cellular 6000-7999 TEU	0
Cellular = > 8000 TEU	0
RORO > 10K DWT	380
RORO < 10K DWT	1591
Reefer	1176
Bulk < 20K DWT	877
Bulk 20K-40K DWT	2574
Bulk 40K-80K DWT	950
Bulk 80K-100K DWT	61
Bulk 100K-175K DWT	229
Bulk >175K DWT	65
Combo <20K DWT	43
Combo 20K-40K DWT	1
Combo 40K-80K DWT	78
Combo 80K-100K DWT	28
Combo 100K-175K DWT	152
Combo > 175K DWT	32
Tanker <16.5K DWT	1080
Tanker 16.5K to 25K DWT	417
Tanker 25K to 45K DWT	200
Tanker 45K to 80K DWT	277
Tanker 80K to 160K DWT	590
Tanker 160K to 250K DWT	168
Tanker > 250K DWT	374
Prod Tanker < 16,500 DWT	1218
Prod Tanker 16.5K to 25K DWT	320
Prod Tanker 25K to 45K DWT	697
Prod Tanker 45K to 80K DWT	181
Prod Tanker 80K to 160K DWT	57
Gas Tankers	593
Vehicle Carriers	275
Other Ships	545
Total	26269

Source: DRI/LMIS World Fleet Forecasting Service, 1993

The chart below, Chart 27, presents the population of vessels per ship type during the year 1993. The greatest number of ships is in the general cargo segment, followed by bulks, tankers and product tankers. These are followed by RORO, Cellulars and Reefers.

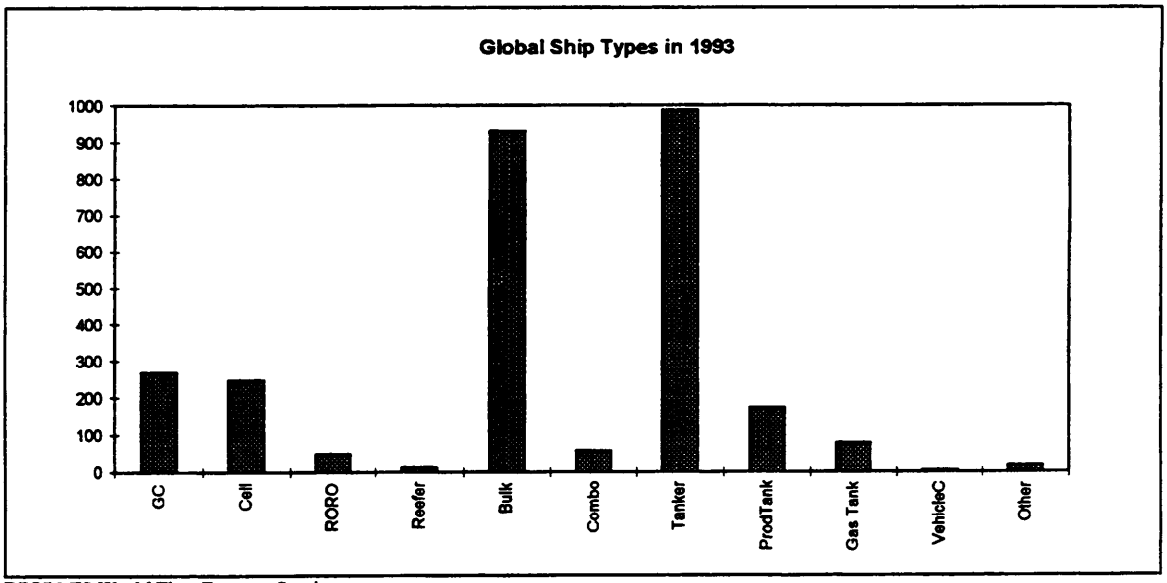
Chart 27
Chart Detailing the Number of Vessels in 1993 by Ship Type



Source: DRI/LMIS World Fleet Forecasting Service, 1993

Chart 28 below illustrates total global tonnage moved by various ship types. Tankers and bulk carriers are dominant carriers, designed to carry large volumes of dense commodities. As discussed previously in the commodities section, a large portion of global ocean moves are devoted to liquid and dry bulk materials.

Chart 28
Chart Detailing Metric Tons Carried For Each Vessel Type in 1993 on Global Basis



DRI/LMIS World Fleet Forecast Service

From Chart 29, below, there is an indication that cellular (container) vessels in the range of 1,000 to 2,499 TEUs carry the majority of containerized tonnage worldwide. GC (general cargo) vessels less than 10,000 DWT move the majority of general cargo tonnage around the globe. This is probably due to their great accessibility at any port and their contribution to large feeder operations. RORO (roll on - roll off: cargoes are driven or hauled on/off the vessel with mafi trailer via a ramp) vessels under 10,000 DWT handle the majority of RORO global tonnage. However, on a worldwide basis this type of vessel carries only 1.6 percent of total tonnage. Reefer (vessels which maintain refrigerated units or sections in order to carry perishable items) are not divided into various size classes for this study and carry less than .5 percent of overall global trade. Bulk carriers carry 33 percent of worldwide total tonnage, with the majority between 20,000 and 80,000 DWT. Combination carriers (designed to carry more than one type of commodity - breakbulk and containers, bulk and containers, etc.) move just 2 percent of global tonnage with the most cargo moving on vessels with DWT in the range of 100,000 to 175,000. Tankers move the largest portion of the world's tonnage - a full 35 percent. The majority of these moves involve tankers sized at 80,000 to 160,000 DWT. Product tankers, which carry finished petroleum products, move over 6 percent of total global tonnage. Vessels ranging between 25,000 and 45,000 DWT carry the majority for

this group (39 percent). Gas tankers move over 2 percent of global cargoes. Vehicle carriers and other ships carry .8 percent of total world metric tons.

For the following vessel charts, type responds to the type of vessel, metric tons is the total metric tons moved, % per group equates to each class size's fraction of the total metric tons moved for the group type (i.e. GC, Cell, etc...), and % per total is each type's fraction of the total metric tons moved per year for the specific geographic region.

Chart 29
Chart of Global Vessel Types for 1993

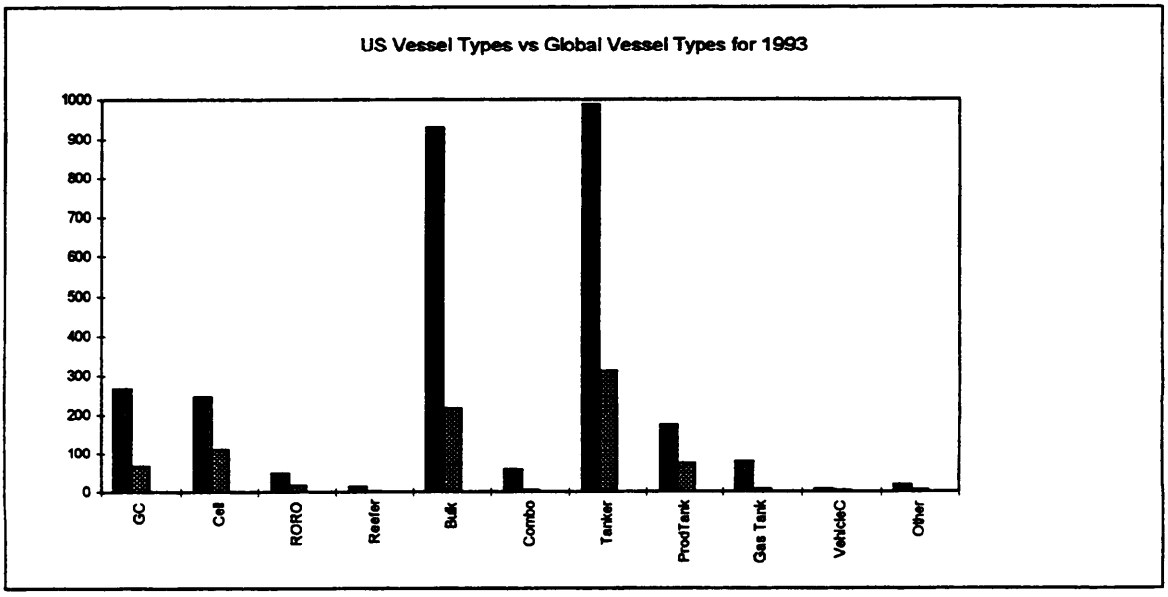
type	metric tons	% per group	% per total
GC > 10K DWT	228,549,072	85.86%	9.45%
GC < 10K DWT	37,650,304	14.14%	
Cell < 1000 teu	23,036,288	9.37%	
Cell 1K - 2.49K teu	138,181,648	56.22%	
Cell 2.5K-3.9K teu	69,283,984	28.19%	
Cell 4K-5.9K teu	15,246,731	6.20%	
Cell 6K-7.9K teu	19220	0.00%	
			8.73%
RORO > 10K DWT	39,951,688	84.53%	
RORO < 10K DWT	7,312,487	15.47%	1.68%
Reefer	11,823,174		0.42%
Bulk < 20K DWT	38,433,288	4.13%	
Bulk 20K-40K	289,661,184	31.16%	
Bulk 40K-80K	313,730,944	33.75%	
Bulk 80K-100K	30,010,046	3.23%	
Bulk 100K-175K	182,519,104	19.63%	
Bulk >175K	75,349,272	8.10%	33.01%
Combo < 20K	0	0.00%	
Combo 20K-40K	0	0.00%	
Combo 40K-80K	2,970,124	5.25%	
Combo 80K-100K	2,708,937	4.79%	
Combo 100K-175K	34,269,416	60.57%	
Combo > 175K	16,628,619	29.39%	2.01%
Tank < 16.5 K DWT	3,904,224	0.40%	
Tank 16.5K-25K	37,489,932	3.80%	
Tanker 25K-45K	42,854,648	4.34%	
Tanker 45K-80K	125,090,104	12.68%	
Tanker 80K-160K	376,491,520	38.17%	
Tanker 160K-250K	136,282,336	13.82%	
Tanker > 250K	264,352,736	26.80%	35.03%
Prod Tank < 16.5K	27,634,028	16.05%	
Prod Tank 16.5K-25K	38,574,736	22.41%	
Prod Tank 25K-45K	67,171,648	39.02%	
Prod Tank 45K-80K	30,158,224	17.52%	
Prod Tank 80K-160K	8,621,066	5.01%	6.11%
Gas Tankers	77,169,472		2.74%
Vehicle Carriers	5,556,532		0.20%
Other Ships	17,687,876		0.63%
Total	2,816,374,612		

National

Chart 30 describes the types of vessels comprising the U.S. fleet versus the Global fleet and their various tonnage share. Tankers and bulkers are again the majority carriers, however bulkers do not hold as prominent a position in the national market as they do in the global market. In addition, general cargo ships are not as prevalent in the United States trade as they are worldwide. Because the U.S. is such a developed nation, the concentration of cellular carriers is much higher compared with the global profile. Also, since the United States is a large consumer of petroleum products, there is an increased presence of product tankers. Combination carriers are not as common in the US trade as in total world trade.

Chart 30

Chart Detailing Metric Tons Carried For Each Vessel Type in 1993 for the United States and the World



Source: DRI/LMIS World Fleet Forecast Service

National tonnage is also split among various classes per ship type in Chart 31. The leading vessel type is tanker (42% share), and of this type, the leading size is 80,000 to 160,000 DWT. Two other classes split 40 percent of the tanker business, these are 45,000-80,000 DWT vessels and tankers over 250,000 DWT. Bulk carriers are the second biggest movers, transporting over 26 percent of national trade tonnage. The biggest movers in this type are vessels from 40,000 to 80,000 and 20,000 to 40,000 DWT. The most common size of cellular vessel is 1,000 to 2,499 TEU for 1993. Ships with a capacity of 2,500 to 3,900 TEUs are the next largest movers. Product tankers are the fourth largest carrier of national trade tonnage. Tankers in the range of 25,000 to 45,000 DWT move the most tonnage (49 percent)- nearly half of national trade. General cargo ships move nearly 8 percent of national trade, with the majority carried by ships less than 10,000 DWT. RORO carriers move just under 2 percent of national tonnage, with vessels less than 10,000 DWT carrying the majority. Other vessels: reefers (.26 percent), combo (.56 percent), gas tankers (.66 percent), vehicle carriers (.38 percent), and other ships (.56 percent), collectively carry 2.42 percent of U.S. trade with the world. In the combination type, most cargo is moved by vessels in the 100,000 to 175,000 DWT range. The fleet of vessels calling in the United States reflects the commodity flow to and from the nation.

Chart 31
Cargo Vessels Calling the United States in 1993

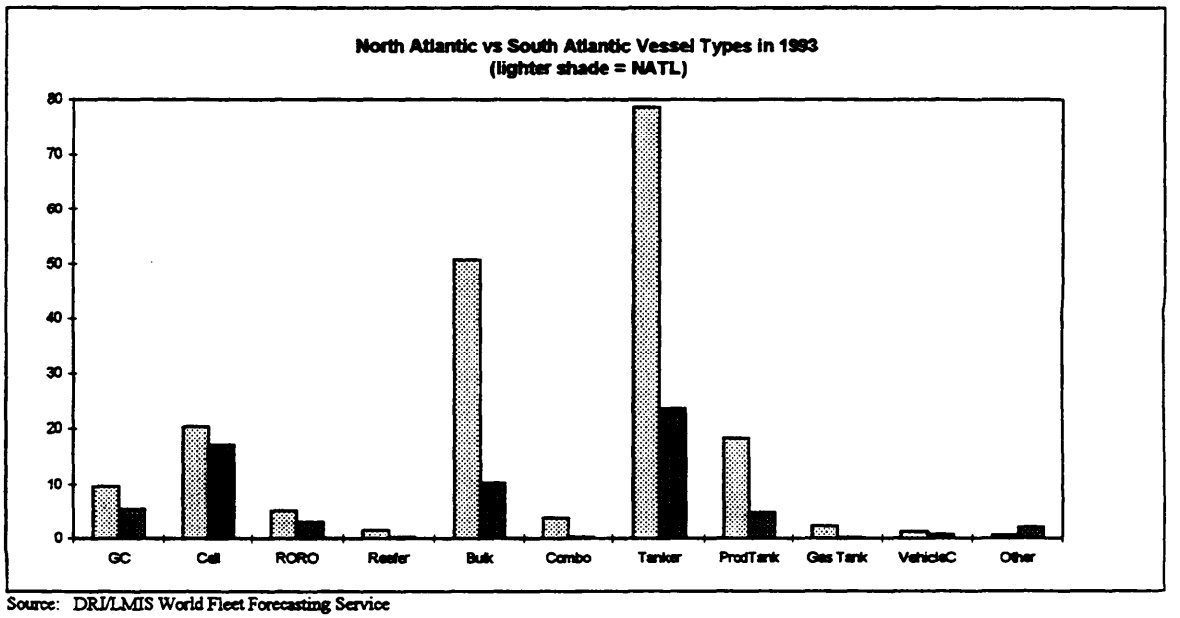
type	metric tons	% per group	% per total
GC > 10K DWT	59,751,752	93.10%	7.93%
GC < 10K DWT	4,425,164	6.90%	
Cell < 1000 teu	4,552,961	4.12%	
Cell 1K - 2.49K teu	57,060,476	51.64%	
Cell 2.5K-3.9K teu	40,934,188	37.05%	
Cell 4K-5.9K teu	7,926,606	7.17%	
Cell 6K-7.9K teu	19060	0.00%	
			13.65%
RORO > 10K DWT	12,975,957	86.16%	
RORO < 10K DWT	2,084,463	13.84%	1.86%
Reefer	2,107,392		0.26%
Bulk < 20K DWT	10,599,298	4.90%	
Bulk 20K-40K	84,204,504	38.90%	
Bulk 40K-80K	95,693,784	44.21%	
Bulk 80K-100K	5,064,789	2.34%	
Bulk 100K-175K	20,256,110	9.36%	
Bulk >175K	619,543	0.29%	26.74%
Combo < 20K	0	0.00%	
Combo 20K-40K	0	0.00%	
Combo 40K-80K	1,303,372	28.73%	
Combo 80K-100K	294,622	6.49%	
Combo 100K-175K	2,851,006	62.84%	
Combo > 175K	87,932	1.94%	0.56%
Tank < 16.5 K DWT	1,104,399	0.36%	
Tank 16.5K-25K	22,122,530	7.12%	
Tanker 25K-45K	20,649,600	6.65%	
Tanker 45K-80K	62,134,240	20.00%	
Tanker 80K-160K	129,848,920	41.79%	
Tanker 160K-250K	15,325,140	4.93%	
Tanker > 250K	59,507,688	19.15%	38.38%
Prod Tank < 16.5K	2,916,594	4.00%	
Prod Tank 16.5K-25K	15,848,521	21.74%	
Prod Tank 25K-45K	35,881,404	49.22%	
Prod Tank 45K-80K	14,729,804	20.21%	
Prod Tank 80K-160K	3,523,210	4.83%	9.01%
Gas Tankers	5,365,928		0.66%
Vehicle Carriers	3,098,431		0.38%
Other Ships	4,561,234		0.56%
Total	809,430,622		

Source: DRI/LMIS World Fleet Forecasting Service

U.S. East Coast Regional

A review of the two east coast regions indicates two varying profiles (see Chart 32). As discussed before, the total tonnage for the North Atlantic is three times that of the South Atlantic. However, the North Atlantic traffic is dominated by tankers and bulk carriers, and the southern region reflects heavy tanker and container calls. Additionally, the southern profile maintains a larger proportion of calls in general cargo and RORO traffic. The northern ports maintain slightly higher degrees of reefer and gas tanker participation.

Chart 32
1993 North Atlantic vs South Atlantic Vessel Types

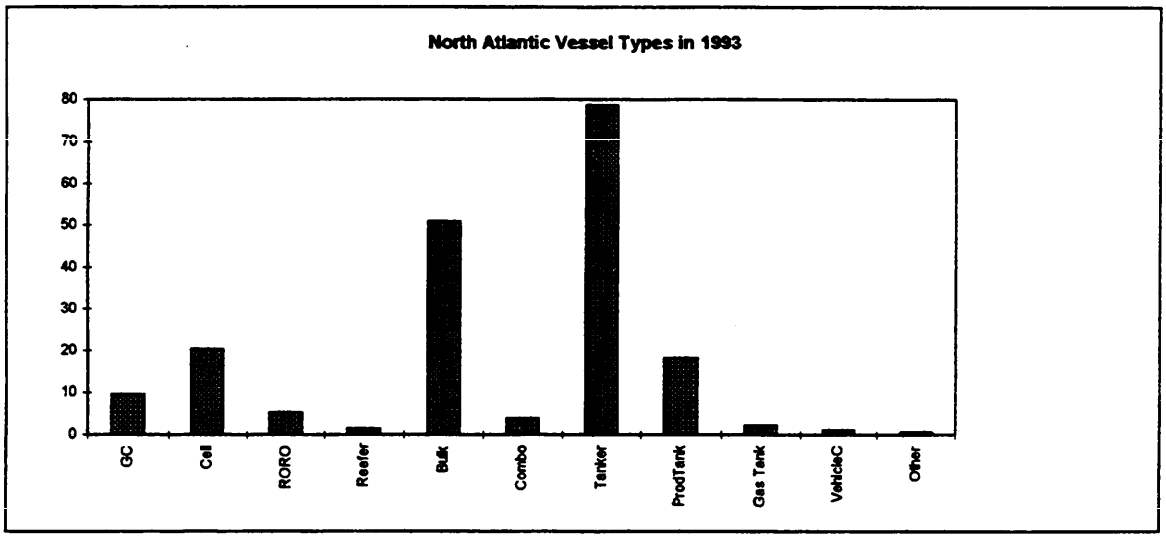


Source: DRI/LMIS World Fleet Forecasting Service

North Atlantic

As indicated in the commodity section, this region has a large percentage of tonnage devoted to crude petroleum; the occurrence of tonnage carried in tankers is therefore high (refer to Chart 33).

Chart 33
North Atlantic 1993 Vessels by Tonnage



Source: DRI/LMIS World Fleet Forecasting Service

Tankers carry over 41% of trade to and from the North Atlantic. Of these tankers, those in the range of 80,000 to 160,000 DWT move over 55 percent of tanker cargo (see Chart 34). The northern ports are also heavy bulk ports--bulk operations account for over 26 percent of trade in this region. This type of ship split the majority and use two class sizes: 40,000 to 80,000 DWT move 39 percent of these commodities and 100,000 to 175,000 move over 30 percent. Cellular vessels move finished good in and out of the northern ports, carrying over 10 percent of trade. Container vessels in the class size 1000 to 2499 TEUs move over 57 percent of containerized tonnage. Those in the 2,500 to 3,900 class move over 28 percent. Petroleum products are the third largest commodity traded in this region. Product tankers carry nearly 10 percent (about the same as container vessels) of the metric tons moving in and out of this region. The product tankers in the 25,000 to 45,000 range move over 47 percent of all petroleum products for this area while vessels in the range of 45,000 to 80,000 carry 27 percent. General cargo vessels overall carry 5 percent of total tonnage. In this category, those vessels with greater than 10,000 DWT carry 95 percent of the total metric tons. RORO vessels move nearly 3 percent of roll on-roll off cargo for the northern region. Vessels less than 10,000 DWT carry over 97 percent of this tonnage. Combination carriers transfer nearly 2 percent of trade between this region and the world. The majority of cargo moves on vessels in the range of 100,000 to 175,000 DWT. The rest of traded tonnage is split among the following ship types: gas tankers (1 percent), reefers (.75 percent), vehicle carriers (.57 percent), and other ships (.31 percent).

Chart 34
Cargo Vessels Calling the North Atlantic in 1993

type	metric tons	% per group	% per total
GC > 10K DWT	9,138,015	95.00%	5.02%
GC < 10K DWT	480,704	5.00%	
Cell < 1000 teu	1,498,615	7.35%	
Cell 1K - 2.49K teu	11,726,061	57.53%	
Cell 2.5K-3.9K teu	5,730,697	28.12%	
Cell 4K-5.9K teu	1,425,922	7.00%	
Cell 6K-7.9K teu	0	0.00%	
			10.64%
RORO > 10K DWT	4,955,724	97.75%	
RORO < 10K DWT	114,287	2.25%	2.65%
Reefer	1,413,559		0.74%
Bulk < 20K DWT	630,755	1.24%	
Bulk 20K-40K	10,907,095	21.50%	
Bulk 40K-80K	19,782,962	39.00%	
Bulk 80K-100K	3,347,075	6.60%	
Bulk 100K-175K	15,576,251	30.71%	
Bulk >175K	475,912	0.94%	26.47%
Combo < 20K	0	0.00%	
Combo 20K-40K	0	0.00%	
Combo 40K-80K	607,343	16.39%	
Combo 80K-100K	161,700	4.36%	
Combo 100K-175K	2,847,561	76.87%	
Combo > 175K	87,932	2.37%	1.93%
Tank < 16.5 K DWT	17,205	0.02%	
Tank 16.5K-25K	476,874	0.61%	
Tanker 25K-45K	5,871,716	7.47%	
Tanker 45K-80K	19,318,722	24.58%	
Tanker 80K-160K	43,599,456	55.48%	
Tanker 160K-250K	6,695,975	8.52%	
Tanker > 250K	2,612,447	3.32%	41.02%
Prod Tank < 16.5K	210,228	1.15%	
Prod Tank 16.5K-25K	1,801,720	9.85%	
Prod Tank 25K-45K	8,673,164	47.43%	
Prod Tank 45K-80K	4,947,899	27.06%	
Prod Tank 80K-160K	2,651,677	14.50%	9.54%
Gas Tankers	2,148,537		1.12%
Vehicle Carriers	1,092,647		0.57%
Other Ships	587,568		0.31%
Total	191,614,005		

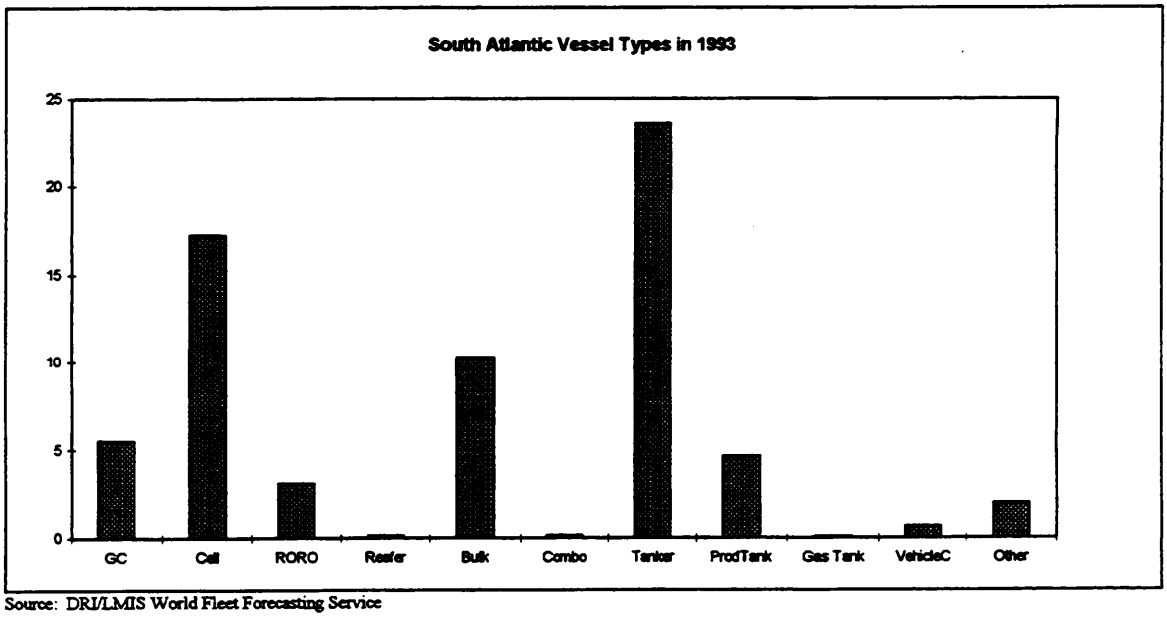
Source: DRI/LMIS World Fleet Forecasting Service

South Atlantic

The fleet working the South Atlantic to the World trade is dominated by tankers, container ships and bulk operators. There are three vessel types move over 75 percent of the tonnage moving in and out of this region: tanker, cellular and bulks (see Chart 35). The amount moved by the tankers reflects the effect of the southern region's number one commodity by weight, crude petroleum.

Chart 35

South Atlantic 1993 Vessel Types by Tonnage



Source: DRI/LMIS World Fleet Forecasting Service

Chart 36 provides further details. Tankers carry 35 percent of the metric tons transported in this region. Within this group, those in the 80,000 to 160,000 DWT move 51 percent of tanker cargo. Container vessels are the second largest movers for this region, carrying over 25 percent of total metric tons. Such a high concentration of container ships reflects this regions' focus on high value goods. Cellular ships with 1,000 to 2,499 TEU capacity move over 64 percent of all containerized cargoes. Bulk carriers move 15 percent of total tonnage traded. Vessels in the 20,000 to 40,000 DWT range move the majority of bulk shipments (67 percent). General cargo vessels calling this region move 8 percent of the total trade, with over 90 percent shipped on vessels under 10,000 DWT. Most petroleum products are carried by vessels in the 25,000 to 45,000 DWT range, with all product tankers moving nearly 7 percent of total traded metric tons. RORO carriers calling the southern region carry 50 percent less tonnage than those serving the northern region. But, in the southern profile, RORO's move nearly 5 percent of total trade compared to 2.65% in the north. This difference is due to the northern region's greater bulk orientation which makes it more difficult for other cargoes to gain prominence. If 75 percent of tonnage is bulk related, it is difficult to see substantially greater volumes of high value goods being shipped in the future. Most

RORO's serving the south are less than 10,000 DWT. The rest of total tonnage is moved by the following vessel types: other ships (2.8 percent), vehicle carriers (.95 percent), combination (.23 percent, with most on 20,000 to 40,000 DWT ships (97 percent), reefers (18 percent), and gas tankers (11 percent).

Chart 36
Cargo Vessels Calling the South Atlantic in 1993

type	metric tons	% per group	% per total
GC > 10K DWT	4,979,262	90.29%	8.22%
GC < 10K DWT	535,272	9.71%	
Cell < 1000 teu	1,478,154	8.60%	
Cell 1K - 2.49K teu	11,104,103	64.61%	
Cell 2.5K-3.9K teu	3,709,274	21.58%	
Cell 4K-5.9K teu	893,671	5.20%	
Cell 6K-7.9K teu	484	0.00%	
			25.61%
RORO > 10K DWT	2,198,033	71.92%	
RORO < 10K DWT	858,320	28.08%	4.56%
Reefer	120,851		0.18%
Bulk < 20K DWT	258,782	2.52%	
Bulk 20K-40K	6,893,633	67.24%	
Bulk 40K-80K	2,897,337	28.26%	
Bulk 80K-100K	193,102	1.88%	
Bulk 100K-175K	9,377	0.09%	
Bulk >175K	0	0.00%	15.28%
Combo < 20K	0	0.00%	
Combo 20K-40K	0	0.00%	
Combo 40K-80K	147,164	97.00%	
Combo 80K-100K	4,551	3.00%	
Combo 100K-175K	0	0.00%	
Combo > 175K	0	0.00%	0.23%
Tank < 16.5 K DWT	0	0.00%	
Tank 16.5K-25K	1,941,822	8.24%	
Tanker 25K-45K	1,409,482	5.98%	
Tanker 45K-80K	3,698,512	15.68%	
Tanker 80K-160K	12,144,826	51.50%	
Tanker 160K-250K	2,447,309	10.38%	
Tanker > 250K	1,938,090	8.22%	35.14%
Prod Tank < 16.5K	0	0.00%	
Prod Tank 16.5K-25K	1,459,483	31.59%	
Prod Tank 25K-45K	3,066,851	66.39%	
Prod Tank 45K-80K	93,455	2.02%	
Prod Tank 80K-160K	0	0.00%	6.89%
Gas Tankers	74,021		0.11%
Vehicle Carriers	637,281		0.95%
Other Ships	1,902,758		2.84%
Total	67,095,260		

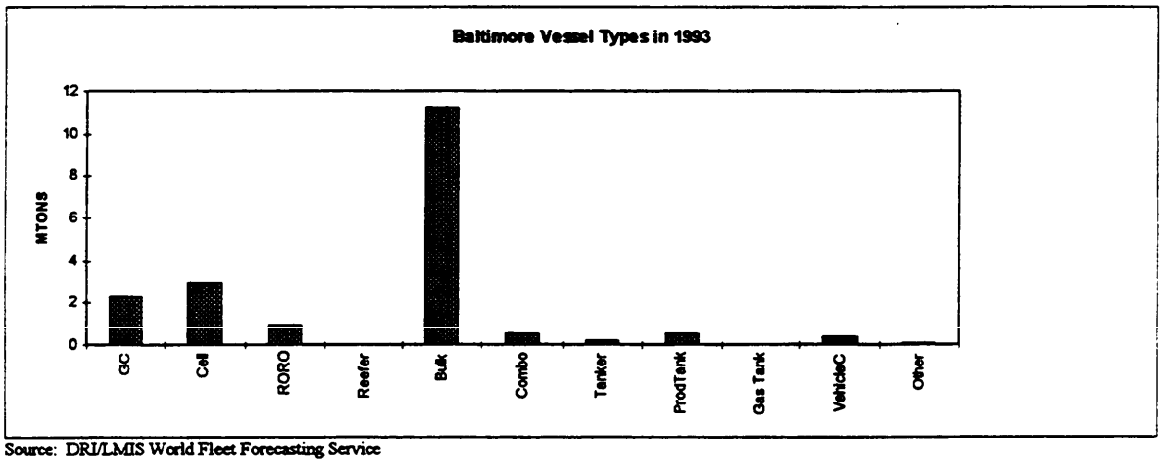
Source: DRI/LMIS World Fleet Forecasting Service

Baltimore

Nearly 60 percent of tonnage moving in and out of Baltimore is bulk cargo, a commodity mix of coal & coke, iron ore, cement, lime & stone, grain and oilseeds. Over 15 percent of the total trade between Baltimore and the world is containerizable. General cargo vessels carry and additional 12 percent. Finally, RORO cargoes contribute nearly 5 percent to total tonnage moved. (See Chart 37).

Chart 37

Baltimore 1993 Vessel Types by Tonnage



Source: DRI/LMIS World Fleet Forecasting Service

Referring to Chart 38, carriers moving the majority (40 percent) of these large volume cargoes are those in the 40,000 to 80,000 DWT range. The rest of the bulk cargo moves on 20,000 to 40,000 (29 percent) DWT and 100,000 to 175,000 (23 percent) DWT vessels. Cellular vessels transport containerized cargo between Baltimore and the world, 15 percent of the total tonnage traded. Ships in the 1,000 to 2,499 TEU range carry the largest amount of cargo-nearly 57 percent of all containerized tons. General cargo vessels under 10,000 DWT move over 96 percent of this tonnage. The majority (95 percent) of RORO cargo is carried by vessels that are less than 10,000 DWT. Roll on - Roll off vessels transport 5 percent of the total tonnage traded. Combination vessels carry just over 2 percent of total traded metric tons, of which nearly 75 percent is carried on ships in the 100,000 to 175,000 DWT range. Other ships contributing to this trade include: product tankers (2.6 percent, with 25,000 to 45,000 DWT vessels carrying 48 percent), vehicle carriers (2 percent), tankers (.87 percent - with 25,000 to 45,000 DWT carriers moving 48 percent of these commodities), gas tankers (.02 percent), other ships (.33 percent), and reefers (.05 percent).

Chart 38
Cargo Vessels Calling Baltimore in 1993

type	metric tons	% per group	% per total
GC > 10K DWT	2,181,814	96.31%	11.95%
GC < 10K DWT	83,635	3.69%	
Cell < 1000 teu	257,459	8.77%	
Cell 1K - 2.49K teu	1,673,389	56.98%	
Cell 2.5K-3.9K teu	796,552	27.12%	
Cell 4K-5.9K teu	209,609	7.14%	
Cell 6K-7.9K teu	0	0.00%	
			15.49%
RORO > 10K DWT	887,882	95.82%	
RORO < 10K DWT	38,717	4.18%	4.89%
Reefer	9,095		0.05%
Bulk < 20K DWT	30,724	0.27%	
Bulk 20K-40K	3,243,327	28.94%	
Bulk 40K-80K	4,539,562	40.51%	
Bulk 80K-100K	710,207	6.34%	
Bulk 100K-175K	2,604,112	23.24%	
Bulk >175K	79,312	0.71%	59.13%
Combo < 20K	0	0.00%	
Combo 20K-40K	0	0.00%	
Combo 40K-80K	90,858	18.24%	
Combo 80K-100K	17,787	3.57%	
Combo 100K-175K	377,777	75.84%	
Combo > 175K	11,670	2.34%	2.63%
Tank < 16.5 K DWT	0	0.00%	
Tank 16.5K-25K	4,133	2.51%	
Tanker 25K-45K	78,865	47.82%	
Tanker 45K-80K	60,362	36.60%	
Tanker 80K-160K	20,966	12.71%	
Tanker 160K-250K	593	0.36%	
Tanker > 250K	0	0.00%	0.87%
Prod Tank < 16.5K	273	0.05%	
Prod Tank 16.5K-25K	38,450	7.74%	
Prod Tank 25K-45K	241,080	48.52%	
Prod Tank 45K-80K	127,653	25.69%	
Prod Tank 80K-160K	89,428	18.00%	2.62%
Gas Tankers	4,223		0.02%
Vehicle Carriers	383,398		2.02%
Other Ships	61,770		0.33%
Total	18,954,682		

Source: DRI/LMIS World Fleet Forecasting Service

Navigation

As discussed in the Ocean Carrier section in Chapter 1, vessels have alternate routes in the POB, Cape Henry or the C&D Canal.

During the year 1993, almost double the number of vessels used Cape Henry during their call at the POB. Ships are more likely to use the canal on the way to Baltimore (see Chart 39), inbound canal transits make up 35 percent of total inbound Port of Baltimore vessels, whereas, outbound canal transits are 25 percent of total outbound calls.

Chart 39
Alternative Routes and Number of Transits

	Chesapeake & Delaware Canal	Cape Henry	Total
Inbound	787	1414	2201
Outbound	558	1695	2253

Source: POB, Summary of Waterborne Foreign Trade, BME

Chart 40 below, indicates the differences between inbound moves and outbound moves at the Port of Baltimore. This inequality may be due to recording procedures at BME, whereby a vessel may enter or exit the port during hours in which the BME office is closed. The difference finds the inbound records to be 97 percent of the outbound voyage records.

Chart 40
Baltimore's Fleet Movement in 1993

(number of moves)	
Total Baltimore	4454
Outbound	2253
Inbound	2201
In as % of Out	97%

Source: DRI/McGraw-Hill, from BME data

The number of vessels exiting the port is made up of a variety of ships (see Chart 41). The ship types most frequently counted at the POB are container carriers and dry bulk vessel reflecting the types of cargo most prevalent at the port. In addition, the "other " ship category which includes RORO's, reefers and other assorted vessels, including a large number of vessels. General cargo vessels also indicate the significance of breakbulk business at the port.

Chart 41
Vessel Profile*- Existing Conditions in 1993 – Outbound

(number of moves)	1993
Total Baltimore	2253
Container	516
Dry Bulk	480
Tankers (incl product)	166
GeneralCargo/BBK/Combo	322
Vehicle Carriers (incl RoRo)	191
Other	578

Source: DRI/McGraw-Hill from BME data *other includes reefer, RORO, and other.

Chart 42
Baltimore Draft Distribution for Vessel Types in 1993
Distribution of Movements for 1993

Inbound + Outbound

DRAFT	Container	Gen Cargo	RORO	Bulk	Tanker	Other
0	7.5	9.9	5.9	7.1	13.5	2.3
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0.4	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0.5	0	0	0	0
12	0	0.6	0	0	0	0
13	0	2.2	0	0.3	2	0
14	0	2.9	0	0	3	0
15	1.3	3.9	0	0	2.4	0
16	1.5	7.9	0.6	0	2.4	0
17	0.7	7.4	1	1.1	1.4	0
18	1.4	5.6	0.6	1.5	1	0
19	0.4	5.1	3.7	3.8	4	0.6
20	0.6	12.4	5.4	6.8	7.5	0
21	2.1	5.6	14.5	9.7	16.7	3
22	6.8	6.8	9.6	16.1	7.5	3.2
23	4.2	6.8	14.3	13.1	8.9	9.4
24	13	16.8	20.7	15.2	15.1	9.5
25	14	11.4	19.2	11.5	15.7	26.1
26	12.1	10.8	27.4	6.3	14.1	33.8
27	14.1	17.1	24.8	8.9	11.3	46.7
28	16.8	17.1	19.7	6.3	9.3	35.1
29	15.3	16.4	7.9	6.4	13.9	17
30	15.4	9.1	9.5	7.7	11.5	7.1
31	11.2	13.6	7.7	9.7	4.8	2.1
32	11.4	6.2	4.5	10.6	10.5	0
33	14.1	2.3	2.4	6.7	13.3	1.2
34	9.8	1.2	0.4	5.1	5.6	0.9
35	15	0	0.4	7.5	0	0
36	6.7	0	0	5.9	1	0
37	1.8	0	0	2.1	0	0
38	1.8	0	0	3.6	0	0
39	0.4	0	0	2.6	0	0
40	0	0	0	3.3	1	0
41	0.3	0	0	4.8	0	0
42	0	0	0	6	1.4	0
43	0	0	0	2	0	0
44	0	0	0	1.1	0	0
45	0	0	0	1.1	0	0
46	0	0	0	1.1	0	0
47	0	0	0	3.1	1	0
48	0	0	0	2.2	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
Totals	200.1	199.6	200.2	200.3	199.8	200

Draft Analysis

This analysis is based on the data provided in Chart 42, a distribution of vessel movements by type and draft.

Containers: the majority of container vessels sailing in and out of the Port of Baltimore maintain drafts in the range of 24 to 35 feet. Cellular vessels with drafts of 36 feet had increasing growth patterns, with average growth rates of 41%, from 1991 to 1993. However, with the exception of vessels with drafts of 38 feet (average growth rate was 200%), the larger sized vessels (37 feet and greater) do not indicate positive growth.

General Cargo: the majority of general cargo and breakbulk vessels have drafts in the range of 20 feet to 32 feet. However, average growth rates for vessels with 33 feet and 34 feet drafts are 9% and 4% , respectively for the years 1991-1993. Vessels with drafts greater than 35 feet do not indicate positive growth.

RORO vessels: the majority of RORO vessels have drafts ranging between 24 feet and 31 feet. Vessels with drafts of 32 feet, 33 feet, and 35 feet have average growth rates of 45 percent, 101 percent, and 50 percent, respectively. All other vessels with drafts greater than 31 feet do not exhibit positive growth.

Bulk vessels: the majority of bulk vessels have drafts ranging from 20 feet to 42 feet. Vessels with drafts 47 feet and 48 feet maintain average growth rates of 230 percent and 250 percent from 1991 to 1993. All other vessel sizes greater than 42 feet do not exhibit positive growth.

Tankers: the majority of these vessels have drafts ranging from 20 feet to 33 feet. Vessels with drafts of 35 feet maintain an average growth rate of 50 percent from 1991 to 1993. All other vessels greater than 33 feet do not exhibit positive growth.

Other Vessels: the majority of all other vessels not previously discussed, have drafts ranging from 24 feet to 29 feet. For ships with drafts greater than 29 feet, vessels with drafts of 30 feet show the most encouraging growth-average of 300 percent from 1991 to 1993. While those with drafts of 33 feet have an average growth rate of 100 percent. All other vessels greater than 29 feet do not demonstrate positive growth.

Barge Activity

Barges move the majority of domestic cargoes, those cargoes with U.S. origin and destination, in and out of the POB. In fact, barge operators carry over 78 percent of the domestic tonnage carried to and from the port. Chart 43 below, presents all barge movements (entering, exiting, and movement with the Port of Baltimore) and total tonnage for the POB in 1993. Of total movements, 57 percent are devoted to the transport of cargo, the other 42 percent of moves reposition empty barges. Of total barge movements, 32 percent involve intraport movements, moving from one terminal to another within the port. Of these intraport moves, nearly 46 percent actually move cargo, the other 54 percent of these moves are empty barges. Thus, the POB's barge operations entail a great deal of repositioning of empty barges. This is the result of the regular routine of unloading barges and then moving them to lay berths until other cargo is found for them.

Chart 43

Barge Traffic for Port of Baltimore 1993

(Vessel types: 4 = dry cargo barge, 5=liquid barge)	Barge w/cargo	Barge w/o cargo	Total
Total number of movements	2,610	1,961	4,571
Intra-Port Movements	671	791	1,462
Total Tonnage	9,742,784	0	
Intra-Port Tonnage	1,342,679	0	

Source: DRI/McGraw-Hill from BME data

The following chart presents all barge tonnage moved in and out of the Port of Baltimore by commodity. As shown, coal tonnage makes up over 40 percent of the total cargo moved by barge in the POB. The large amounts of coal moved by barge are due to the consumption demands of BG&E. Although coal is not the highest paying cargo-it is definitely the most voluminous. Fuel oils and gasolines make up nearly 19 percent of total tonnage. Energy product tonnage therefore makes up 59 percent of total tonnage moved by barge. Barges also move more revenue intensive cargo one of the highest paying of which is containers. The Port of Baltimore has several barge operators which support a "feeder" operation using barges to transport containers to and from other port areas. This service offers an attractive product for ocean carriers and trucking companies seeking ways to reduce surface costs. For example, a liner may call Norfolk, discharge a container and then loaded this same container onto a barge. The barge then sails to Baltimore where the container is put on the rail or on a truck.

The Chart 44 depicts all moves to and from the port. Among these moves are several intra-port movements, where a barge travels from terminal to terminal loading and discharging cargoes. This commodity breakdown is presented in Chart 45.

Chart 44
Chart Of Total Barge Moves (Interport And Intraport) 1993

TOTAL TONNAGE BY COMMODITY - 1993

DESCRIPTION	SHORT TONS
COAL WHETHER OR NOTPULVERIZED,BUT NOT AGGLOMERATED	3,972,887
FUEL OILS, N.E.S.	915,874
GASOLINE INCLUDING AVIATION (EXCEPT JET) FUEL	897,070
PEBBLES, GRAVEL CRUSHED STONE (SPEC USE), ETC	726,730
CEMENTS, PORTLAND, ALUMINOUS, SLAG, ETC.	677,052
PITCH & PITCH COKE FROM COAL TAR ETC	655,586
MISCELLANEOUS MANUFACTURED ARTICLES,N.E.S.	472,489
LIGHT OILS FROM PETROL & BITUM MINERALS NES ETC	460,321
SULFURIC ACID; OLEUM	213,658
BEET/CANE SUGAR RAW IN SOLID FORM, NO FLAVOR/COLOR	96,584
SANDS,NATURALOF ALL KINDS,WHETHER OR NOT COLORED	83,887
LIMESTONE FLUX ETC USED FOR MFR LIME OR CEMENT	54,958
BENZENE, PURE	52,832
CORAL SHELL CUTTLEBONE, UNWORKED ETC, & WASTE	47,636
LUBRICATING OILS FROM PETROL & BITUMIN NES ETC	43,312
FERROUS WASTE AND SCRAP;REMELTING INGOTS OF IRON OR STEEL	42,676
MINERAL OR CHEMICAL FERTILIZERS, NITROGENOUS NES	42,001
SODIUM HYDROXIDE IN AQUEOUS SOLUTION (LIQUID SODA)	35,960
ACYCLIC HYDROCARBONS, N.E.S.	35,134
KEROSENE, INCLUDING KEROSENE TYPE JET FUEL	28,816
FERTILIZERS, N.E.S.	17,980
PETROLEUM JELLY; MINERAL WAXES ETC, COLORED OR NOT	16,609
MANUFACTURES OF MINERAL MATERIALS, N.E.S.	16,097
WATER (NATURL/ARTFCL/AERATED) NO SUG/FLVR ICE/SNOW	15,850
IRON ORE AND CONCENTRATES	13,131
CRUSTACEANS, MOLLUSCS, AQUATIC INVERTEBRATES	12,886
STONE, GRAVEL N.E.S.	12,409
RESIDUAL PETROLEUM PRODUCTS, N.E.S.	11,225
JET FUEL (GASOLINE TYPE)	9,677
SLAG & ASH, N.E.S., INCLUDING SEAWEED ASH (KELP)	7,688
CLAYS & OTHER REFRACTORY MINERALS, N.E.S.	7,000
SLAG, DROSS, SCALINGS & WASTE OF IRON & STEEL MFR	6,326
OTHER TRANSPORT EQUIPMENT	5,565
AMMONIUM SULFATE FERTILIZERS	5,279
ANTIKNOCK PREPARATIONS	5,137
MANUFACTURERS OF METALS,N.E.S.	3,986
COKE, SEMICOKE ETC OF COAL LIGNITE ETC; RE CARBON	3,801
MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES,N.E.S.	2,649
MIXED ALKYLBENZENES & MIXED ALKYLNAPHTHALENES NES	2,499

MEDIUM OILS FROM PETROL & BITUM MINERALS NES ETC	2,058
CHEMICAL PRODUCTS AND PREPARATIONS, N.E.S.	1,956
WOOD AND RESIN BASED CHEMICAL PRODUCTS	1,698
OTHER CRUDE MATERIALS, N.E.S.	1,500
XYLENES, PURE	1,394
MECHANICAL HANDLING EQUIPMENT,AND PARTS THEREOF,N.E.S.	1,190
MINERAL MATERIALS, N.E.S.	600
IRON AND STEEL BARS,RODS,ANGLES,SHAPES AND SECTIONS (SHEET PIL	445
NON-FERROUS BASE METAL WASTEAND SCRAP,N.E.S.	373
COMMODITIES, N.E.S.	114
COMMODITIES, N.E.S.	74
WOOD IN THE ROUGH OR ROUGHLY SQUARED	60
SAWDUST AND WOOD WASTE AND SCRAP, AGGLOM OR NOT	50
WOOD MANUFACTURES,N.E.S.	15
TOTAL	**9,742,784**

Chart 45
Chart Of Intraport Barge Movements 1993

DESCRIPTION	SHORT TONS
COAL,WHETHER OR NO PULVERISED,BUT NOT AGGLOMERATED	777310
FUEL OILS, N.E.S.	320300
SULFURIC ACID; OLEUM	192800
ACYCLIC HYDROCARBONS, N.E.S.	17366
WATER (NATURL/ARTFCL/AERATED) NO SUG/FLVR ICE/SNOW	15850
PEBBLES, GRAVEL, CRUSHED STONE (SPEC USE), ETC	7519
SODIUM HYDROXIDE IN AQUEOUS SOLUTION (LIQUID SODA)	2800
LUBRICATING OILS FROM PETROL & BITUMIN NES ETC	2112
OTHER CRUDE MATERIALS, N.E.S.	1500
SANDS,NATURAL,OF ALL KINDS,WHETHER OR NOT COLORED	920
CHEMICAL PRODUCTS AND PREPARATIONS, N.E.S.	916
MANUFACTURES OF MINERAL MATERIALS, N.E.S.	705
MINERAL OR CHEMICAL FERTILIZERS, NITROGENOUS NES	612
MINERAL MATERIALS, N.E.S.	600
MECHANICAL HANDLING EQUIPMENT AND PARTS THEREOF	500
IRON AND STEEL BARS,RODS,ANGLES,SHAPES AND SECTIONS(SHEET PILING)	445
MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES	100
LIGHT OILS FROM PETROL & BITUM MINERALS NES ETC	96
COMMODITIES, N.E.S.	74
MANUFACTURERS OF METALS, NES	69
WOOD IN THE ROUGH OR ROUGHLY SQUARED	60
WOOD MANUFACTURES,N.E.S.	15
MISCELLANEOUS MANUFACTURED ARTICLES, N.E.S.	10
TOTAL	1342679

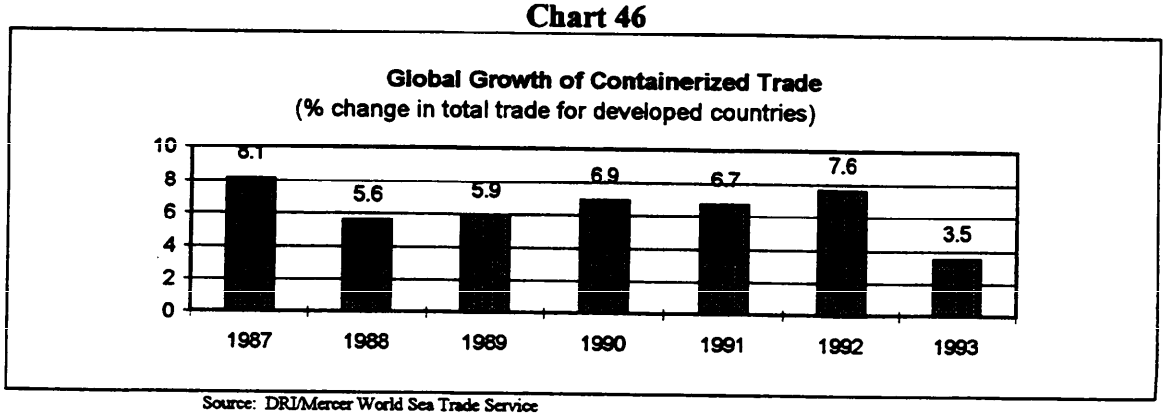
These intraport maneuvers make up 14 percent of the total tonnage moved in the Port of Baltimore. Movements of coal by barge within the POB terminals make up 57 percent of the total tonnage moved within the port. However, these intra-port moves of coal make up only 20 percent of total coal transported. Fuel oil contributes 24 percent to total tonnage, and the intra-port fuel oil tonnage is 35 percent of all fuel oil moved in and out of the POB. Thus, the majority of tonnage (80%) moved within the port is related to energy products.

Patterns of Trade: The Interrelationship between Trade and Merchant Fleet Liner

Global markets directly affect the demand and presence of different types of ships. This section will present global economic development during 1993 and the way these events affected the basic ship classes. This analysis will cover liner shipping, dry bulk trends, and tanker operations. The next section will cover global trade routes and their connection to various ship types. The trade lane analysis will be presented at a broad global level, and then concentrate on the US, North Atlantic, South Atlantic, and finally, Baltimore.

Chart 46 presents total world shipments of containerizable goods in 1993 and indicates that these container goods maintained a slow growth rate (3.5%). This reduced expansion was due to weak Japanese imports and a slowing economy in Germany.

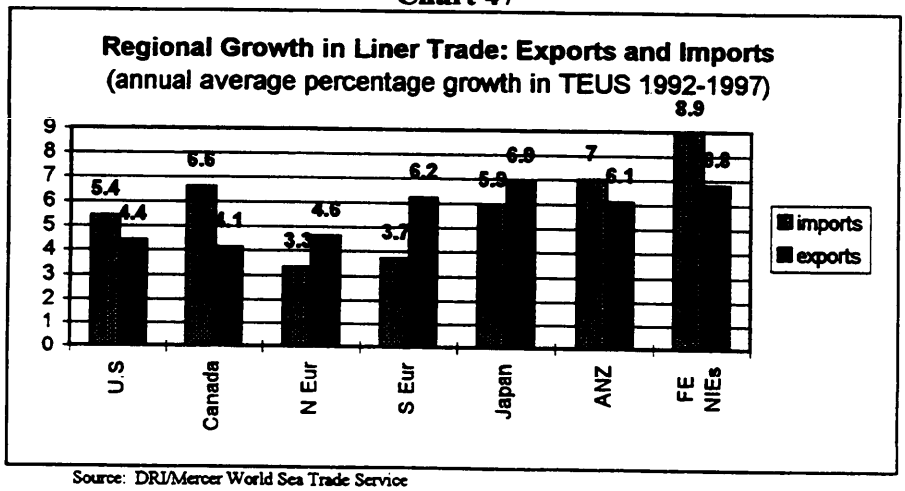
Chart 46



Source: DRI/Mercer World Sea Trade Service

Global regions grow at varying rates, as shown in the Chart 47 below.

Chart 47



Source: DRI/Mercer World Sea Trade Service

United States Liner Trade - Inbound

The United States' economy in 1993 had real GDP growth of 2.7 percent. Low interest rates supported housing and business investments, and consumers were busy borrowing to continue buying. However, employment did not improve quickly, but bottomed out later in the business cycle. Productivity has improved, indicating that more goods can be generated with less labor.

US inbound liner trade from Northern Europe should grow at 9.4 percent. The US currently drives outbound European trade. General economic growth in the US will energize growth in consumer goods, paper, and light industrial machinery.

US inbound trade from Southern Europe has a growth rate of 6.9 percent. Iron and steel products and other mineral and metal manufactures will continue to climb due to fixed investments by U.S. business.

The eastbound transpacific flow which is related to three different areas should grow 2.6 percent. Inbound shipments from China and southeast Asia (low cost producers) should grow 12 percent and 3.9 percent. Chinese trade is very strong although it does not contain a diversity in the commodity mix. Most of the trade is consumer goods (75%), with electrical equipment making up 7.8 percent of the trade. Southeast Asian trade in containerizable goods has 3.9 percent growth -- a greatly reduced number from 1992 (27.1%). After this cooling off period, trade should grow again at a steady pace.

In Japan - US trade, total TEUs were greater than 1 million. Many of Japan's traditional products are being poured out of Southeast Asia and China. This, coupled with the weakness of the dollar, put a slight damper on this trade recently. Most of liner goods in this trade were down in 1993, everything from auto parts to electrical equipment and consumer goods. Light industrial equipment, however, did very well.

US trade with NIEs (Hong Kong, Taiwan, South Korea) declined in 1993, due to product price inflation because of higher wage costs, lack of strong brand identity, and market saturation in the US for many of the traditional exports from this region.

Northbound liner trade from Latin America grew in 1993, mostly as a result of trade in the Caribbean.

Longer term outlook for the U.S. inbound liner traffic calls for 5.4% growth in the 1992-1997, and the 1993- 1997 forecast periods.

United States Liner Trade - Outbound

Total 1993 TEUs should decline from the previous year by 2.3 percent due to lagging economic performance abroad (Europe and Japan). Also, portions of the U.S. economy are being eroded by other suppliers of containerized cargoes.

The eastbound transatlantic trade in 1993 was down about 8.9 percent as the German economy weakened, with minimal growth in France and very weak expansion in the United Kingdom. Below, in Chart 48, is a chart of real GDP for key countries in Europe:

Chart 48

GDP for Key European Countries

	Annual Real GDP growth (%)
Country	**1993**
Germany	-1.6
France	-1.1
United Kingdom	+1.7
Spain	-1.0
Italy	-0.6

Source: DRI/Mercer World Sea Trade Service

The 1993 weak points in this trade are forest products and pulp and waste paper. During 1993, these US commodities were replaced by other sources. Global overcapacity in the liner trades has pushed rates down, and only those suppliers willing to cut prices gained in this market. New entrants, Chile and Brazil, have lower cost structures, and have intruded on the US forest products trade. Additionally, these commodities were effected by United States environmental regulations concerning the spotted owl.

Japan's recession has reduced trade in U.S. products on westbound routes. The modest growth forecast reflects the economic projections for Japan.

Southeast Asia's export market is weak, making its requirements for liner imports fall in 1993. The U.S. may lose market share in Southeast Asia, as other suppliers move in, especially in forest products.

US shipments to China have fallen, especially in pulp and skins, textile fibers.

Shipments to the Far East NIEs were down in 1993 due to slowing exports, especially pulp and waste products. Chemical products utilized in export production, have also fallen.

Southbound trade to Latin America was slow due to a reduction in shipments to Brazil and Venezuela. Argentina is still a healthy market for U.S. goods.

Dry Bulk Trade

Total dry bulk shipments in 1993 were down - a continuing trend from the previous year. World shipments of dry bulks in 1993 were about the same as in 1988. Principal growth markets were in the Far East and Japan. Coal and coke shipments were off more than 5% this year, with Northern Europe the chief cause of the reduction. Iron ore shipments experienced a 1 percent drop in 1993. However, long term outlook is not good due to efficiencies in steelmaking and the use of recycled steel. Grain shipments fell nearly 8%, with US shipments to Northern Europe the prime cause, as this region achieved good production in 1993.

Coal & Coke

Due to the weak economics in Europe, US exports of coal fell greatly in 1993. The majority of this downturn (60%) is related to the falloff in shipments to Northern Europe, where Germany's steel industry has been affected by the collapse of the domestic economy and the drop in demand by neighboring nations. Southern Europe's demand for US steel remained the same. Japan's purchases of coal & coke also remained unchanged.

Coal exports from Australia will continue to grow to markets in Japan, the NIE, and Northern Europe. Australia maintained a foothold in Europe by utilizing competitive pricing.

Canada's shipments slowed in 1993 and South Africa's coal exports also fell. Most of South Africa's market is in Europe, where demand is low. The rest of the market is located in the Far East and shipments to this region are usually carried by ships originating in the U.S.

Iron Ore

Global (OECD) shipments of iron ore in 1993 were 277 million metric tons, a slight decline of 1 percent compared with the previous year. Most of the decline is connected to the slower economies in Northern Europe and Japan. OECD demand for iron ore has declined on most supply routes: Southern Africa, the West Coast of Africa and the East Coast of South America (chiefly Brazil). India's shipments will also be reduced.

Japan's imports of iron ore were down in 1993. The NIEs, China and Southeast Asia imported larger amounts of iron ore in 1993 than in 1992, up to 10.5 percent. Strong domestic growth and the decision by Japan to outsource some of its steel products, will stimulate demand for iron ore. Australia, New Zealand and India will also benefit from increased demand in the Far East.

U.S. imports of Canadian iron ore will continue to fall while imports from Latin America (Brazil) continue to increase.

Grain

In 1993 there was an 8 percent drop in global (OECD) grain shipment, down to 180.5 million metric tons. This decline is mainly due to OECD exports to non-OECD nations (i.e. U.S. to Eastern Europe).

Shipments to the Middle East rose 7.3 percent in 1993. This demand is based on the region's growth rate and its plans to become more self-sufficient in meat production. The U.S. will benefit primarily from this as it is the largest supplier in the food and feed grain trade.

Grain shipments to Japan in 1993 were similar to 1992. If trade rules on Japanese rice change, the U.S. could also export rice.

Europe's grain imports were slow in 1993, down 1.4 percent; shipments to Eastern Europe decreased due to strong domestic grain production.

Tanker Trade

Global shipments of tanker commodities in 1993 increased a slight 1.7 percent. This is based on growth in OECD imports of 1.4 percent and 2 percent growth in OECD exports. Imports making up the majority of the total are steadied by the industrialized nations' imports from Latin America and the west coast of Africa, helping to cover North Europe's reduced demands.

Global shipments of crude rose 1.7 percent in 1993, with growth patterns similar for tanker trades. Shipments from the Arabian Gulf did not rise in 1993, while Latin America's share of OECD imports increased. The newfound sources of crude in Latin America will put it in a very competitive position especially for the U.S.

OECD imports of petroleum products in 1993 were down, mainly due to the economic downturns in Northern and Southern Europe, and weakness in the Japanese markets. However, this will be offset by OECD exports of 105.6 million metric tons, quite high, with strong growth in shipments to the Far East and the Middle East.

Crude Petroleum

Seventy percent of the global (OECD) tanker trade is crude petroleum. This year, crude shipments were 859 million metric tons - an increase of 1.7 percent over the previous. The OECD imports of crude oil this year reflect the general economic conditions in Northern and Southern Europe and Japan. OECD nations' reliance on Northern Europe (North Sea) crude fell slightly in 1993, while imports from Latin America increased.

The growing U.S. economy will demand more crude oil , in 1993 growth increased by 9.1 percent. The Arabian Gulf is one of the beneficiaries of this increase, but Latin America's share of the U.S. market is expected to increase again in 1993, to 39.6 percent. Latin America shipped 106 million metric tons to the U.S. in 1993. The expected increase in this trade is due to their close proximity , improved trade relations, and new petroleum supplies in the Caribbean and Colombia.

Japan's economic slowdown in 1993 is reflected in the year's import records. The cooling off of the economy will create a much weaker demand for crude oil.

Northern and Southern Europe continue to rely on the Gulf for petroleum imports, although demand fell slightly in 1993.

Details of shipments for the four largest suppliers of crude oil are listed below in Chart 49:

Chart 49

Country/Region	1993 Shipments (millions of metric tons)
Arabian Gulf	388.33
Latin America	137.77
Mediterranean	107.86
Western Africa	97.37

Source: DRI/Mercer World Sea Trade Service, 1993

It is expected that the fastest growing supplier will be Western Africa (Nigeria) with its market position improving in the U.S. In addition, new supplies in Latin America will most likely compete with West African supplies in the U.S. market, as Latin America will be able to price its product more attractively.

Petroleum Products

In 1993, global petroleum product shipments increased 1.7 percent due to growth in OECD shipments of intermediate products to the Far East (China, Southeast Asia, and the NIEs). However, this year's increase, 246.4 million metric tons, cannot compensate for large losses since a high in 1990 of 256 million metric tons.

The United States, the world's largest importer of petroleum products increased imports of 1.1 percent resulting from a total of 80.7 million metric tons in 1993.

Suppliers to the U.S., mainly the Caribbean and the East Coast of South America benefit the most from this strong growth. The Arabian Gulf, a much smaller supplier, is expected to gain additional market share in the United States.

Japan, the second largest importer of petroleum products, maintained similar volumes in 1993 (42 million metric tons). The Arabian Gulf will benefit from this slow growth in imports. Other suppliers in the Far East (i.e. Indonesia) should also see some growth, but the Arabian Gulf should gain share in the Japanese market.

The European market's imports in 1993 decreased due to the economic downturn. Imports of petroleum products are not expected to increase much in the near future (35 million metric tons), even with the expected recovery of Northern and Southern Europe.

Trade Routes Commodities and Ship Types

Trade at the Port of Baltimore is part of the massive global trade route system. To better understand these systems and explain their effects on cargo traffic at POB, the following section will present various levels of trade routes and their interrelationship with the merchant fleets. This section will be divided into the following parts: Global, United States, North Atlantic, South Atlantic and Port of Baltimore.

Global

The ten largest volume trade routes are listed in Chart 50. These routes are dominated by crude petroleum, and do not truly illustrate the diverse commodities traded worldwide. Because crude petroleum encompasses over 54% of the total metric tons moved within the top ten trade routes, a more diverse presentation is provided in Chart 51. In this chart, crude petroleum has been excluded, restructuring the order of the trade route leaders. In comparing Chart 50 with Chart 51 , the Arabian Gulf region is positioned as a major supplier of crude petroleum. In addition, the only heavy U.S. trade was dropped with the exclusion of crude petroleum.

Chart 50

Top 10 World Trade Routes

	93 Total Mtons
Arabian Gulf to Japan	176,574,384
Australia/NZ to Japan	151,691,680
Other Med to Southern Europe	98,107,464
Arabian Gulf to Northern Europe	94,044,680
Other Med to Northern Europe	93,755,352
South East Asia to Japan	93,641,168
Arabian Gulf to Far East NIC's	78,585,592
Australia/NZ to Far East NIC's	62,080,052
China to Far East NIC's	61,890,420
Arabian Gulf to US Gulf Coast	59,009,144

Chart 51

Top 10 World Trade Routes Excluding Crude Petroleum

	93 Total Mtons
Australia/NZ to Japan	149,515,790
South East Asia to Japan	69,885,269
Australia/NZ to Far East NIC's	62,079,863
China to Far East NIC's	50,110,101
South America East Coast to Northern Europe	49,844,812
South East Asia to Far East NIC's	44,721,570
South America East Coast to Japan	34,829,734
Canada West Coast to Japan	31,667,617
Japan to Far East NIC's	31,611,032
Other Med & Northern Europe	31,027,134

These two sets of trade routes are also related to the types of vessels transporting these cargoes. The first example, Chart 52, where the largest commodity is crude petroleum, is likely to have a heavy concentration of tankers. To analyze this trend, Chart 53 explains the distribution of vessel types. For example, in Chart 52, the commodity detail indicates that 146 million metric tons of crude petroleum (87% of all metric tons traded in this lane) moved between the Arabian Gulf and Japan. Chart 53 lists the vessels active in this trade, and tankers carried over 153 million metric tons. Over 80% of all tonnage in this trade was moved by tankers. Additional observations include trade between the Arabian Gulf and Northern Europe where 93% of all commodity metric tons is crude petroleum (88.9 million) and tonnage moved by tankers is 92% (87.2 million metric tons) of total trade. Finally the relationship of commodity with vessel type is further illustrated in the Arabian Gulf to the U.S. Gulf trade. Over 53 million metric tons of crude petroleum is delivered, making up 90% of total tonnage moved in this lane. On the vessel side, tankers are involved in 94% of total metric tons moved from the Arabian Gulf to U.S. Gulf region. From these charts, it may be noted that crude petroleum is a major commodity traded throughout the world.

Chart 52

Chart of 1993 World Trade for 10 Largest Trade Routes (includes Crude Petroleum Rank) and Commodities Traded

DYEAR: 1993										
World w/Crude										
NAME.COM	Arabian Gulf to Japan	Australia/New Zealand to Japan	Other Med to Southern Europe	Arabian Gulf to Northern Europe	Other Med to Northern Europe	South East Asia to Japan	Arabian Gulf to Far East NIC's	Australia/New Zealand to Far East NIC's	China to Far East NIC's	Arabian Gulf to U.S. Gulf Coast
(1) Live Animals	20	6,243	11,778	32	184	32	0	1,285	102,101	0
(2) Meat, Fish & Dairy Products	1,154	567,837	155,233	2,107	130,186	542,063	979	434,050	274,458	4
(3) Fruits & Vegetables	6,059	220,755	154,021	52,384	1,658,614	1,053,985	5,716	120,828	757,899	55
(4) Grain	0	2,397,080	102,316	18,432	62,622	461,916	83	404,954	5,883,988	0
(5) Sugar	0	1,005,175	113,712	15,000	41,989	1,273,733	34	9,471	105,408	0
(6) Food Products	1,297	288,286	37,791	4,084	129,216	339,242	677	78,619	284,313	20
(7) Textile Fibers; Hides	152	351,391	111,886	13,589	144,781	90,685	586	301,212	375,719	10
(8) Oilseeds	0	230,472	63,115	273	8,950	13,761	0	8,372	107,778	0
(9) Oils & Fats	0	30,424	84,914	1	35,625	546,175	0	101,194	92,681	3
(10) Rubber	4,910	886	350	762	2,989	661,878	5,810	829	13,389	0
(11) Lumber & Wood	3	5,229,100	713,249	128	55,536	9,395,391	15	1,675,562	752,984	0
(12) Pulp & Waste Paper	1,739	246,248	53,564	0	41,658	27,531	3,789	155,528	68,744	0
(13) Phosphates	173,220	0	1,775,726	323,229	3,081,679	0	330,308	0	171,532	0
(14) Cement, Lime & Stone	3,336	6,709,971	1,981,820	4,372	270,586	4,588,588	56,626	2,389,418	16,569,270	263
(15) Manufactured Fertilizers	102,688	6,845	1,367,326	16,335	1,714,586	117,318	184,255	8,456	74,485	90,612
(16) Iron Ore	0	54,438,190	2,372	0	39,964	4,284,172	0	22,554,750	293,121	0
(17) Bauxite & Oth Base Metal Ores	0	2,434,790	113,338	27,729	90,427	3,067,229	0	424,076	187,231	0
(18) Other Ores & Scrap	40,869	77,135	276,470	14,285	38,254	79,384	30,550	86,351	217,724	52
(19) Coal & Coke	41,504	67,886,720	371,875	1,215	107,967	6,151,978	0	30,208,630	12,735,280	8
(20) Crude Petroleum	146,179,400	2,175,885	73,957,880	88,994,780	62,728,220	23,756,900	87,500,950	189,780	11,780,320	53,400,670
(21) Petroleum Products	13,872,600	699,211	8,197,377	2,810,833	10,038,880	8,808,759	4,840,400	188,288	1,541,848	4,248,204
(22) Natural and Manufactured Gas	12,761,310	4,880,010	5,721,631	920,767	11,045,780	25,203,880	3,949,385	4,481	13,003	802,502
(23) Liquid Bulk Chemicals	401,159	1,449	142,545	5,318	73,647	47,438	85,519	271	48,854	271
(24) Other Chemicals	697,882	588,585	1,297,888	542,122	985,792	428,049	1,149,612	167,944	1,131,085	862,489
(25) Pharmaceuticals	15	816	5,078	887	11,404	18,008	2,068	11,736	127,787	321
(26) Plastics & Chemical Products	30,975	28,513	289,133	202,888	110,255	392,160	163,515	58,956	378,730	58
(27) Textile, Leather & Rubber Mats	8	8,675	81,251	8,085	138,374	59,738	2,778	35,300	1,080,542	72
(28) Paper	0	155,105	111,244	583	86,721	34,102	363	220,850	240,392	0
(29) Other Min & Metal Manufactures	206	67,564	168,923	5,337	128,159	104,304	5,179	69,100	410,318	833
(30) Iron & Steel	9,756	483,986	382,526	1,137	200,889	143,251	771	972,239	1,915,549	55
(31) Non-Ferrous Metals	242,789	624,843	133,880	22,289	111,595	203,058	215,124	671,586	314,173	681
(32) Heavy Industrial Machinery	1	949	6,012	1,524	7,128	5,825	65	1,337	18,512	81
(33) Light Industrial Machinery	33	16,082	22,080	2,136	22,211	58,378	687	10,747	85,216	1
(34) Heavy Transportation Equipment	297	672	18,389	2,085	13,811	10,195	22,185	4,118	90,811	42
(35) Passenger Cars	4	2,595	3,486	531	9,999	41	44,583	242	18,851	0
(36) Auto Parts/Motorcycles	2	12,845	3,503	413	40,018	15,182	258	1,089	85,235	0
(37) Aircraft & Ships	0	380	25,009	49	49,005	585	683	2,958	210,818	0
(38) Electrical Equipment	42	2,030	20,411	2,582	85,834	149,707	1,081	7,651	616,845	28
(39) Consumer Goods	474	3,150	149,334	13,587	148,198	376,925	918	16,216	2,961,089	174
(40) Commodities, NES	383	5,783	81,484	12,794	86,088	31,909	12	495,534	2,804	981
	176,574,376	151,891,676	98,107,480	94,044,679	93,755,354	93,641,169	78,585,592	62,080,052	61,890,421	59,009,144

Source: DRI/Mercer World Sea Trade Service

Chart 53

Chart of 1993 World Trade for 10 Largest Trade Routes (includes Crude Petroleum Rank) and the Ship Types Working per Route

DYEAR: 1993									
XCHAR: CARGO									
World wcrude		Other Med to	Arabian Gulf	Other Med to	South East	Arabian Gulf	w Zealand to		Arabian Gulf
	Arabian Gulf	Southern	to Northern	Northern	Asia to	to Far East	Far East	China to Far	to U.S. Gulf
NAME.SHIPTYPE	to Japan	Europe	Europe	Europe	Japan	NIC's	NIC's	East NIC's	Coast
Gen Cargo > 10,000 DWT	787,198	1,610,406	1,970,494	1,422,661	5,158,409	3,455,054	2,836,213	5,841,032	2,149,072
Gen Cargo < 10,000 DWT	0	1,148,419	0	617,883	4,844,128	0	783,322	2,404,843	0
Cellular < 1000 teu	0	463,948	0	378,872	884,414	0	176,175	2,862,814	0
Cellular 1000-2499 teu	195,309	675,140	271,241	1,104,090	1,201,459	470,203	1,720,415	2,034,779	23,411
Cellular 2500-3999 teu	13,731	40,533	108,306	160,764	848,941	48,657	77,671	146,134	22,193
Cellular 4000-5999 teu	8,540	22,159	23,664	23,324	472,625	37,124	29,267	92,242	22,842
Cellular 6000-7999 teu	0	0	0	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	11,641	365,096	0	250,527	245,579	59,118	568,557	28,703	58
RoRo < 10,000 DWT	0	286,012	0	168,616	0	0	204,097	449,685	0
Reefer	0	50,954	0	621,980	691,064	0	74,931	320,418	0
Bulk < 20,000 DWT	34,886	1,055,501	0	2,514,857	664,710	0	0	1,108,178	0
Bulk 20K to 40K DWT	258,091	3,668,280	339,464	2,391,457	6,555,663	561,716	8,075,686	24,218,600	0
Bulk 40K to 80K DWT	7,949	821,394	10,499	219,520	6,446,013	17,373	12,227,610	8,531,920	0
Bulk 80K to 100K DWT	0	10,963	0	2,288	96,555	0	382,270	120,376	0
Bulk 100K to 175K DWT	0	0	0	0	4,372,973	0	19,061,190	138,543	0
Bulk > 175,000 DWT	0	0	0	0	847,082	0	13,232,690	175,611	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	0	0	150,076	0	0	0	0	0	0
Combo 80K to 100K DWT	0	0	229,345	0	0	0	0	0	0
Combo 100K to 175K DWT	0	0	1,506,889	0	643,502	0	1,165,163	0	0
Combo > 175,000 DWT	0	0	587,478	0	276,310	0	36,036	0	0
Tanker < 16,500 DWT	0	1,482,999	0	0	0	0	0	320,747	0
Tanker 16.5K to 25K DWT	2,555,814	4,169,412	434,733	129,603	0	400,178	184,058	9,920	1,430,530
Tanker 25K to 45K DWT	6,145,255	8,891,493	285,115	2,644,133	460,864	77,196	5,693	0	167,330
Tanker 45K to 80K DWT	2,292,678	26,272,860	123,819	9,321,176	6,235,924	66,826	0	0	249,980
Tanker 80K to 160K DWT	4,177,132	38,837,000	6,241,798	49,123,500	16,553,110	11,001,300	0	0	106,075
Tanker 160K to 250K DWT	63,934,490	1,176,273	8,117,555	1,510,446	506,001	13,280,850	0	0	1,677,896
Tanker > 250,000 DWT	76,232,570	0	71,974,690	0	0	43,067,620	0	0	51,726,020
Prod Tank < 16,500 DWT	0	0	0	3,407,447	1,345,750	0	0	0	0
Prod Tank 16.5K to 25K DW	389,124	115,808	426,100	258,685	659,512	63,553	81,770	378,746	14,902
Prod Tank 25K to 45K DWT	3,329,974	968,278	268,838	3,314,833	2,902,860	1,157,238	2,529	59,918	148,309
Prod Tank 45K to 80K DWT	2,974,059	187,119	50,510	2,049,486	2,972,939	695,886	0	1,491	4,573
Prod Tank 80K to 160K DW	430,069	4,864	1,318	1,063,886	2,566,637	156,532	0	0	0
Gas Tankers	12,761,310	5,721,631	920,767	11,045,760	25,203,660	3,949,385	4,481	13,003	802,502
Vehicle Carriers	0	2,017	0	0	0	0	0	0	0
Other Ships	0	80,602	0	10,231	0	0	1,150,473	387,755	0
	176,539,824	98,129,133	94,042,896	93,756,015	93,656,661	78,586,014	62,080,267	49,645,459	58,545,496

Source: DRI/Mercer World Sea Trade Service

More diverse trade is illustrated in Charts 51 and 54. In these charts and all analyses, the crude petroleum rank is ignored and other commodities begin to gain significant importance. Chart 54 indicates the prominence of the dry bulks and other commodities in relationship to total metric tons traded worldwide (with crude petroleum ignored.) For example, in the trade lane Australia/New Zealand to Japan, coal & coke makes up 44% and iron ore 36% of total metric tons traded when excluding crude petroleum is excluded. These same commodities are prevalent in Australia/New Zealand to Far East NIC's trade. South America feeds iron ore and coal & coke on two trade lanes: South American East Coast to Northern Europe and South America East Coast to Japan. The first trade lane moves over 50% of its total metric tons as iron ore, with coal & coke making up just 4% of the adjusted total. The second South American trade lane includes over 80% of its total metric tonnage (28 million) as iron ore tonnage. The trade from the Canadian West Coast to Japan is dominated by coal & coke with over 55% or 17 million metric tons moved. Over 10% of this lane's trade is grain, with moves of over 3.6 million metric tons in 1993. China moves large amounts of cement, lime & stone, as well as, coal & coke, and grain to the Far East NIC's. Trade from Japan to the Far East NIC's involves large moves of cement, lime & stone, and iron & steel. Total metric tons for cement etc was 10.4 million metric tons, making up over 30% of total tonnage moved. Iron & steel shipments made up 16% of the total trade lane, with over 5 million tons carried.

Chart 54

Chart of 1993 World Trade for 10 Largest Trade Routes (ignore Crude Petroleum Rank) and Commodities Traded

World without crude										
NAME.COM	Australia/New Zealand to Japan	South East Asia to Japan	Australia/New Zealand to Far East NIC's	China to Far East NIC's	South America East Coast to Northern Europe	South East Asia to Far East NIC's	South America East Coast to Japan	Canada West Coast to Japan	Japan to Far East NIC's	Other Med to Northern Europe
(1) Live Animals	6,243	32	1,265	102,101	217	2,738	11	98	204	184
(2) Meat, Fish & Dairy Products	567,837	542,063	434,050	274,458	289,687	130,385	127,617	96,582	31,140	130,186
(3) Fruits & Vegetables	220,755	1,053,885	120,828	757,699	1,127,353	1,341,816	105,801	31,196	15,474	1,858,614
(4) Grain	2,397,080	461,916	404,954	5,863,988	9,938,633	661,733	1,298,243	3,658,302	40,036	62,622
(5) Sugar	1,005,175	1,273,733	9,471	105,408	219,820	1,445,308	2,065	7,187	6,402	41,969
(6) Food Products	288,286	339,242	78,619	264,313	501,355	237,695	115,318	313,944	874,629	129,216
(7) Textile Fibers; Hides	351,391	90,685	301,212	375,719	119,039	97,550	11,881	11,377	178,727	144,781
(8) Oilseeds	230,472	13,761	6,372	107,778	3,270,791	33,497	683,382	1,580,404	982	8,950
(9) Oils & Fats	30,424	546,175	101,194	92,681	295,131	496,430	6,889	60,675	27,878	35,625
(10) Rubber	686	861,878	829	13,369	2,041	434,315	252	5,058	108,378	2,969
(11) Lumber & Wood	5,229,100	9,395,391	1,675,562	752,984	543,263	7,406,037	87,637	5,570,150	36,626	55,536
(12) Pulp & Waste Paper	246,248	27,531	155,528	68,744	488,844	58,497	300,772	1,085,771	48,249	41,658
(13) Phosphates	0	0	0	171,532	1	841	0	0	0	3,081,679
(14) Cement, Lime & Stone	6,709,971	4,588,588	2,399,418	16,589,270	385,285	2,422,945	147,216	77,709	10,418,180	270,598
(15) Manufactured Fertilizers	6,845	117,318	8,456	74,485	0	70,014	12	494,246	31,621	1,714,596
(16) Iron Ore	54,438,190	4,284,172	22,554,750	283,121	28,582,080	80,861	28,790,000	1,147	4,008	39,964
(17) Bauxite & Oth Base Metal Ores	2,434,790	3,087,229	424,076	187,231	1,259,379	174,644	50,673	223,581	68,591	90,427
(18) Other Ores & Scrap	77,135	79,384	86,351	217,724	6,905	52,345	43,696	4,089	895,229	36,254
(19) Coal & Coke	67,696,720	6,151,978	30,206,630	12,735,280	2,010,561	6,784,037	44	17,117,490	335,686	107,967
(20) Crude Petroleum	2,175,885	23,755,900	189,750	11,780,320	8,770,811	12,413,850	0	0	0	62,728,220
(21) Petroleum Products	696,211	9,909,795	168,598	1,541,642	1,401,793	13,275,850	991,025	178,717	4,013,963	10,036,660
(22) Natural and Manufactured Gas	4,880,010	25,203,880	4,481	13,003	0	5,530,974	0	0	476	11,045,760
(23) Liquid Bulk Chemicals	1,449	47,438	271	49,654	73,136	288,425	120,383	132,311	1,424,291	73,647
(24) Other Chemicals	586,585	426,049	167,944	1,131,055	217,547	415,673	135,797	597,672	2,187,700	995,792
(25) Pharmaceuticals	816	18,008	11,736	127,787	12,583	124,991	9,252	572	85,898	11,404
(26) Plastics & Chemical Products	28,513	382,180	58,956	378,730	103,530	763,312	8,272	12,998	1,359,823	110,255
(27) Textile, Leather & Rubber Matls	8,675	59,738	35,300	1,060,542	42,897	351,129	1,855	2,924	277,589	138,374
(28) Paper	155,105	34,102	220,650	240,382	285,743	408,187	586	191,464	587,915	86,721
(29) Other Min & Metal Manufactures	67,564	104,304	69,100	410,318	55,317	232,368	554	4,772	413,125	128,159
(30) Iron & Steel	483,986	143,251	972,239	1,915,549	373,065	672,652	1,091,489	2,209	5,229,718	200,669
(31) Non-Ferrous Metals	624,843	203,058	671,596	314,173	143,509	116,670	681,031	185,068	325,883	111,595
(32) Heavy Industrial Machinery	949	5,825	1,337	18,512	5,702	7,547	112	354	161,761	7,128
(33) Light Industrial Machinery	16,092	58,378	10,747	85,216	43,351	95,190	4,354	802	436,321	22,211
(34) Heavy Transportation Equipment	872	10,195	4,118	90,811	12,084	39,916	703	782	536,098	13,811
(35) Passenger Cars	2,595	41	242	18,651	1,858	3,902	44	2,289	133,813	9,999
(36) Auto Parts/Motorcycles	12,843	15,192	1,063	95,235	21,738	17,087	423	5,856	274,094	10,018
(37) Aircraft & Ships	360	595	2,958	210,618	856	8,662	0	347	144,594	49,005
(38) Electrical Equipment	2,030	149,707	7,851	616,645	6,647	198,757	271	4,550	518,940	85,834
(39) Consumer Goods	3,150	376,925	16,216	2,961,099	108,071	236,073	1,826	4,675	205,190	148,196
(40) Commodities, NES	5,783	31,909	495,534	2,604	5,034	517	450	20,227	171,831	88,099
	151,691,676	93,641,169	62,080,052	61,890,421	58,615,623	57,135,420	34,829,734	31,667,617	31,611,032	93,755,354

Source: DRI/Mercer World Sea Trade Service

This more diversified trade includes a more varied fleet. Chart 55 illustrates that when the effects of crude petroleum on trade are ignored, dry bulk and other carriers become more important. The bulk carriers move over 83% of non-crude petroleum tonnage (124 million metric tons) from Australia/New Zealand to Japan. These vessels also move over 85% of the cargo moved (52 million metric tons) from "down under" to the Far East NIC's. On the South American trades, over 70% of cargo to Northern Europe is carried in bulk carriers and over 50% of total metric tonnage to Japan moves on these same carriers. From the west coast of Canada to Japan, over 86% of total metric tons move on bulk carriers. About 70% (35 million metric tons) of the total cargo carried from China to the Far East NICs moves

onboard bulk carriers. About 10 million metric tons (33% total) moved from Japan to the Far East NICs is carried by bulk carriers and 17% or 5.5 million metric tons goes by general cargo vessels. In addition, cellular vessels move another 5 million metric tons.

Chart 55

Chart of 1993 World Trade for 10 Largest Trade Routes (excludes Crude Petroleum Rank) and the Ship Types Working per Route

World without crude NAME.SHIPTYPE	Australia/New Zealand to Japan	Australia/New Zealand to Far East NIC's	China to Far East NIC's	South America East Coast to Northern Europe	South East Asia to Far East NIC's	South America East Coast to Japan	Canada West Coast to Japan	Japan to Far East NIC's	Other Med to Northern Europe
Gen Cargo > 10,000 DWT	7,576,321	2,836,213	5,841,032	2,255,669	4,559,145	3,374,893	1,538,452	3,798,700	1,422,661
Gen Cargo < 10,000 DWT	1,056,137	783,322	2,404,843	286,354	3,519,150	0	0	1,846,433	617,883
Cellular < 1000 teu	191,493	176,175	2,862,814	18,278	1,383,548	0	0	1,739,730	378,872
Cellular 1000-2499 teu	1,830,367	1,720,415	2,034,779	1,731,773	1,017,167	194,388	791,545	1,332,580	1,104,090
Cellular 2500-3999 teu	78,225	77,671	146,134	66,196	976,028	23,537	1,306,963	1,359,175	160,764
Cellular 4000-5999 teu	26,454	29,267	92,242	16,731	543,368	18,981	201,082	742,483	23,324
Cellular 6000-7999 teu	0	0	0	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	750,662	568,557	28,703	560,478	379,678	0	735,867	1,401,599	250,527
RoRo < 10,000 DWT	196,614	204,097	449,685	0	0	0	0	720,236	168,616
Reefer	39,430	74,931	320,418	479,054	315,599	62,045	0	0	621,980
Bulk < 20,000 DWT	1,881,209	0	1,108,178	187,038	826,066	0	357,195	1,731,017	2,514,857
Bulk 20K to 40K DWT	10,801,840	8,075,686	24,218,600	9,174,874	5,491,792	914,819	9,329,121	7,136,833	2,391,457
Bulk 40K to 80K DWT	33,419,230	12,227,610	8,531,920	14,862,650	4,558,968	1,740,571	7,452,020	1,614,098	219,520
Bulk 80K to 100K DWT	5,403,758	382,270	120,376	840,799	67,885	1,604,314	1,022,505	21,573	2,288
Bulk 100K to 175K DWT	44,887,850	19,061,190	138,543	6,437,159	1,153,318	7,270,467	8,262,242	0	0
Bulk > 175,000 DWT	27,903,930	13,232,660	175,611	3,525,016	379,171	7,367,519	253,789	0	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	0	0	0	0	0	0	0	0	0
Combo 80K to 100K DWT	0	0	0	0	0	0	0	0	0
Combo 100K to 175K DWT	6,320,764	1,165,163	0	4,676,169	0	3,104,008	0	0	0
Combo > 175,000 DWT	1,488,395	36,036	0	3,100,989	0	7,863,541	0	0	0
Tanker < 16,500 DWT	337,662	0	320,747	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	10,443	184,058	9,920	679,870	11,319	480,647	0	0	129,603
Tanker 25K to 45K DWT	0	5,693	0	74,115	57,085	14,865	0	0	2,644,133
Tanker 45K to 80K DWT	303,928	0	0	1,182,169	1,190,967	0	0	0	9,321,176
Tanker 80K to 160K DWT	1,816,081	0	0	6,558,419	10,650,580	0	0	0	49,123,500
Tanker 160K to 250K DWT	55,877	0	0	953,873	498,528	0	0	0	1,510,446
Tanker > 250,000 DWT	0	0	0	23,263	5,266	0	0	0	0
Prod Tank < 16,500 DWT	0	0	0	0	10,302,060	0	0	2,141,449	3,407,447
Prod Tank 16.5K to 25K DW	120,545	81,770	378,746	627,622	2,293,238	597,428	172,280	1,280,501	258,685
Prod Tank 25K to 45K DWT	164,455	2,529	59,918	288,483	1,348,828	18,477	81,459	1,489,717	3,314,833
Prod Tank 45K to 80K DWT	61,698	0	1,491	8,322	39,828	0	2,355	356,396	2,049,486
Prod Tank 80K to 160K DW	1,754	0	0	0	0	0	0	170,192	1,063,886
Gas Tankers	4,880,010	4,481	13,003	0	5,530,974	0	0	0	11,045,760
Vehicle Carriers	0	0	0	0	0	0	0	89,521	0
Other Ships	6,243	1,150,473	387,755	0	35,666	0	71,493	2,632,888	10,231
	151,611,378	62,080,267	49,645,459	58,615,356	57,135,201	34,650,501	31,578,367	31,605,118	93,756,015

Source: DRI/Mercer World Sea Trade Service

United States

The 10 largest tonnage trade routes for the U.S. are provided in Chart 56. Over half of these routes are dominated by crude petroleum tonnage with percentage totals ranging from 53 percent to 90 percent. All of these trade routes involve crude imports. Because crude petroleum imports make up over 56 percent of the total tonnage in the top ten trade routes for the U.S., our analysis of trade will exclude crude. In this way, a more diverse mix of commodity moves may be examined. In the charts detailing the trade routes while excluding crude, the routes order is updated, eliminating the non-varied trades. Crude intensive routes include: Arabian Gulf, Caribbean Basin, and West Africa to the Gulf Coast, and West Africa to Northeast Coast.

Chart 56

Top U.S. Trade Routes

Arabian Gulf to U.S. Gulf Coast	59,009,144
Caribbean Basin to U.S. Gulf Coast	58,813,364
South America East Coast to U.S Gulf Coast	53,708,672
U.S. Gulf coast to Japan	26,509,496
South America East Coast to U.S. Northeast Coast	26,430,656
U.S. Southwest Coast to Japan	25,521,808
U.S. Gulf Coast to Northern Europe	24,602,784
West Africa to U.S. Northeast Coast	23,845,024
Northern Europe to US Northeast Coast	23,714,928
West Africa to U.S. Gulf Coast	20,676,964

Top U.S. Trade Routes Excluding Petroleum

U.S. Gulf Coast to Japan	26,509,495
U.S. Southwest Coast to Japan	25,521,713
U.S. Gulf Coast to Northern Europe	24,602,784
Caribbean Basin to U.S. Gulf Coast	21,824,605
U.S. Northeast Coast to Northern Europe	20,207,105
South America East Coast to U.S. Northeast Coast	17,225,461
U.S. Gulf Coast to Caribbean Basin	16,964,210
U.S. Gulf Coast to Southern Europe	16,010,827
U.S. Northeast Coast to Southern Europe	14,503,441
U.S. Southwest Coast to Far East NIC's	13,266,774

The two sets of trade routes are related to the vessels transporting the various cargoes. In the first section of Chart 56, a crude oriented trade will often usually have intensive tanker use. Upon reviewing the vessels involved, there is a strong orientation toward tankers-as over 59 percent of the total tonnage in the top ten trade lanes is carried aboard tankers. For the Arabian Gulf to US trade, the majority of crude moves aboard super tankers with over 250,000 DWT. In the other crude related trades, the most popular tanker sizes are those between 80,000 and 160,000 DWT.

Moving on to the non-crude analysis, the greatest amount of tonnage moved involves dense cargoes: grain, coal & coke, and oilseeds (Chart 57). In addition, lumber and wood, petroleum products and other chemicals includes heavy cargoes, as well. For example, in the U.S. Gulf Coast to Japan grain made up over 55 percent of total tonnage moved in 1993. Coal & coke was 15 percent, oilseeds 13 percent, and lumber and wood 8 percent of total tonnage moved on this trade. In contrast, in the U.S. Southwest Coast to Japan trade, over 50 percent of total tonnage exported was lumber and wood. Grain made up another 28 percent and natural and manufactured gas was another 5 percent of total tonnage traded. The other 17 percent of this trade encompasses a large variety of commodities: meat, fish & dairy products, paper, fruits and vegetables, bauxite, other chemicals, non-ferrous metals, food products, textile fibers, plastics and others. The U.S. Gulf Coast to Northern Europe trade includes grain (29%), oilseeds (19%), petroleum products (16%), and coal & coke (15%). The other 21 percent of total tonnage includes other chemicals, plastics, lumber & wood, pulp & waste paper, liquid bulk chemicals, paper, and others. The Caribbean Basin to the U.S. Gulf Coast with crude excluded, involves petroleum products (30%), cement (24%), bauxite (24%), other chemicals (6%), fruits & vegetables (5%), sugar (2%), manufactured fertilizers (2%) and others make up the last 9 percent of total tonnage. The U.S. Northeast Coast to Northern Europe is dominated by coal & coke, which is 81 percent of total tonnage traded. The rest of the commodities traded lumber & wood, plastics & chemical products, food products, petroleum products, consumer goods, pulp & waste paper, grain, and others. In addition, of the top trade lanes based on tonnage, this trade is the has the greatest tonnage for passenger cars. South America East Coast to the Northeast Coast (excluding crude) brings large amounts of petroleum products (63%) and iron ore (13%). The other 24 percent of total tonnage imported on this trade includes cement, lime & stone, food products, pulp & waste paper, sugar, fruits & vegetables, other chemicals, iron & steel, and other commodities. Nearly all the tonnage traded between the U.S. Gulf to the Caribbean Basin is either grain (35%) or petroleum products (35%). The other 30 percent of total tonnage traded includes: oilseeds, liquid bulk chemicals, paper, oils & fats, plastics and chemical products, lumber & woods, and other commodities. Also, this trade has the largest amount of tonnage for aircraft and ships. In the U.S. Gulf coast to Southern Europe trade the chief tonnage commodities are petroleum products, 40 percent of total tonnage, grain is 25 percent, and coal & coke makes up 11 percent of all metric tons carried. The other 24 percent of total metric tons includes a variety of commodities, including lumber & wood, pulp & waste paper, paper, other chemicals , oils & fats and other commodities. From the U.S. Northeast Coast to Southern Europe, coal and coke makes up over 80 percent of the total tonnage carried. The other 20 percent of total tonnage involves: other ores and scrap, oilseeds, grain, lumber & wood, petroleum products and other commodities. The U.S. Southwest Coast to Far East NIC's trade has nearly 50 percent of total tonnage carried as grain. Lumber and wood make up another 15 percent of the total tonnage. The other commodities exported from the U.S. in this trade involve: coal & coke, oilseeds, pulp & waste paper, paper, other chemicals, as well as, other commodities.

Chart 57

Chart of 1993 United States Trade for 10 Largest Trade Routes (ignore Crude Petroleum Rank) and Commodities Traded

no crude NAME.COM	U.S. Gulf Coast to Japan	U.S. Southwest Coast to Japan	U.S. Gulf Coast to Northern Europe	Caribbean Basin to U.S. Gulf Coast	U.S. Northeast Coast to Northern Europe	South America East Coast to U.S. Northeast Coast	U.S. Gulf Coast to Caribbean Basin	U.S. Gulf Coast to Southern Europe	U.S. Northeast Coast to Southern Europe	U.S. Southwest Coast to Far East NIC's
(1) Live Animals	0	0	18	0	0	0	22	0	0	0
(2) Meat, Fish & Dairy Products	517	699,458	19,572	18,046	57,000	92,996	26,265	3,756	25,692	182,269
(3) Fruits & Vegetables	21,976	359,590	93,289	1,076,353	72,881	256,685	38,067	2,520	7,069	235,269
(4) Grain	14,467,710	7,030,483	7,591,561	12,069	202,993	2,995	5,953,177	4,102,030	252,892	6,577,797
(5) Sugar	22,710	20,838	7,675	476,926	2,890	276,756	44,690	0	191	5,422
(6) Food Products	291	132,138	28,349	158,046	271,960	305,006	233,431	8,300	41,848	87,846
(7) Textile Fibers; Hides	589	131,895	99,633	2,151	84,153	18,383	30,289	27,761	30,558	240,308
(8) Oilseeds	3,470,644	85,503	4,937,913	15,348	78,589	3,063	942,457	1,920,959	537,077	563,234
(9) Oils & Fats	12,326	21,957	232,062	16,261	40,115	22,503	371,000	370,640	71,728	49,380
(10) Rubber	43	25,555	115,181	4,417	31,977	3,282	10,013	11,104	4,962	17,076
(11) Lumber & Wood	2,036,469	13,433,080	494,251	42,644	469,351	68,239	256,103	300,772	228,565	1,905,321
(12) Pulp & Waste Paper	429,174	304,572	412,428	0	212,061	303,614	27,799	258,044	131,660	408,651
(13) Phosphates	0	0	0	0	0	0	0	0	0	0
(14) Cement, Lime & Stone	3,548	265,389	60,428	5,590,832	46,477	396,104	140,664	8,325	7,573	123,057
(15) Manufactured Fertilizers	0	0	0	380,467	0	256	4,713	0	0	0
(16) Iron Ore	0	3	0	0	896	2,287,460	0	0	0	0
(17) Bauxite & Oth Base Metal Ores	0	306,394	78,987	5,330,127	10,207	375,891	139	19,692	109	129,624
(18) Other Ores & Scrap	2,129	69,937	11,043	12,891	23,712	41,569	86,566	48,385	1,077,580	435,470
(19) Coal & Coke	3,858,718	6,583	3,730,986	0	16,309,840	539,279	177,910	1,744,484	11,625,970	686,057
(20) Crude Petroleum	0	96	0	36,988,780	46	9,205,195	0	0	0	0
(21) Petroleum Products	1,075,391	0	4,029,527	6,536,371	256,459	10,899,530	5,946,126	6,564,872	162,298	0
(22) Natural and Manufactured Gas	0	1,123,856	29,118	336,117	5,965	22,046	128,067	73	867	67,512
(23) Liquid Bulk Chemicals	594,222	1,648	432,602	48,753	84,747	11,628	676,037	79,034	36,425	1,684
(24) Other Chemicals	378,371	389,190	961,484	1,391,015	259,933	242,237	716,341	283,942	27,567	420,676
(25) Pharmaceuticals	1,852	15,945	11,496	635	60,685	10,044	16,499	561	9,949	18,820
(26) Plastics & Chemical Products	85,448	122,729	538,813	2,989	362,884	68,759	354,986	50,023	31,362	170,103
(27) Textile, Leather & Rubber Mats	34	19,939	28,807	14,486	93,631	51,021	38,141	8,676	12,677	48,935
(28) Paper	596	532,461	382,122	3,707	130,189	75,039	426,397	146,480	10,822	477,905
(29) Other Min & Metal Manufactures	397	17,602	28,549	2,228	93,196	55,962	30,349	6,746	15,557	57,246
(30) Iron & Steel	44,872	26,886	28,195	315,310	47,137	155,323	88,793	9,657	24,449	93,351
(31) Non-Ferrous Metals	293	233,840	70,485	497	63,036	28,902	6,298	8,959	14,749	125,241
(32) Heavy Industrial Machinery	22	8,679	18,521	73	56,726	15,097	10,079	1,755	7,060	8,175
(33) Light Industrial Machinery	284	21,420	24,163	69	125,484	141,945	16,562	5,570	20,341	33,052
(34) Heavy Transportation Equipment	396	6,633	24,693	10	67,271	7,777	76,521	4,729	9,313	12,512
(35) Passenger Cars	58	25,398	1,725	1,236	123,558	2,077	6,049	248	18,186	18,255
(36) Auto Parts/Motorcycles	148	18,120	9,337	45	115,701	96,242	5,868	250	7,344	13,164
(37) Aircraft & Ships	34	1,925	840	1	7,483	11	4,096	278	3,457	432
(38) Electrical Equipment	13	14,018	17,918	1,251	77,182	11,818	19,059	1,481	13,089	20,274
(39) Consumer Goods	187	41,760	47,035	26,910	224,979	117,388	45,477	8,081	31,761	43,424
(40) Commodities, NES	4	4,202	3,988	6,504	15,734	16,724	7,348	630	2,934	9,312
	26,509,495	25,521,809	24,602,784	58,813,385	20,207,151	26,430,656	16,964,210	16,010,827	14,503,441	13,266,774

Source: DRI/Mercer World Sea Trade Service

These commodities in the various trades relate to the vessels in each trade (see Chart 58). For example, it can be noted, for the U.S. Gulf Coast to Japan, bulk cargoes such as grain and coal are a large part of the total tonnage. Therefore, over 89 percent of the total tonnage carried is on board bulk type vessels. Similarly, the trade from the U.S. Gulf Coast to the Caribbean Basin is largely grain and petroleum products. The vessel chart indicates that the vast majority of total tonnage is evenly split between product tankers and bulk carriers.

Chart 58

Chart of 1993 United States Trade for 10 Largest Trade Routes (excludes Crude Petroleum Rank) and the Ship Types Working per Route

us no crude NAME.SHIPTYPE	U.S. Gulf Coast to Japan	U.S. Gulf Coast to Northern Europe	Caribbean Basin to U.S. Gulf Coast	U.S. Northeast Coast to Northern Europe	South America East Coast to U.S. Northeast Coast	U.S. Gulf Coast to Caribbean Basin	U.S. Gulf Coast to Southern Europe	U.S. Northeast Coast to Southern Europe	U.S. Southwest Coast to Far East NIC's
Gen Cargo > 10,000 DWT	972,045	912,758	1,464,025	899,795	1,355,885	1,572,668	895,699	2,025,866	849,510
Gen Cargo < 10,000 DWT	13,749	286,968	628,467	61,610	11,706	604,123	53,277	680	0
Cellular < 1000 teu	878	18,317	604,727	235,578	344,728	552,821	3,401	43	0
Cellular 1000-2499 teu	148,468	459,331	608,921	637,947	1,053,429	637,867	349,355	492,709	3,647,543
Cellular 2500-3999 teu	266,595	861,668	38,504	820,743	45,812	40,093	127,412	139,087	5,977,754
Cellular 4000-5999 teu	30,970	33,282	22,053	321,512	16,066	22,846	12,552	5,652	929,698
Cellular 6000-7999 teu	0	0	0	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	139,816	1,034,609	199,863	794,295	55,945	28,501	227,144	66,139	150,914
RoRo < 10,000 DWT	0	0	234,577	0	0	446,520	70,182	59,925	0
Reefer	10,988	0	194,309	779	8,370	0	0	0	0
Bulk < 20,000 DWT	0	537,242	248,378	13,297	82,932	519,712	61,495	90,218	0
Bulk 20K to 40K DWT	2,766,423	5,365,745	7,419,896	1,065,925	740,707	4,878,783	3,381,123	1,101,543	836,820
Bulk 40K to 80K DWT	16,831,280	10,310,730	1,892,867	5,402,397	1,158,481	865,496	4,123,481	5,202,993	850,953
Bulk 80K to 100K DWT	258,954	278,831	25,726	615,790	279,318	11,058	62,149	1,894,885	12,759
Bulk 100K to 175K DWT	3,299,192	7,543	0	6,252,533	958,509	0	0	1,920,715	0
Bulk > 175,000 DWT	102,037	0	0	192,358	29,144	0	0	55,931	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	0	0	0	607,343	0	0	0	0	0
Combo 80K to 100K DWT	0	0	0	18,784	0	0	0	142,916	0
Combo 100K to 175K DWT	0	0	0	1,771,379	0	0	0	1,076,182	0
Combo > 175,000 DWT	0	0	0	54,785	0	0	0	33,147	0
Tanker < 16,500 DWT	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	743,089	923,385	0	0	0	0	1,273,585	0	0
Tanker 25K to 45K DWT	221,119	245,820	1,219,531	0	214,386	0	1,312,974	78,715	0
Tanker 45K to 80K DWT	6,128	1,921,954	7,739,884	124,383	2,017,718	0	39,389	2,434	0
Tanker 80K to 160K DWT	0	59,234	25,545,180	3,847	6,765,764	0	0	0	0
Tanker 160K to 250K DWT	0	0	782,690	0	207,327	0	0	0	0
Tanker > 250,000 DWT	0	0	1,701,483	0	0	0	0	0	0
Prod Tank < 16,500 DWT	0	0	0	0	0	1,937,962	0	0	0
Prod Tank 16.5K to 25K DW	379,944	347,029	47,290	12,712	222,166	997,523	0	46,449	703
Prod Tank 25K to 45K DWT	149,422	919,492	3,805,631	109,140	5,293,144	1,932,353	3,897,014	65,227	22
Prod Tank 45K to 80K DWT	163,287	28,106	2,653,767	3,363	2,806,629	1,097,061	120,526	1,973	0
Prod Tank 80K to 160K DW	4,918	0	78,436	0	2,588,638	626,722	0	0	0
Gas Tankers	0	28,827	336,117	66,209	22,046	121,683	73	0	0
Vehicle Carriers	0	0	0	119,862	0	0	0	0	10,036
Other Ships	0	22,181	1,321,058	0	0	66,234	0	0	0
	26,509,301	24,603,053	58,813,371	20,206,365	26,278,849	16,960,024	16,010,833	14,503,429	13,266,712

Source: DRI/Mercer World Sea Trade Service

Chart 59

Top North Atlantic Trade Routes

	93 Total Metric tons
South America East Coast to U.S. Northeast Coast	26,430,656
West Africa to U.S. Northeast Coast	23,845,024
Northern Europe to U.S. Northeast Coast	23,714,928
U.S. Northeast Coast to Northern Europe	20,207,152
U.S. Northeast Coat to Southern Europe	14,503,441
Caribbean Basin to U.S. Northeast Coast	12,239,830
Other Med to U.S. Northeast Coast	9,522,128
South Africa to U.S. Northeast coast	8,786,882
Arabian Gulf to U.S. Northeast Coast	6,041,200
U.S. Northeast Coast to Japan	6,021,725

Chart 60

Top North Atlantic Trade Routes Excluding Petroleum

	93 Total Metric Tons
U.S. Northeast Coast to Northern Europe	20,207,105
South America East Coast to U.S. Northeast Coast	17,225,461
U.S. Northeast Coast to Southern Europe	14,503,441
Northern Europe to U.S. Northeast Coast	10,963,277
Caribbean Basin to U.S. Northeast coast	6,478,728
U.S. Northeast Coast to Japan	6,021,725
Southern Europe to U.S. Northeast Coast	5,736,920
U.S. Northeast Coast to Far East NIC's	5,727,235
South America West Coast to U.S. Northeast Coast	5,037,650
U.S. Northeast Coast to South America East Coast	4,506,587

The Chart 59 above presents the top ten tonnage trades for the U.S. North Atlantic and Chart 60 excludes petroleum. Our analysis will focus on the trade table which ignores crude petroleum.

In the largest trade, (see Chart 61), the U.S. Northeast coast to Northern Europe, trade may be broken down into the following commodity mix, where coal & coke form the largest share at 80 percent of total tonnage, and other commodities make up the other 20 percent. Lumber & wood, plastics & chemical products, food products, other chemicals, pulp & waste paper, grain and other commodities make up the

rest of the 20 percent of total tonnage. The South America East Coast to Northeast Coast trade has the greatest amount of tonnage in petroleum products-63 percent of total tonnage. Iron ore makes up over 13 percent of total tonnage. The other 23 percent of total metric tons imported in the U.S. Northeast included: coal & coke, cement, lime & stone, pulp & waste paper, food products, sugar, fruits and vegetables, and other commodities. The U.S. Northeast trade to Southern Europe has nearly 80 percent of its total tonnage as coal & coke. The other 20 percent of tonnage is other ores & scrap, oilseeds, grain, lumber & wood, and other commodities. Northern Europe to US Northeast Coast trade (excluding crude) identifies petroleum products (37%), paper (10%), and food products (10%) as the major tonnage commodities. Consumer goods, passenger cars, iron & steel, other chemicals, meat, fish & dairy products and other commodities make up the rest of total tonnage for this trade. The Caribbean Basin to the Northeast Coast (excluding petroleum) has nearly 45 percent of total tonnage in petroleum products. Other imported tonnage includes: cement, lime & stone (23%), fruits and vegetables (16%), and sugar (8%). The US Northeast Coast export trade to Japan is dominated by coal & coke. This commodity group makes up over 78 percent of all the metric tons carried to Japan. The other metric tonnage includes oilseeds, lumber & wood, pulp & waste paper, paper, plastics and other commodities. The Southern Europe to U.S. Northeast Coast trade has the majority (51%) of metric tons imported in the commodity petroleum products. Other large scale commodities include: cement, lime & stone (16%), iron & steel (6%), consumer goods (4%), food products (7%) , fruits and vegetables (4%) and other commodities (12%). The outbound trade from the U.S. Northeast Coast to Far East NIC's includes large moves of coal & coke, which make up 40 percent of all metric tons carried. Other ores & scrap make up an additional 33 percent. The other 27 percent includes pulp & waste paper, paper, lumber & wood, meat, fish, & dairy product, as well as, other commodities. The import trade from South America West Coast to the U.S. Northeast Coast has the largest amount of its tonnage as petroleum products, which make up nearly 50 percent of total tons carried to the U.S. Northeast. Fruits and vegetables make up 20 percent, coal & coke 12 percent and cement, lime & stone make up 6 percent of the total tonnage carried. The Northeast Coast to South America East Coast illustrates the prominence of coal & coke, as this commodity makes up 80 percent of the total tonnage. The other 20 percent of total tonnage includes the following commodities: plastics & chemical products, grain, pulp & waste paper, other chemicals, as well as, other commodities.

Chart 61
Chart of 1993 North Atlantic Trade for 10 Largest Trade Routes (ignore Crude Petroleum Rank) and Commodities Traded

		South							South	U.S.
	U.S.	America East	U.S.	Northern	Caribbean		Southern		America West	Northeast
noncrude	Northeast	Coast to	Northeast	Europe to	Basin to	U.S.	Europe to	U.S.	Coast to	Coast to
	Coast to	U.S.	Coast to	U.S.	U.S.	Northeast	U.S.	Northeast	U.S.	South
	Northern	Northeast	Southern	Northeast	Northeast	Coast to	Northeast	Coast to Far	Northeast	America East
NAME.COM	Europe	Coast	Europe	Coast	Coast	Japan	Coast	East NIC's	Coast	Coast
(1) Live Animals	0	0	0	2	1	0	0	0	0	0
(2) Meat, Fish & Dairy Products	57,000	92,996	25,692	182,552	11,378	35,488	38,885	81,754	47,471	3,901
(3) Fruits & Vegetables	72,881	256,685	7,089	72,974	1,018,781	4,552	208,511	3,443	1,004,522	12,788
(4) Grain	202,983	2,995	252,882	5,102	1	94,572	2,392	35,411	28,557	71,796
(5) Sugar	2,890	276,756	191	44,167	523,535	121	8,835	409	129,355	1,950
(6) Food Products	271,980	305,006	41,848	1,052,398	93,961	38,580	375,121	11,399	125,883	28,263
(7) Textile Fibers; Hides	84,153	18,393	30,558	67,230	1,471	5,184	5,840	13,804	10,804	8,788
(8) Oilseeds	78,589	3,063	537,077	2,005	824	441,154	38	18	211	1,050
(9) Oils & Fats	40,115	22,503	71,726	29,098	1,232	739	83,270	5,314	3,351	3,459
(10) Rubber	31,977	3,282	4,962	47,148	123	999	9,805	709	0	28,731
(11) Lumber & Wood	489,351	68,239	228,565	29,863	2,339	180,887	16,693	137,481	29,684	2,484
(12) Pulp & Waste Paper	212,081	303,614	131,660	41,446	0	107,090	12,047	638,707	83,328	35,425
(13) Phosphates	0	0	0	0	0	0	0	0	0	0
(14) Cement, Lime & Stone	46,477	598,104	7,573	194,544	1,500,719	13,954	940,524	12,753	294,188	24,245
(15) Manufactured Fertilizers	0	256	0	132,435	2,172	0	0	0	0	18,519
(16) Iron Ore	896	2,287,480	0	65,906	0	0	0	0	1,082	18
(17) Bauxite & Oth Base Metal Ores	10,207	375,691	109	10,710	55,798	2,007	545	561	2,385	2,490
(18) Other Ores & Scrap	23,712	41,589	1,077,580	24,835	989	189,216	2,845	1,912,281	1,502	68,623
(19) Coal & Coke	16,309,840	539,279	11,625,970	156	0	4,670,483	0	2,369,725	602,909	3,629,669
(20) Crude Petroleum	46	9,205,195	0	12,751,850	5,761,102	0	0	0	897,458	0
(21) Petroleum Products	256,459	10,899,530	162,298	3,760,509	2,952,587	8,894	2,900,423	6,837	2,481,883	36,241
(22) Natural and Manufactured Gas	5,965	22,046	667	138,633	0	805	0	2,784	0	1,403
(23) Liquid Bulk Chemicals	84,747	11,628	36,425	198,790	5,978	15,128	7,100	14,121	0	8,137
(24) Other Chemicals	259,933	242,237	27,507	735,029	209,122	24,926	76,450	46,966	48,979	75,483
(25) Pharmaceuticals	80,885	10,044	9,949	89,239	905	4,255	13,301	9,553	559	13,350
(26) Plastics & Chemical Products	362,884	68,759	31,362	335,088	2,910	62,150	34,470	81,595	992	131,546
(27) Textile, Leather & Rubber Mfgs	93,631	51,021	12,677	131,330	1,361	4,945	53,947	16,399	4,730	13,588
(28) Paper	130,189	75,039	10,822	1,044,856	94	76,881	15,948	113,373	709	45,446
(29) Other Min & Metal Manufactures	93,196	55,962	15,557	96,901	885	6,955	161,521	25,631	3,260	25,969
(30) Iron & Steel	47,137	155,323	24,449	921,928	18,423	1,862	337,529	50,090	3,832	38,250
(31) Non-Ferrous Metals	63,036	28,902	14,749	115,457	190	4,725	47,186	11,587	104,960	8,250
(32) Heavy Industrial Machinery	56,726	15,097	7,060	113,330	3	3,269	20,841	18,333	505	17,547
(33) Light Industrial Machinery	125,484	141,945	20,341	250,646	55	3,668	34,441	21,688	153	37,555
(34) Heavy Transportation Equipment	87,271	7,777	9,313	171,181	206	1,556	23,589	15,093	0	26,351
(35) Passenger Cars	123,558	2,077	18,186	235,986	9,025	16,564	4,280	20,165	0	5,289
(36) Auto Parts/Motorcycles	115,701	96,242	7,344	115,855	5	1,643	56,176	1,241	2,287	12,969
(37) Aircraft & Ships	7,483	11	3,457	2,084	0	386	684	1,671	5	341
(38) Electrical Equipment	77,182	11,818	13,089	94,321	3,787	2,351	18,248	15,062	476	22,712
(39) Consumer Goods	224,979	117,388	31,761	373,891	28,268	16,208	219,384	28,651	17,267	36,224
(40) Commodities, NES	15,734	16,724	2,934	45,656	31,600	2,328	6,051	2,716	2,011	7,537
	20,207,151	26,430,656	14,503,441	23,714,927	12,239,830	6,021,725	5,736,920	5,727,235	5,935,108	4,506,587

Source: DRI/Mercer World Sea Trade Service

As discussed, the presence of various commodities is linked to specific vessels. The North Atlantic trade lanes have the majority of their metric tonnage associated with coal & coke (outbound) and petroleum products (inbound), as shown in Chart 62. Similarly, most of the tonnage moved on vessels in these trade lanes is onboard bulk carriers and product tankers. However, this is not to say that there is not considerable containerized traffic. Cellular vessels carried a nearly 13 million metric tons of rate intensive cargo within the top ten trade lanes. Of the top ten lanes presented, Northern Europe to Northeast Coast and U.S. Northeast to Northern Europe had the greatest containerized tonnage totals for 1993.

Chart 62

Chart of 1993 North Atlantic Trade for 10 Largest Trade Routes (excludes Crude Petroleum Rank) and the Ship Types Working per Route

us atlantic no crude									
								South	U.S.
	U.S.	U.S.	Northern	Caribbean		Southern		America Wes	Northeast
	Northeast	Northeast	Europe to	Basin to	U.S.	Europe to	U.S.	Coast to	Coast to
	Coast to	Coast to	U.S.	U.S.	Northeast	U.S.	Northeast	U.S.	South
	Northern	Southern	Northeast	Northeast	Coast to	Northeast	Coast to Far	Northeast	America East
NAME.SHIPTYPE	Europe	Europe	Coast	Coast	Japan	Coast	East NIC's	Coast	Coast
Gen Cargo > 10,000 DWT	899,795	2,025,866	812,965	26,228	88,565	308,266	117,077	157,093	196,041
Gen Cargo < 10,000 DWT	61,610	660	377,016	0	245	0	12,364	16,920	87
Cellular < 1000 teu	235,578	43	258,037	56,574	16	0	790	259,864	40,996
Cellular 1000-2499 teu	637,947	492,709	1,338,260	413,785	378,645	1,047,722	491,739	798,780	551,676
Cellular 2500-3999 teu	820,743	139,087	981,903	13,166	679,040	306,124	839,570	28,128	18,506
Cellular 4000-5999 teu	321,512	5,652	338,853	1,183	151,574	12,608	187,633	5,163	2,589
Cellular 6000-7999 teu	0	0	0	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	794,295	66,139	2,057,651	0	38,464	190,014	60,018	105	53,731
RoRo < 10,000 DWT	0	59,925	2,453	0	0	23,120	0	1,638	0
Reefer	779	0	14,819	957,654	0	0	27,053	389,724	0
Bulk < 20,000 DWT	13,297	90,218	4,108	54,124	0	47,394	0	199,754	0
Bulk 20K to 40K DWT	1,065,925	1,101,543	73,067	1,457,372	0	229,543	1,495,473	633,804	839,354
Bulk 40K to 80K DWT	5,402,397	5,202,993	260,681	532,537	559,388	244,254	886,171	19,411	2,707,385
Bulk 80K to 100K DWT	615,790	1,894,885	3,996	7,539	53,456	3,668	12,988	0	41,465
Bulk 100K to 175K DWT	6,252,533	1,920,715	0	0	3,946,548	0	1,536,315	0	0
Bulk > 175,000 DWT	192,358	55,931	0	0	121,972	0	47,515	0	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	607,343	0	0	0	0	0	0	0	0
Combo 80K to 100K DWT	18,784	142,916	0	0	0	0	0	0	0
Combo 100K to 175K DWT	1,771,379	1,076,182	0	0	0	0	0	0	0
Combo > 175,000 DWT	54,785	33,147	0	0	0	0	0	0	0
Tanker < 16,500 DWT	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	0	0	222,728	0	0	0	0	0	0
Tanker 25K to 45K DWT	0	78,715	869,132	3,209,024	0	0	12,135	648,693	0
Tanker 45K to 80K DWT	124,383	2,434	5,794,824	4,645,274	0	0	375	1,222,546	0
Tanker 80K to 160K DWT	3,847	0	6,653,438	140,599	0	0	0	260,262	0
Tanker 160K to 250K DWT	0	0	1,688,633	0	0	0	0	6,899	0
Tanker > 250,000 DWT	0	0	46,032	0	0	0	0	0	0
Prod Tank < 16,500 DWT	0	0	0	0	0	0	0	0	0
Prod Tank 16.5K to 25K DW	12,712	46,449	882,969	354,420	2,918	140,671	0	0	0
Prod Tank 25K to 45K DWT	109,140	65,227	507,472	359,583	90	1,270,385	0	0	35,154
Prod Tank 45K to 80K DWT	3,363	1,973	14,850	10,782	0	1,445,861	0	0	1,087
Prod Tank 80K to 160K DW	0	0	0	0	0	43,506	0	0	0
Gas Tankers	66,209	0	0	0	805	0	0	0	0
Vehicle Carriers	119,862	0	376,134	0	0	0	0	0	0
Other Ships	0	0	134,235	0	0	423,236	0	0	0
	20,206,365	14,503,429	23,714,261	12,239,844	6,021,725	5,736,373	5,727,236	4,648,783	4,488,069

Source: DRI/Mercer World Sea Trade Service

South Atlantic

Chart 63

Top South Atlantic Trade Routes

South America East Coast to U.S. Southeast Coast	12690951
Caribbean Basin to U.S. Southeast Coast	6844385
South America West Coast to U.S. Southeast Coast	6383770
West Africa to U.S. Southeast Coast	5358970
U.S. Southeast Coast to Northern Europe	4259268
Northern Europe to U.S. Southeast Coast	4171769
Arabian Gulf to U.S. Southeast Coast	3709859
U.S. Southeast Coast to Caribbean Basin	3704430
Other Med to U.S. Southeast Coast	2395778
U.S. Southeast Coast to South America East Coast	2329595

Chart 64

Top South Atlantic Trade Routes Excluding Petroleum

South America East Coast to U.S. Southeast Coast	6339720
South America West Coast to U.S. Southeast Coast	4707591
U.S. Southeast Coast to Northern Europe	4077164
Caribbean Basin to U.S. Southeast Coast	3714893
U.S. Southeast Coast to Caribbean Basin	3085216
Northern Europe to U.S. Southeast Coast	3795330
U.S. Southeast Coast to South America East Coast	2242735
U.S. Southeast Coast to Japan	2215199
Southern Europe to U.S. Southeast Coast	1742853
U.S. Southeast Coast to Far East NIC's	1813660

In Chart 63 details are provided for the 10 top trade routes based on tonnage. The top section presents total tonnage for the top 10 and includes all commodities. Chart 64 provides total tonnage moved within the top 10 trades while excluding crude petroleum.

This analysis will concentrate on the non-crude tables. Chart 65, indicates that within the U.S. Southeast trades, the most prominent commodities in tonnage are petroleum products, bauxite and cement, lime & stone. For the South America East Coast trade to U.S. Southeast Coast (excluding petroleum) the largest commodity in metric tons is petroleum products-making up over 60 percent of the total tonnage imported. Bauxite (13%) and cement, lime & stone (7%) make up an additional 20 percent. The last 20 percent of commodities is a mix which includes: iron ore, food products, other mineral and metal manufacturers, iron & steel, textile, leather, and rubber materials, as well as other commodities.

The Caribbean Basin to the U.S. Southeast Coast (excluding petroleum) again shows large imports of petroleum products (48%) and cement, lime, and stone (23%) which make up over 70 percent of all metric tons imported in this lane. Consumer goods, other chemicals, sugar, and fruits and vegetables make up an additional 20 percent of all metric tons. The South America West Coast to the U.S. Southeast Coast trade's largest imported commodity groups are coal & coke (45%) and petroleum products (34%) making up nearly 80 percent of all metric tons imported. The U.S. Southeast Coast to Northern Europe trade is dominated by exports of cement, lime, & stone. This commodity makes up 24 percent of total metric tons carried. In addition, pulp & waste paper (10%), paper (8%), coal & coke (7%), plastics & chemical products (5%), fruits & vegetables (5%) and sugar (3%) make up 38 percent of total metric tons. The rest of total metric tonnage is made up of other various commodities. The U.S. Southeast Coast exports to the Caribbean Basin is a mix of a variety of commodities. Lead by petroleum products exports (20%), then consumer goods (13%), food products (10%), and lumber & wood (6%). Imports from Northern Europe to the U.S. Southeastern Coast (excluding crude) has the following major commodities which make up over 50 percent of total metric tons moved include: iron & steel (12%), petroleum products (12%), food products (10%), cement, lime & stone (9%), and other chemicals (9%). Strong demands for American consumer goods is reflected in this same commodity within the U.S. Southeast to South America East Coast trade. Consumer goods make up the largest tonnage segment within this trade lane, about 12 percent. Pulp & waste paper make up an additional 11 percent, and bauxite another 9 percent. These are followed by electrical equipment (7%), other chemicals (6%), plastics & chemical products (5%) and auto parts/motorcycles (5%). In contrast, the trade U.S. Southeast exports to Japan are largely cement, lime, & stone (37%), lumber & wood (27%), and pulp and waste paper (14%). These three commodities comprise nearly 80 percent of the total tonnage exported. Nearly half of the tonnage imported from Southern Europe into the U.S. Southeastern region is cement, lime, & stone. Other minerals and metal manufacturers make up another 17 percent of total tonnage and petroleum products represent 10 percent. Over 75 percent of the U.S. Southeast region export tonnage to the Far East NIC's is: pulp & waste paper (19%), other chemicals (16%), cement, lime, & stone (15%), paper (12%), lumber & wood (9%), and iron & steel (5%).

Chart 65

Chart of 1993 South Atlantic Trade for 10 Largest Trade Routes (ignore Crude Petroleum Rank) and Commodities Traded

non crude NAME.COM	South America East Coast to U.S. Southeast Coast	Caribbean Basin to U.S. Southeast Coast	South America West Coast to U.S. Southeast Coast	U.S. Southeast Coast to Northern Europe	U.S. Southeast Coast to Caribbean Basin	Northern Europe to U.S. Southeast Coast	U.S. Southeast Coast to South America East Coast	U.S. Southeast Coast to Japan	Southern Europe to U.S. Southeast Coast	U.S. Southeast Coast to Far East NIC's
(1) Live Animals	0	0	0	15	332	21	5	0	0	0
(2) Meat, Fish & Dairy Products	29,146	91,358	38,808	12,555	152,046	98,995	33,718	16,538	12,174	62,773
(3) Fruits & Vegetables	85,095	492,044	190,997	244,361	143,435	26,272	30,885	170,996	41,569	30,324
(4) Grain	25,010	16,284	61,926	30,435	193,432	35,272	26,129	5,160	84	8,728
(5) Sugar	40,320	314,780	35,008	127,774	78,552	3,958	5,082	12	5,131	96
(6) Food Products	145,806	127,811	111,591	79,362	312,513	322,524	38,118	48,925	62,477	24,924
(7) Textile Fibers; Hides	4,623	10,454	3,789	62,789	35,536	72,322	56,618	2,130	4,939	19,987
(8) Oilseeds	69	6,065	69	83,580	7,195	70	436	48,380	3	0
(9) Oils & Fats	3,121	114	0	9,592	27,105	3,386	3,847	4,625	15,477	6,284
(10) Rubber	806	80	0	22,892	2,035	17,032	26,356	196	1,943	1,383
(11) Lumber & Wood	232,601	27,004	62,233	132,220	195,004	8,178	5,448	596,440	1,273	170,928
(12) Pulp & Waste Paper	96,017	0	0	744,167	27,738	641	270,009	316,725	0	362,404
(13) Phosphates	0	0	0	0	0	0	0	0	0	0
(14) Cement, Lime & Stone	769,295	1,534,914	319,866	1,038,894	157,085	281,746	107,133	824,136	876,929	282,330
(15) Manufactured Fertilizers	0	19,423	19,051	0	0	55,134	0	0	2	0
(16) Iron Ore	367,150	0	0	0	203	0	35	0	0	0
(17) Bauxite & Oth Base Metal Ores	1,358,689	0	194	22,599	746	70,227	220,466	151	2,574	496
(18) Other Ores & Scrap	70,433	14,822	5,440	21,495	35,486	18,218	11,725	2,742	7,802	24,174
(19) Coal & Coke	149,421	5	2,210,996	301,733	2,827	2,365	76,244	99	0	0
(20) Crude Petroleum	2,198,164	338,087	1,479,895	0	637	934,230	18	0	0	0
(21) Petroleum Products	6,351,230	3,129,492	1,676,179	182,104	619,214	376,439	86,860	206	203,483	81,553
(22) Natural and Manufactured Gas	30,517	25,946	0	37	18,443	20	4,458	0	0	0
(23) Liquid Bulk Chemicals	729	10,123	0	8,479	2,589	17,673	2,495	1,471	4,886	896
(24) Other Chemicals	75,858	286,356	59,386	111,430	118,017	303,467	142,773	27,954	50,104	310,614
(25) Pharmaceuticals	14,433	4,803	2,096	19,571	45,732	22,061	27,596	1,306	3,178	14,834
(26) Plastics & Chemical Products	21,886	3,361	18,666	229,415	128,994	142,109	127,314	62,785	21,174	49,668
(27) Textile, Leather & Rubber Matls	114,976	16,846	8,463	81,273	123,406	80,532	68,799	15,109	33,996	32,633
(28) Paper	24,039	6,446	5,546	332,949	283,928	207,821	45,069	23,681	13,570	237,658
(29) Other Min & Metal Manufactures	152,519	24,913	21,507	49,782	124,489	52,442	33,988	1,975	332,695	14,657
(30) Iron & Steel	118,573	47,874	365	3,775	56,556	388,057	16,225	2,625	93,809	100,473
(31) Non-Ferrous Metals	28,325	1,725	23,397	9,705	24,333	54,864	17,242	3,817	4,596	10,082
(32) Heavy Industrial Machinery	6,066	27	220	41,647	20,686	35,515	20,738	1,211	12,274	2,869
(33) Light Industrial Machinery	16,845	984	400	43,450	76,546	122,007	118,422	1,734	20,506	9,613
(34) Heavy Transportation Equipment	4,726	2,470	93	21,477	75,614	67,790	56,751	1,305	6,876	3,689
(35) Passenger Cars	77	1,840	1	23,794	54,517	122,894	44,939	154	225	1,703
(36) Auto Parts/Motorcycles	55,654	279	119	23,021	26,689	42,114	126,047	845	35,999	641
(37) Aircraft & Ships	119	148	12	8,935	5,656	3,088	2,919	733	501	279
(38) Electrical Equipment	12,144	11,752	1,861	43,337	106,747	35,681	173,620	9,056	7,233	11,860
(39) Consumer Goods	77,799	250,452	23,409	85,976	395,944	106,432	289,831	21,806	64,514	15,505
(40) Commodities, NES	8,868	45,473	2,187	4,626	44,441	40,152	11,217	371	4,349	1,133
	12,690,951	6,844,385	6,383,770	4,259,268	3,704,430	4,171,769	2,329,595	2,215,407	1,946,345	1,895,193

Source: DRI/Mercer World Sea Trade Service

As previously discussed, the presence of various commodities is linked to specific vessels. The South Atlantic trade lanes have more diverse trade flow, in comparison to the North Atlantic. Of the top ten (excluding crude) trade lanes discussed, the largest moving commodities are: petroleum products (31%), cement, lime & stone (16%), coal & coke (7%) and bauxite (4%). Thus, product tankers, tankers and dry bulk carriers should be apparent. By referring to Chart 66 below, tanker type vessels move over 40 percent of all metric tonnage in the top ten trades and bulk carriers transport nearly 25 percent of all cargoes. In addition, container vessels contribute to these various trades, about 30 percent (12 million

metric tons) of total tonnage is transported via these carriers. Containerized tonnage is greater for the export trades, with U.S. Southeast Coast to the Caribbean Basin with the largest tonnage, about 2.3 million metric tons in 1993.

Chart 66

Chart of 1993 South Atlantic Trade for 10 Largest Trade Routes (excludes Crude Petroleum Rank) and the Ship Types Working per Route

us s atlantic no crude NAME.SHIPTYPE	South America East Coast to U.S. Southeast Coast	South America Wes Coast to U.S. Southeast Coast	U.S. Southeast Coast to Northern Europe	U.S. Southeast Coast to Caribbean Basin	Northern Europe to U.S. Southeast Coast	U.S. Southeast Coast to South America East Coast	U.S. Southeast Coast to Japan	Southern Europe to U.S. Southeast Coast	U.S. Southeast Coast to Far East NIC's
Gen Cargo > 10,000 DWT	458,119	159,948	390,314	303,149	326,506	407,052	306,435	169,123	122,477
Gen Cargo < 10,000 DWT	134,364	54,792	48,714	65,466	71,616	0	0	0	0
Cellular < 1000 teu	70,649	3,497	131,286	579,020	126,562	0	0	85,062	14,965
Cellular 1000-2499 teu	772,997	495,594	434,631	1,644,757	734,604	1,072,188	201,565	655,926	468,090
Cellular 2500-3999 teu	28,427	16,360	623,838	58,144	449,688	36,233	373,050	139,377	729,708
Cellular 4000-5999 teu	6,279	2,045	196,874	10,872	164,019	5,314	76,005	6,877	214,721
Cellular 6000-7999 teu	0	0	484	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	148,337	16,392	480,845	73,122	517,544	159,738	10,107	97,939	19,830
RoRo < 10,000 DWT	130,112	52,384	0	189,496	0	142,262	0	6,928	0
Reefer	9,123	50,740	0	0	0	0	0	0	0
Bulk < 20,000 DWT	23,054	0	0	108,975	0	0	0	16,198	0
Bulk 20K to 40K DWT	2,009,878	1,516,362	127,599	68,312	47,877	354,224	240,351	305,029	62,383
Bulk 40K to 80K DWT	118,380	855,158	580,491	2,008	36,854	31,714	383,856	349,667	177,856
Bulk 80K to 100K DWT	870	12,499	160,507	0	547	321	5,821	5,262	2,721
Bulk 100K to 175K DWT	0	0	9,377	0	0	0	0	0	0
Bulk > 175,000 DWT	0	0	0	0	0	0	0	0	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	147,164	0	0	0	0	0	0	0	0
Combo 80K to 100K DWT	4,551	0	0	0	0	0	0	0	0
Combo 100K to 175K DWT	0	0	0	0	0	0	0	0	0
Combo > 175,000 DWT	0	0	0	0	0	0	0	0	0
Tanker < 16,500 DWT	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	727,762	0	0	391,204	0	40,999	0	0	67,162
Tanker 25K to 45K DWT	327,985	620,953	41,193	12,099	27,050	1,268	101	0	2,077
Tanker 45K to 80K DWT	2,036,454	813,831	89,594	0	269,181	0	3	0	0
Tanker 80K to 160K DWT	4,468,276	849,313	2,732	0	552,021	0	0	0	0
Tanker 160K to 250K DWT	233,101	25,507	0	0	83,902	0	0	0	0
Tanker > 250,000 DWT	2,995	0	0	0	2,075	0	0	0	0
Prod Tank < 16,500 DWT	0	0	0	0	0	0	0	0	0
Prod Tank 16.5K to 25K DW	591,856	0	2,113	49,380	186,564	44,063	0	103,192	0
Prod Tank 25K to 45K DWT	157,413	0	46,310	48,521	194,010	1,363	0	3,191	12,803
Prod Tank 45K to 80K DWT	4,302	0	1,430	1,453	5,822	0	0	0	396
Prod Tank 80K to 160K DW	0	0	0	0	0	0	0	0	0
Gas Tankers	30,517	0	37	17,521	0	0	0	0	0
Vehicle Carriers	0	0	0	0	119,942	32,800	0	0	0
Other Ships	0	0	891,330	80,736	252,999	0	618,102	0	0
	12,642,964	5,545,376	4,259,695	3,704,235	4,169,384	2,329,539	2,215,395	1,943,772	1,895,188

Source: DRI/Mercer World Sea Trade Service

Baltimore

An analysis of the effect of excluding crude petroleum from the data indicates that this port is not heavily involved in this commodity; therefore results of its trade activity are not skewed by including crude in the data. A very small amount of crude which was carried from Baltimore to Northern Europe, was recorded in 1993. The top ten trade routes for Baltimore are listed below in Chart 67:

Chart 67

Route	Metric Tons
Port of Baltimore to Northern Europe	3,269,002
South America East Coast to Port of Baltimore	2,146,092
Port of Baltimore to Southern Europe	2,006,876
Port of Baltimore to Other Med	1,658,288
Port of Baltimore to Japan	1,565,546
Port of Baltimore to Eastern Europe	1,103,970
Caribbean Basin to Port of Baltimore	1,087,978
Australia/New Zealand to Port of Baltimore	944,086
Northern Europe to Port of Baltimore	904,319
Japan to Port of Baltimore	878,422

Port of Baltimore to Northern Europe

Commodities

Chart 68 presents detail of the commodities transported on each trade lane. Coal and coke is the number one commodity moved on this trade, the largest and heaviest route for the POB in 1993. Coal and coke made up 72 percent of all metric tons moved on this route. The other 27 percent of tonnage transported included: lumber & wood, fruits and vegetables, textile fibers, other chemicals, plastic & chemical products, paper and passenger cars.

Chart 68

Chart of 1993 Baltimore Trade for 10 Largest Trade Routes and the Commodities Traded per Route

YEAR: 1993										
	Port of	South	Port of							
bat crude = no crude	Baltimore	America East	Baltimore	Port of		Port of	Carribean	Australia/Ne	Northern	
	to	Coast to	to	Baltimore	Port of	Baltimore	Basin to	w Zealand to	Europe to	Japan to
	Northern	Port of	Southern	to Other	Baltimore	to Eastern	Port of	Port of	Port of	Port of
NAME.COM	Europe	Baltimore	Europe	Med	to Japan	Europe	Baltimore	Baltimore	Baltimore	Baltimore
(1) Live Animals	0	0	0	0	0	0	0	0	0	0
(2) Meat, Fish & Dairy Products	6,211	25,989	1,458	307	762	16,506	61	76	4,080	659
(3) Fruits & Vegetables	1,719	3,386	388	507	20	288	220	0	4,210	221
(4) Grain	63,961	342	179,574	516,722	89,569	230,372	0	0	31	15
(5) Sugar	87	191,742	0	785	9	86	242,742	19,969	313	14
(6) Food Products	21,168	40,129	884	2,163	41	11,133	391	26	57,855	2,248
(7) Textile Fibers; Hides	20,900	783	502	45	616	191	0	56	948	212
(8) Oilseeds	56,744	19	509,789	47,187	282,867	51,290	0	0	173	0
(9) Oils & Fats	282	713	0	44	0	27	0	0	209	157
(10) Rubber	11,586	282	343	50	0	18	0	0	2,502	312
(11) Lumber & Wood	164,539	2,254	40,015	3,647	4,691	471	117	197	15,551	7
(12) Pulp & Waste Paper	9,166	289,448	4,148	432	256	0	0	0	267	0
(13) Phosphates	0	0	0	0	0	0	0	0	0	0
(14) Cement, Lime & Stone	4,478	317,154	7	206	0	1,388	712,420	428	68,649	975
(15) Manufactured Fertilizers	0	256	0	0	0	0	0	0	24,739	0
(16) Iron Ore	0	533,104	0	0	0	0	0	332,043	0	0
(17) Bauxite & Oth Base Metal Ores	4,806	24,241	0	20	0	0	0	357,747	1,568	1
(18) Other Ores & Scrap	1,491	40,989	611	0	216	0	130	0	13,773	0
(19) Coal & Coke	2,439,927	0	1,218,380	1,063,135	1,162,454	749,062	0	227,026	0	570,196
(20) Crude Petroleum	46	0	0	0	0	0	0	0	0	0
(21) Petroleum Products	19,210	372,848	214	2,547	43	1,359	108,288	0	39,630	0
(22) Natural and Manufactured Gas	10	0	0	6	0	0	0	0	0	0
(23) Liquid Bulk Chemicals	5,387	3,043	5	8	0	46	0	0	1,488	486
(24) Other Chemicals	49,156	16,134	2,483	797	118	1,135	22,346	501	76,806	3,909
(25) Pharmaceuticals	9,600	946	351	342	5	2,894	0	0	2,640	40
(26) Plastics & Chemical Products	52,384	5,150	6,598	1,806	188	2,303	18	46	19,054	2,930
(27) Textile, Leather & Rubber Matls	12,212	19,384	382	420	382	470	0	178	10,628	3,481
(28) Paper	47,143	45,552	347	505	0	396	0	0	41,386	38
(29) Other Min & Metal Manufactures	18,821	11,408	4,087	1,018	47	428	94	62	17,198	2,538
(30) Iron & Steel	15,226	49,256	5,794	877	72	229	0	0	183,180	5,897
(31) Non-Ferrous Metals	17,984	15,528	1,975	468	124	105	0	3,887	39,644	2,243
(32) Heavy Industrial Machinery	17,587	7,382	1,085	3,390	32	1,875	0	0	37,448	6,999
(33) Light Industrial Machinery	28,655	63,956	2,244	3,227	7	804	0	33	30,958	8,963
(34) Heavy Transportation Equipment	32,193	4,088	3,888	2,214	26	1,858	0	0	94,831	84,894
(35) Passenger Cars	55,844	11	11,586	1,113	12,625	2,924	1	1,755	72,045	167,524
(36) Auto Parts/Motorcycles	27,221	45,800	1,238	441	78	174	0	0	4,370	3,824
(37) Aircraft & Ships	2,946	5	757	107	0	1	0	0	209	0
(38) Electrical Equipment	7,516	3,056	1,827	1,561	124	304	0	7	7,780	6,284
(39) Consumer Goods	41,325	19,587	4,886	1,606	157	2,246	756	34	24,453	2,287
(40) Commodities, NES	1,627	1,307	494	805	17	23,829	394	13	5,745	1,288
	3,269,002	2,146,082	2,006,876	1,858,288	1,585,546	1,103,970	1,087,978	944,086	904,319	878,422

Source: DRI/Mercer World Sea Trade Review

Vessels

On this large volume trade route, over 63 percent of total tonnage is moved by bulk carriers (see Chart 69). In contrast, 13 percent of the is moved by container ships and 11 percent by combination carriers. RORO vessels and general cargo ships each contribute by moving 5 percent of the total. Tankers and vehicle carriers transport the remaining 3 percent.

Chart 69

Chart of 1993 Baltimore Trade for 10 Largest Trade Routes and the Ship Types Working per Route

balt crude = balt no crude	Port of Baltimore to Northern Europe	Port of Baltimore to Southern Europe	Port of Baltimore to Other Med	Port of Baltimore to Japan	Port of Baltimore to Eastern Europe	Caribbean Basin to Port of Baltimore	Australia/New Zealand to Port of Baltimore	Northern Europe to Port of Baltimore	Japan to Port of Baltimore
NAME.SHIPTYPE									
Gen Cargo > 10,000 DWT	144,422	277,910	80,879	17,357	208,312	3,669	74,183	132,439	3,738
Gen Cargo < 10,000 DWT	7,823	60	0	128	0	0	0	63,848	0
Cellular < 1000 teu	49,082	4	260	8	0	4,669	4,927	24,368	0
Cellular 1000-2499 teu	134,991	64,296	67,456	117,149	575	28,215	26,005	114,872	10,897
Cellular 2500-3999 teu	174,793	18,155	2,080	203,066	593	895	913	82,817	27,903
Cellular 4000-5999 teu	68,763	1,051	123	46,570	611	78	153	28,913	5,516
Cellular 6000-7999 teu	0	0	0	0	0	0	0	0	0
Cellular = > 8000 teu	0	0	0	0	0	0	0	0	0
RoRo > 10,000 DWT	181,107	28,834	780	12,060	65,070	0	18,722	168,713	88,389
RoRo < 10,000 DWT	0	28,615	1,183	0	43	0	0	135	0
Reefer	73	0	0	0	0	207	3	330	0
Bulk < 20,000 DWT	836	9,455	0	0	4,626	0	0	25	0
Bulk 20K to 40K DWT	159,425	185,825	777,170	0	139,945	691,047	0	10,190	556,808
Bulk 40K to 80K DWT	846,578	848,558	444,257	143,197	524,041	247,414	416,406	34,062	17,642
Bulk 80K to 100K DWT	92,715	230,457	75,483	13,366	150,785	3,495	66,985	522	7
Bulk 100K to 175K DWT	935,369	177,145	201,368	982,271	8,830	0	3,745	0	0
Bulk > 175,000 DWT	28,776	5,063	6,096	30,358	0	0	0	0	0
Combo < 20,000 DWT	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	90,858	0	0	0	0	0	0	0	0
Combo 80K to 100K DWT	2,810	14,977	0	0	0	0	0	0	0
Combo 100K to 175K DWT	264,996	112,782	0	0	0	0	0	0	0
Combo > 175,000 DWT	8,196	3,474	0	0	0	0	0	0	0
Tanker < 16,500 DWT	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	0	0	0	0	0	0	0	2,347	0
Tanker 25K to 45K DWT	0	104	1,112	0	0	66,682	0	4,289	0
Tanker 45K to 80K DWT	9,317	3	34	0	0	14,848	0	3,406	0
Tanker 80K to 160K DWT	288	0	0	0	0	395	0	16,054	0
Tanker 160K to 250K DWT	0	0	0	0	0	0	0	493	0
Tanker > 250,000 DWT	0	0	0	0	0	0	0	0	0
Prod Tank < 16,500 DWT	0	0	0	0	0	0	0	0	0
Prod Tank 16.5K to 25K DW	952	21	8	14	523	12,786	0	8,808	0
Prod Tank 25K to 45K DWT	8,175	85	0	0	16	13,181	0	5,333	0
Prod Tank 45K to 80K DWT	252	3	0	0	0	395	0	157	0
Prod Tank 80K to 160K DW	0	0	0	0	0	0	0	0	0
Gas Tankers	4,209	0	0	0	0	0	0	0	0
Vehicle Carriers	54,174	0	0	0	0	0	0	154,530	167,522
Other Ships	0	0	0	0	0	0	0	47,368	0
	3,268,979	2,006,875	1,658,288	1,565,546	1,103,970	1,087,979	612,043	904,019	878,422

Source: DRI/Mercer World Sea Trade Review

South America East Coast to the Port of Baltimore

Commodities

This route, second in magnitude for the POB, brings in a variety of raw materials and some finished goods, as indicated in Chart 68. Iron ore represents 25 percent of the total inbound tonnage and petroleum products make up 17 percent. Cement, lime & stone comprise 15 percent and pulp & waste paper over 13 percent, and sugar 9 percent. Light industrial machinery makes up 3 percent, iron & steel 2.3 percent, auto parts and motorcycles 2 percent and paper makes up 2 percent of all cargo. In addition to these listed (89 percent of all tons), another 11 percent of total tonnage is made up of other ores, consumer goods, food products, other chemicals, and bauxite.

Vessels

The tonnage on this route is split among several types of ships as shown in Chart 69. Bulk carriers move over 33 percent, general cargo vessels over 27 percent, container (cellular) carry 20 percent , product tankers move nearly 19 percent and RORO carriers move about 1 percent of total tonnage to the port.

Port of Baltimore to Southern Europe

Commodities

This trade route is the third largest for the port, although in tonnage terms, it is very close to the largest route. Thus, Europe may be considered a significant trading partner. Four commodities make up over 95 percent of total metric tons: coal & coke (60%), oil seeds (25%), grain (9%), and lumber (2%). The rest of the cargo is made up of passenger cars, plastic and chemical products, other minerals and metals manufactures, iron & steel, other chemicals, consumer goods, heavy transportation equipment and other commodities.

Vessels

Over 95 percent of tonnage is carried on four ships types: bulk carriers, general cargo, combination and RORO. As the majority of cargo is bulk based commodities, it is reasonable to note that bulk carriers transport 72 percent of total metric tons and general cargo vessels move over 13 percent. Combination carriers move over 6 percent and RORO vessels carry nearly 3 percent. Other vessels move the remaining 6 percent of total metric tons.

Port of Baltimore to Other Mediterranean

*(Morocco, Algeria, Libya, Egypt, Tunisia, Former Yugoslavia, Lebanon, Israel, and Syria)

Commodities

Over 98 percent of metric tons carried to the other Mediterranean region involves three bulk commodities. These are: coal & coke, grain and oilseeds.

Vessels

Not surprisingly, the high concentration of bulk commodities carried to this region requires the use of bulk carriers. For this trade lane, over 90 percent of the total metric tons moves on bulk carriers. General cargo carriers moves 5 percent of total commodities and container vessels carry close to 4 percent. Tankers and RORO operators carry the last 1 percent of total metric tons.

Port of Baltimore to Japan

Commodities

Bulk commodities make up 98 percent of the metric tons moved on this trade lane. Coal & coke makes up 74 percent, oilseeds over 18 percent and grain over 5 percent of total metric tons carried. Together, passenger cars and lumber represent just over 1 percent of the total.

Vessels

This trade lane moves 75 percent of its tonnage in bulk carriers while cellular vessels carry 23 percent. Container vessels may be utilizing non-containerizable bulks to fill the ship for the return voyage home. General cargo vessels carry just 1 percent of the total tonnage and RORO operators move close to 1 percent.

Port of Baltimore to Eastern Europe

Commodities

Just over 88 percent of total metric tons carried from POB to Eastern Europe is related to bulk cargoes. Coal & coke make up 68 percent and grain 20 percent of total metric tons carried. Meat, fish, and dairy, oilseeds, and commodities NES make up 9 percent total tonnage moved. The other 3 percent of total metric tons is represented by a variety of commodities.

Vessels

Bulk carriers move nearly 75 percent of total metric tons and general cargo vessels carry close to 18 percent. The use of these vessels reflects the types of commodities traded in this lane. RORO operators move nearly 6 percent of total metric tons to Eastern Europe and cellular ships transport 1 percent.

The Caribbean Basin to Port of Baltimore

Commodities

The Caribbean region brings a variety of bulk commodities to the port: cement, lime & stone, sugar, petroleum products and other chemicals make up 99 percent of all metric tons carried.

Vessels

Again, the prevalence of bulk commodities creates demand for bulk carriers. The Caribbean region moves 87 percent of total tonnage to POB via bulk carriers. Additionally, tankers carry 7 percent, cellular ships 3 percent and product tankers 2 percent of total metric tons.

Australia/New Zealand to Port of Baltimore

Commodities

This route is the eighth most voluminous route for the POB, over 99 percent of total metric tons are related to bulk commodities: iron ore, bauxite, coal & coke, non-ferrous metals and sugar.

Vesseis

Bulk carriers and general cargo ships carry 79 percent and 12 percent of total metric tons, respectively. Container vessels move close to 6 percent and RORO operators nearly 3 percent of the total. Although, this trade route is largely a bulk trade, different types of vessels may be utilized as a means to fill ships on the long way back from Australia/New Zealand.

Northern Europe to Port of Baltimore

Commodities

This was the ninth largest trade route for the port in 1993; however it has the greatest mix of bulk and non-bulk commodities. Iron and steel is the heaviest commodity transported from Northern Europe to Baltimore, making up just over 20 percent of total metric tons. Heavy transportation equipment makes up

10 percent, other chemicals 8 percent, passenger cars 8 percent, and cement, lime & stone make up nearly 8 percent of total metric tons.. Food products represent 6 percent of total metric tons, and paper nearly 5 percent. Petroleum products make up just over 4 percent of total tonnage imported from Northern Europe. The other 30 percent of total metric tons includes a variety of commodities which include, among others: nonferrous metals, heavy industrial machinery and light industrial machinery.

Vessels

Because the commodities moving on this trade route are so diverse, a variety of vessels work this trade. Cellular or container vessels carry nearly 29 percent of total metric tons to the POB. General cargo ships bring over 22 percent of total metric tons. RORO operators and vehicle carriers transport 19 percent and 17 percent, respectively. For this trade, bulk carriers are only involved in 5 percent of the total metric tons and tankers carry just 3 percent.

Japan to Port of Baltimore

Commodities

This trade route is POB's tenth largest - as the trade routes become less bulky they incorporate a greater variety of commodities. In this case, the top 87 percent of total metric tons includes coal & coke, passenger cars, light industrial machinery, heavy industrial machinery, electrical equipment and iron and steel.

Vessels

Carriers working this trade include bulk carriers (65 percent-mostly coal & coke), vehicle carriers, RORO operators, cellular ships and general cargo carriers which together make up 99 percent of the total metric tons moved. When coal & coke is excluded, the significance of the vehicle carriers and roll on-roll off ships is accentuated.

Chapter 3

Introduction

This chapter will study the economic role the Port of Baltimore holds for the region. U.S. inland distribution (based on metric tons), developed from Journal of Commerce PIERS data will also be presented.

Patterns of Port of Baltimore Activity-Historic Role of Baltimore

Baltimore has a potential advantage over Hampton Roads because of its clear proximity to a large consuming and producing market. In addition, Baltimore has excellent rail and highway systems and a modern port infrastructure.

In the early 1980s ships charged the same amount to haul a ton of freight across the Atlantic whether it went to Norfolk or to Baltimore (150 miles further up the Chesapeake Bay). Baltimore had an edge because overland transportation of that shipment to its final destination was based on a standard per-mile rate, putting Norfolk at a 150 mile competitive disadvantage. Today overland transportation rates are no longer regulated. The Staggers Act in 1980 allowed railroads to charge whatever rates they wanted regardless of distance. Trucks were similarly deregulated. This has led to more competition, especially among the railroads. Moreover, ship rates now tend to be based on distance traveled rather than a single fee for all ports. Deregulation of the transportation industry in the early 1980s ended Baltimore's prior advantage since railroads could now charge whatever the market would bear.

Today, rail rates are different for different circumstances and customers. All other things being equal, rates from Chicago to Baltimore are cheaper than rates from Chicago to Hampton Roads. However since railroads set rates by contract with individual shipping lines, in some cases the per container rate from Chicago to Hampton Roads for high volume customers is cheaper than the rate that a low volume customer would pay from Chicago to Baltimore. To take the advantage of lower high volume rates, MPA has instituted a program called Baltimore Port Link, U.S.A. that pools smaller shipments to get high volume rates for low volume shippers.

Although rail volume accounts for only about 25 percent of the cargo that moves through Baltimore (trucks move 75%), it represents the greatest potential for growth. Rail defines the penetration into the inland market. Historically, that market has not extended much beyond Chicago. The transportation carrier, CSL has agreements with other railroads besides its corporate relative, CSX, that permit it to move cargo coast to coast.

The Seagirt terminal operates well below capacity. In 1993, just two trains operated out of Seagirt daily, one from Chicago that arrived in the morning and one bound for Chicago that left just after midnight. Much of the storage space is unused and only one of the two cranes is generally in use.

About 75 percent of Baltimore's container cargo is moved overland by truck. Because this cargo moves via surface, POB's competitors may find it difficult to attempt to lure this cargo to their port. Truck rates are closely related to distance, and POB's location enables it to offer attractive transportation packages. Baltimore has a geographical advantage due to the size and wealth of nearby markets, which consume and produce, within a 200 to 300 mile radius. However, it should also be emphasized that shipping lines consider total costs in moving containers, not just truck costs.

Notwithstanding deregulation, transportation costs to and from Baltimore to the Midwest are still substantially cheaper than for any other East Coast port. When a comparison is made between transportation costs for land and sea, costs at sea are small compared to overland costs. Although generalizations are difficult, average costs per ton mile are about one cent per ton mile for vessels compared to five cents per ton mile on trains and about eight cents per mile by truck. Therefore land transportation costs will be the critical factor deciding the ports of entry and exit. Ports, such as Baltimore, close to manufacturing and consuming centers will have a comparative advantage over other ports since they are able to minimize landside transport costs. In the longer run, without subsidized inland costs, this should work in favor of Baltimore. In order for POB to remain competitive with Norfolk, rail rates must decrease to the point where the lower overland costs offset the increased vessel operating costs of steaming up the Chesapeake Bay or the pilotage charges through the C&D Canal.

Baltimore competes with the other East Coast ports for new business. Because of their fierce competition, it is difficult to lure cargo away from these ports. One possible source of increased cargo could come from rerouting some of the trade from Asia that currently goes to West Coast ports and is railed across the country to its final destination. With increased manufacturing capacity being set up in South Asia designed for export, it may be practical -- both in cost and time savings -- for shipping companies to use the Suez Canal to transport containerized cargo from Asia through the Mediterranean to the Atlantic Ocean and on to the East Coast. In fact, several steamship lines already offer such a service.

Current role Baltimore Maintains for the Nation

The Port of Baltimore supports the nation's commerce as a major national seaport. The Journal of Commerce data documents Baltimore's importance as a key distribution center that reaches far beyond nearby states. Goods manufactured throughout the U.S. move via the POB. Similarly, volumes of tonnage is imported through the port for U.S. firms in nearly every state.

Chart 70 illustrates the distribution flows provided by the Journal of Commerce's PIERS data for exports. The data tracks the origin of all exports exiting via United States ports. Origins include goods from Canada that enter the U.S. and then exit via U.S. ports, goods from foreign sources that enter the United States and then exit again via U.S. ports; goods from unidentified foreign sources which then enter the U.S. and exit via U.S. ports; goods originating in the U.S. goods which exit via U.S. ports; and goods originating from the U.S. in which no state is indicated, which exit via U.S. ports. This process is the same for imports but reversed. PIERS data is based on legal documents which ocean carriers must file with the U.S. government in order to enter or exit the country. These legal documents are ship manifests (for imports) and bills of ladings (for exports).

Chart 70
Chart Tracking the Origination Points for U.S. Exports

Current Role of POB as a Trade Center

Chart 71 illustrates the actual state-by-state origin of cargo (in metric tons) that flows out of the United States through the Port of Baltimore. The chart indicates New York, Pennsylvania and Maryland move the largest amount of tonnage through the Port of Baltimore with Illinois being the next largest contributor. The Port of Baltimore's relationship with the U.S. Hinterland is further illustrated by the large tonnage of export cargoes originating from Missouri, Kansas, Michigan, Indiana and Ohio.

Chart 71

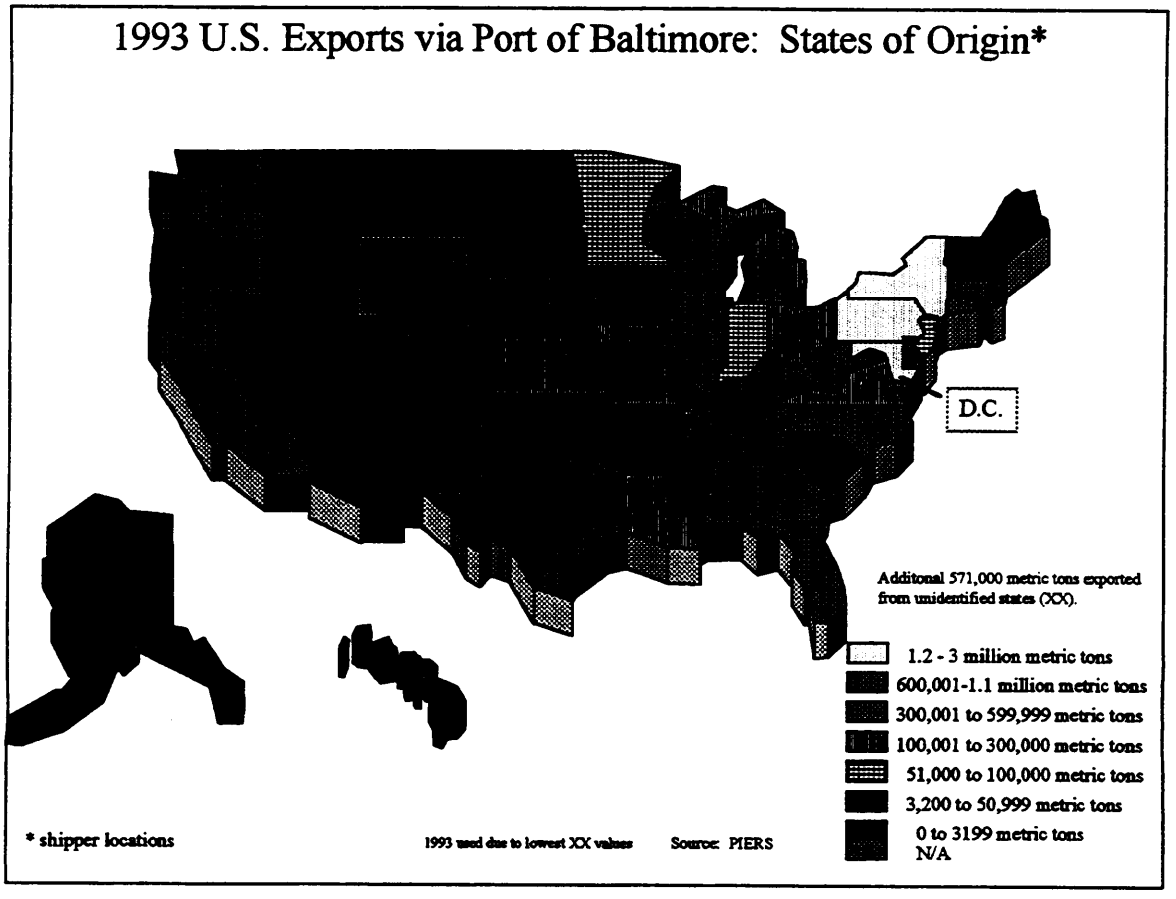


Chart 72 below details the state or country of origin of cargo exported via the Port of Baltimore between 1991 and 1993.

Chart 72

U.S. EXPORTs via Port of Baltimore 1991-1993

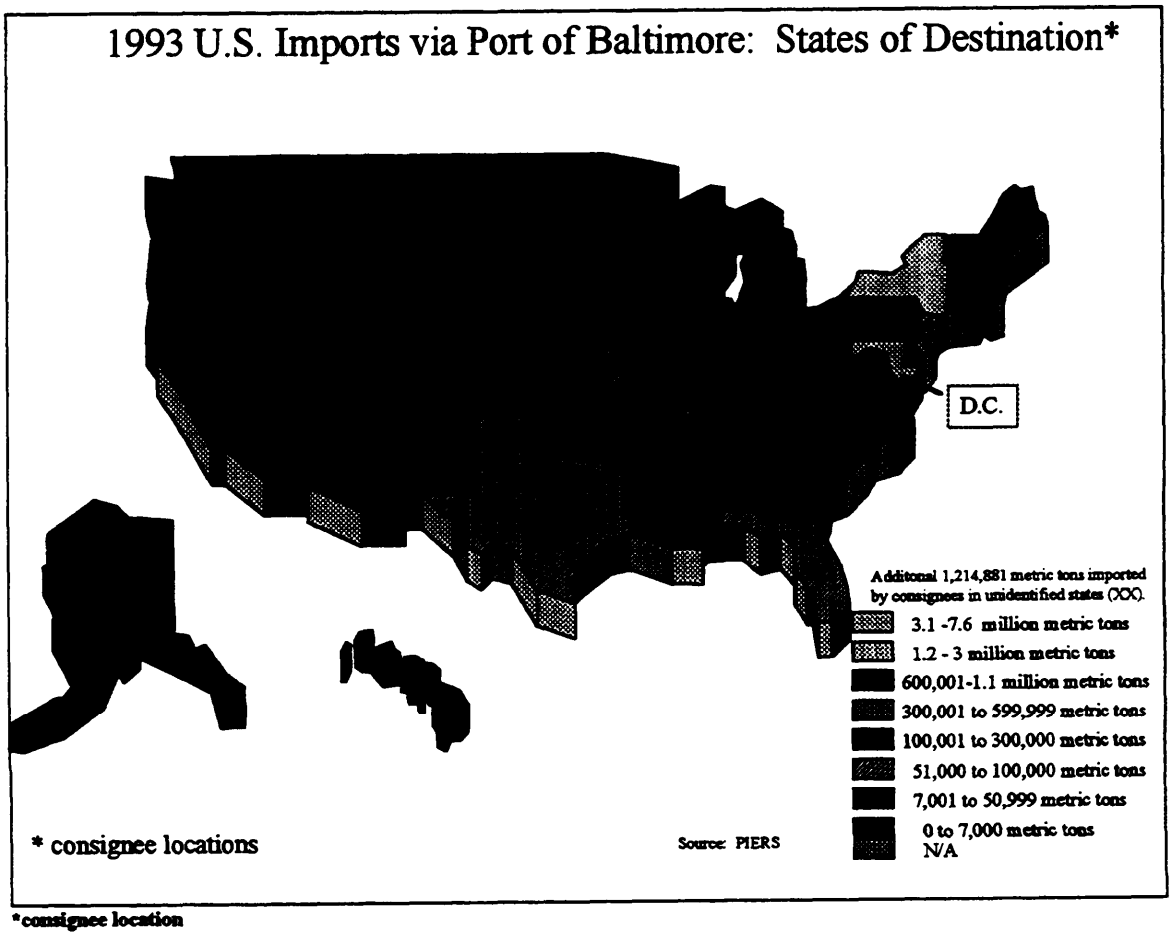
Total Metric Tons per U.S.State and other Country Origins

STATE	TOTAL M.T.(91)	TOTAL M.T.(92)	TOTAL M.T.(93)
AK	3.22	0.95	3.31
AL	543.09	4,756.02	48,085.29
AR	53.99	176.77	124.69
AZ	445.19	396.22	179.2
Bahamas	3,736.00	3,677.90	450.02
CA	71,409.95	37,651.50	45,655.86
Canada (general)	17.5	118.43	5.51
CO	2,569.13	6,875.17	5,967.89
Costa Rica	1,576.44	4,049.78	1,499.51
CT	578,335.58	1,210,610.28	977,958.97
DC	12,527.39	8,637.74	10,977.27
DE	39,551.70	40,902.08	36,533.00
FL	46,017.07	24,223.16	27,795.49
GA	9,174.86	13,727.04	18,598.98
HI	NA	NA	32.06
IA	10,390.09	7,600.82	6,288.27
ID	434.77	1,078.63	491.46
IL	109,061.38	200,078.97	755,757.26
IN	54,481.91	72,553.06	83,574.60
Jamaica	42.44	42.3	NA
KS	33,185.37	3,455.53	132,030.31
KY	118,193.51	60,799.51	9,526.58
LA	5,282.85	5,330.36	110,237.38
MA	24,596.00	25,701.01	19,879.57
MD	1,436,204.88	1,505,073.16	1,178,000.81
ME	137.57	651.91	246.14
MI	136,694.04	117,411.27	124,863.82
MN	266,324.67	358,050.02	468,518.68
MO	44,262.31	22,533.87	134,287.76
MS	601.96	482.01	1,363.38
MT	22.3	140.36	2.24
Mexico	NA	16.46	67.29
NC	19,767.09	24,154.09	22,138.55
ND	4,477.23	1,680.88	194.67
NE	4,521.49	2,453.50	3,267.74
NH	482.35	477.64	1,116.46
NJ	343,358.73	152,256.90	60,248.54
NM	26.79	42.83	17.81

NV	191.16	46.96	184.75
Netherland Antilles	14.13	NA	NA
NY	3,428,498.64	2,130,673.02	1,882,389.84
OH	268,998.87	181,344.44	139,596.05
OK	877.8	431.27	314.08
OR	2,316.62	1,807.84	4,350.02
PA	3,459,526.64	3,079,416.37	2,875,714.90
Puerto Rico	2,844.45	1,563.30	164.88
RI	240.52	589.88	326.5
SC	2,053.68	2,034.69	1,076.68
SD	73.08	49.08	73.83
TN	4,600.23	2,629.32	3,362.49
TX	53,476.37	49,979.88	49,807.09
UT	90.12	146.51	100.93
VA	119,090.27	253,684.95	114,300.60
Virgin Islands	NA	6.93	20.94
VT	3.83	64.72	3.4
WA	18,025.38	13,097.91	5,791.20
WI	34,207.03	39,405.24	42,098.72
WV	173,448.36	293,388.27	6,850.35
WY	3.05	8.16	NA
Unidentified State	1,419,773.65	1,527,354.63	570,640.90
Alberta	209.73	273.88	148.53
New Brunswick	371.76	NA	NA
British Colombia	370.81	708.15	306.48
Manitoba	13.61	4.95	66.84
Nova Scotia	311.08	2.54	NA
Ontario	59,973.66	8,014.67	5,823.94
Quebec	109,866.03	142,662.19	4,367.84
Saskatchewan	NA	36.28	NA
Unidentified Non-US origin	909,771.39	733,614.41	353,442.04
Total Mtons Exported fm US	13,447,752.79	12,380,908.57	10,347,310.19
Canadian origin	1,989,252.24	2,328,958.29	800,333.27
Unidenified Non-US origin	909,771.39	733,614.41	353,442.04
Identified Non-US origin	8,230.96	9,475.10	2,373.03
Total Non-USA origin	2,907,254.59	3,072,047.80	1,156,148.34
Unidentified US origin	1,419,773.65	1,527,354.63	570,640.90
US state origin	9,120,724.55	7,781,506.14	8,620,520.95
Total USA	10,540,498.20	9,308,860.77	9,191,161.85

Chart 73 details the final destination points of goods entering the United States via the Port of Baltimore. The state which is the final destination for the greatest amount of tonnage is Maryland. New York is the second greatest receiver of goods imported via the POB and New Jersey the third. Again, the trade relationship between the POB and the U.S. Hinterland is illustrated by the cargo inflows to Michigan, Ohio, Illinois, Pennsylvania and Minnesota.

Chart 73



*consignee location

Chart 74 clarifies each destination state's metric tonnage from 1991 to 1993. These statistics reflect the change and magnitude of trade volumes over time.

Chart 74

U.S. IMPORTs via Port of Baltimore 1991-1993 Total Metric Tons per U.S. State and other Country Destinations			
STATE	TOTAL M.T.(91)	TOTAL M.T.(92)	TOTAL M.T.(93)
AK	NA	7	21
AL	3,526	2,508	3,255
AR	159	949	827
AZ	16,304	13,121	14,939
Bahamas	NA	NA	1,406
CA	250,506	238,432	222,754
Canada (genrl)	NA	10	36
CO	4,355	613	320
Costa Rica	NA	548	37
CT	129,924	355,678	162,497
DC	10,979	7,608	6,124
DE	38,315	40,158	45,244
FL	103,491	30,419	74,112
GA	17,426	16,965	10,193
HI	NA	41	308
IA	4,655	4,346	8,778
ID	10	NA	168
IL	123,787	128,025	223,506
IN	36,186	42,066	43,071
KS	124	259	6,939
KY	12,132	13,975	23,588
LA	35,064	29,530	31,926
MA	46,725	40,437	8,820
MD	6,564,583	6,802,467	7,593,930
ME	21	523	61
MI	88,484	76,580	101,700
MN	210,517	349,527	216,023
MO	2,964	4,927	54,412
MS	11,926	185	635
MT	2	NA	NA
Mexico	1	NA	14
NC	6,273	6,719	11,801
ND	107	116	118
NE	1,181	832	435
NH	27,795	184	25,339
NJ	300,265	223,607	308,946
NM	29	NA	2

NV	202	268	1,687
Netherland Antilles	3,438	NA	76
NY	733,791	709,166	1,009,982
OH	113,330	136,859	222,400
OK	539	472	489
OR	1,967	2,533	3,607
PA	190,575	308,669	283,844
Puerto Rico	66	440	523
RI	708	895	468
SC	4,476	16,212	18,258
SD	75	3	77
TN	4,655	3,844	5,899
TX	144,355	147,830	94,135
UT	182	57	48
VA	34,004	33,345	35,915
Virgin Islands	NA	17,958	NA
VT	175	369	34
WA	2,822	2,160	2,843
WI	37,253	35,717	25,335
WV	7,674	6,548	3,557
WY	NA	29	NA
Unidentified States	822,075	1,403,650	1,214,881
Alberta	35	407	448
New Brunswick	NA	27	166
British Colombia	102	391	1,027
Newfoundland	NA	76	141
Manitoba	8	235	166
Nova Scotia	37	87	229
Ontario	8,772	10,364	15,495
Quebec	1,007	3,660	1,308
Saskatchewan	17	NA	NA
Unidentified non-US destinations	3,787	9,255	4,858
Total Mtons Imported into USA	10,163,942	11,282,887	12,150,182
Canadian destinations	9,978	15,258	19,017
Unidentified non-US destinations	3,787	9,255	4,858
Identified non-US destinations	3,505	18,946	2,056
Total NON-USA destinations	17,270	43,459	25,932
Unidentified US state	822,075	1,403,650	1,214,881
US States destinations	9,324,597	9,835,778	10,909,369
Total USA destinations	10,146,672	11,239,428	12,124,250

The Port of Baltimore's Effect on the Region

The largest influence of the port is felt throughout the region. Beyond the large amount of cargo which is imported and exported directly from the state of Maryland, numerous industries rely on the business of the port (see Chart 75).

Chart 75

Impacts	*Number*
Jobs: Direct*	**18,051**
Jobs: Indirect	**6,625**
Jobs: Related	**62,500**
Total Jobs	**87,176**
Personal Income ($B)	
Direct	**$.60**
Indirect	**$.50**
Total	**$1.10**
Business Revenue ($B)	**1.30**
State & Local Taxes ($B)	**$.14**

Source: "Summary of Impacts, 1992" POB

Direct Jobs are described in Chart 76 :

Chart 76

NUMBER OF DIRECT JOBS BY CATEGORY	
Surface Transportation	
Rail	1044
Truck	1844
Maritime Service Sector	
Terminal Operators	1202
ILA	1048
Towing	48
Pilots	105
Agents	372
Surveyors	128
Forwarders	498
Warehousemen	424
Container Repair	138
Government	1151
Marine Construction	1435
Linehaul Barge	74
Shippers Consignees	8135
MPA	347
Banking	58
TOTAL:	18051

Source: "Job Impacts by Category, 1992" POB

Although in 1993, the state of Maryland had modest growth of about 1.3 percent, it is expected to improve in the upcoming years (2.6 percent annually through 1995.) At the start of a healthy cycle, following ten consecutive quarters of decline, the Baltimore area can look toward stabilized employment rates in the transportation industry.

Chapter 4

Introduction

This chapter will describe the technical nature of the database sources utilized in this report. Database structure will be detailed in order to provide a clear understanding of the linkages involved in producing this study. (Database structure and relationships are illustrated in Chart 77).

Data Sources:

WSTS/WFFS

DRI's World Sea Trade Service (WSTS) and World Fleet Forecast Service (WFFS) databases hold customs trade data for **all** modal moves (water+rail+highway+pipeline+air). WSTS presents data by service (liner, tanker, or tramp) and by commodity (40 aggregate definitions.) The WFFS depicts moves by route. These databases hold annual, historical, and forecasted information.

Waterborne Commerce Data (WCSC)

This historical data source holds customs data displaying **only U.S.** water moves. The Non Public Use file provides vessel name and provides a means to identify vessel type using these links: vessel name/LRN*<>vessel type. WCSC data provides cargo by route, ship, and location code. This data file is a vital source for detailed cargo moves.

*Lloyd's Registry Number

BME Data

In this study the BME data covered from 1991 to 1994. The Baltimore Maritime Exchange is another historical source which describes Baltimore harbor vessel traffic in the greatest detail. Data covers traffic in and out of the port, as well as, moves within the harbor (anchorages.) This data is critical for this study, as it is the only known collection covering anchorage activity. This file gives sailing draft, but not vessel design specifications-which are needed to understand whether ships are operating full or light loaded. This information also supplements the Waterborne Commerce data. Links used are:

vessel name/LRN* and date of call

*Lloyd's Registry Number

WSTS U.S. Port Forecast

The WSTS U.S. Port Forecast provides the predicted demand for transportation for individual U.S. ports, (Baltimore, New York, etc.). This forecast is based on commodity and vessel service (liner, tanker, tramp). These individual port forecasts are brought down to the port level from the original WSTS U.S. coastal forecast. The standard forecast time period extends to 2010, however, for this project, a very long term forecast extends out to 2050. The WSTS Port Forecasts provide the underlying demand at the cargo level. This demand is linked through WFFS to identify the demand for each ship size. In addition, this forecast provides a means to link sailing draft from the BME and Waterborne Commerce data to the forecasts of future trade..

JOC/PIERS

The Journal of Commerce's PIERS database documents U.S. inland flows by commodity and by region (i.e. PAW, SW, Midwest) by utilizing the shipper/consignee residence fields. JOC also provides identification data links-to the LRN-and the names of the vessels calling U.S. ports.

Detailed Vessel Characteristic Data

Lloyd's and Fairplay databases both provide similar information on vessel design characteristics. These design dimensions are crucial for this study. Details such as length, beam and design draft, provide the basis for measuring each port's ability to accommodate individual deep sea vessels.

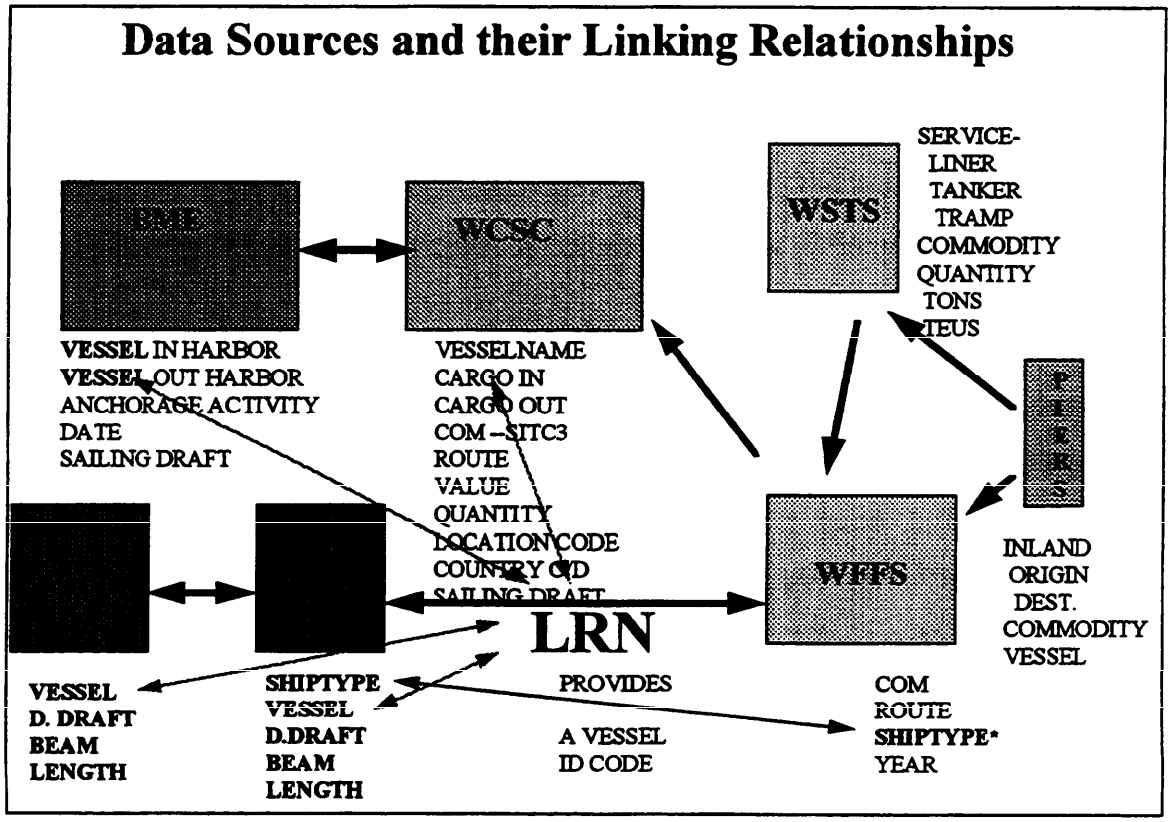
Reebie Data

Reebie Associate data details inland origin to destination links. This information provides a means to understand surface cargo moves in and out of coastal areas. Data includes both domestic (i.e., U.S. origin to U.S. destination) and international (i.e., foreign origin, landbridged via U.S., foreign destination) surface moves.

DRI Primary Research Data: Port Profiles

This database supplements port information by detailing current conditions at some selected U.S. ports. Details are by port and by terminal and include: doublestack, on-dock rail facilities, future development plans and available technology.

Chart 77



Chapter 5 –PORT OF BALTIMORE VESSEL ACTIVITY

TERMINAL AND ANCHORAGE USE

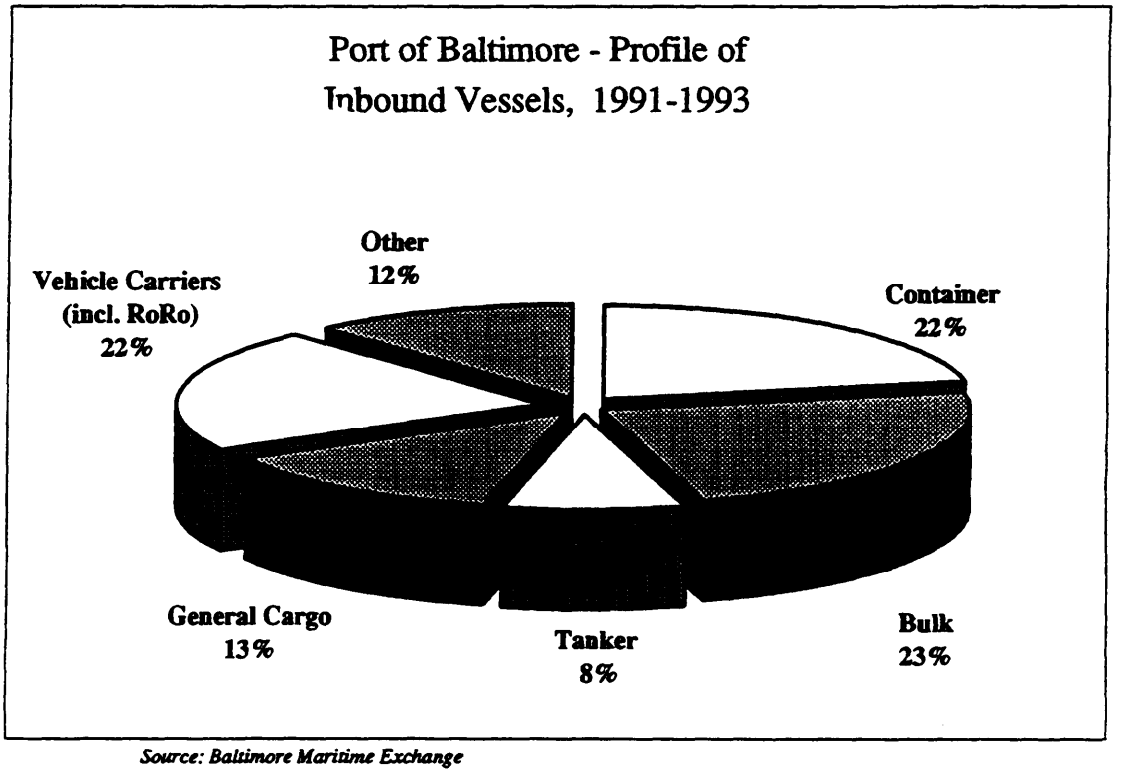
Detailed records maintained by the Baltimore Maritime Exchange (BME) were examined during the early phases of the Baltimore Harbor Anchorages and Branch Channels Study to assist in identifying vessel movements within the Port of Baltimore. Destinations for the inbound vessel traffic were identified for both the publicly-owned terminals and the private terminal facilities operating in the Port of Baltimore. Chart 78 is a general profile of the various vessel types that called on the Port of Baltimore during the three-year period of 1991-1993. Dry bulk vessels and container vessels represented almost 50 percent of the total vessel calls to the various terminals with vehicle carriers contributing an additional 22 percent of the total calls.

Of the more than 20 terminals in the Port of Baltimore, three of the publicly-owned terminals exhibited the highest levels of vessel activity during the 1991-1993 time frame. Dundalk Marine Terminal, South Locust Point Marine Terminal, and Seagirt Marine Terminal combined to service more than 45 percent of the total inbound traffic during this time period. This information is illustrated in Charts 79- 82. Due to the large size of Dundalk Marine Terminal and the locations of its many berths, Charts 79-82 disaggregate vessel destinations to Dundalk East and Dundalk West. Dundalk and South Locust Point Marine Terminals have recently completed modernization programs to improve service levels that have been consistently high. Seagirt Marine Terminal is the state-of-the-art container handling facility which has experienced a steady increase in activity levels since its opening in late 1989. The branch channels servicing vessels that call at these facilities are the most heavily used branch channels in the Port of Baltimore.

Referring again to the Baltimore Maritime Exchange data, available information on anchorage use was compiled for the 1991-1993 time frame. Of the various anchorage locations available in the Port of Baltimore, four locations were heavily utilized. These included Anchorage 2; Anchorage 3; Anchorage 4; and the general anchorage area at Annapolis. As Shown in

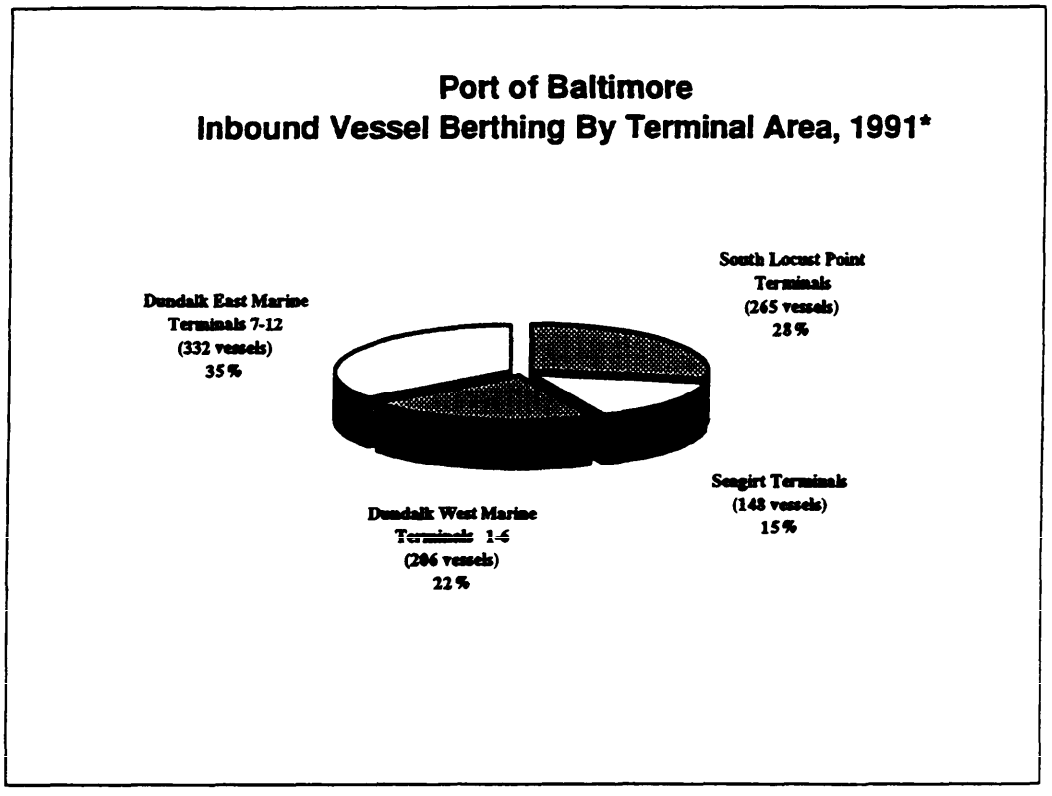
Charts 83-87, bulk vessels were the most frequent overall users of the anchorages. Relatively few container class vessels required use of an anchorage. These anchorages were in high demand because of their proximity to terminal destinations and because the remaining anchorage locations were not of sufficient depth or area to safely accommodate the vessels.

Chart 78



Source: Baltimore Maritime Exchange

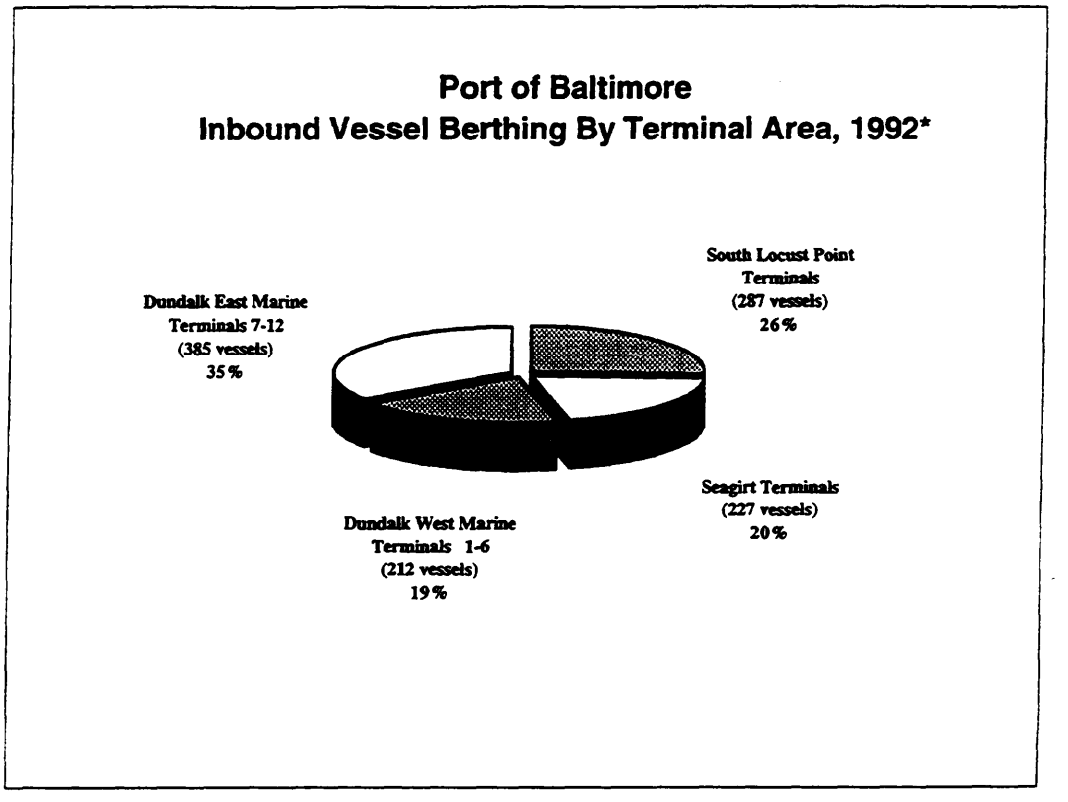
Chart 79



* Terminal areas represent 44.4% of all inbound berthing vessels

Source: Baltimore Maritime Exchange

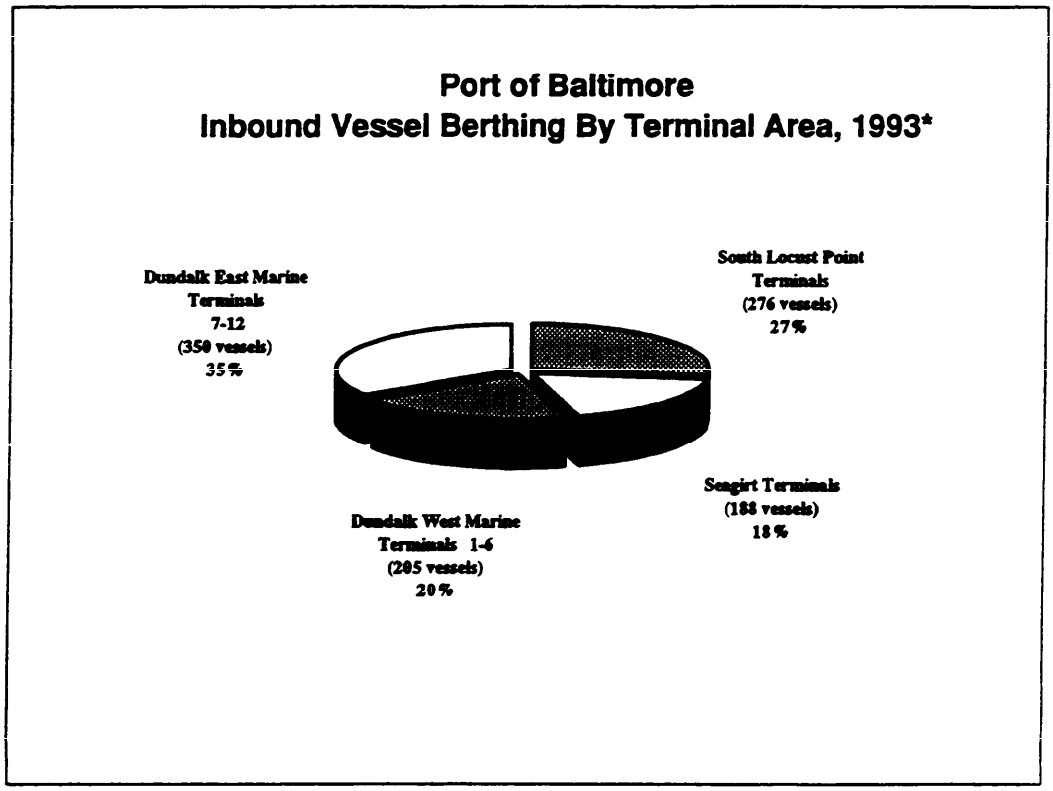
Chart 80



* Terminal areas represent 49.4% of all inbound berthing vessels

Source: Baltimore Maritime Exchange

Chart 81



* Terminal areas represent 45.4 % of all inbound berthing vessels

Source: Baltimore Maritime Exchange

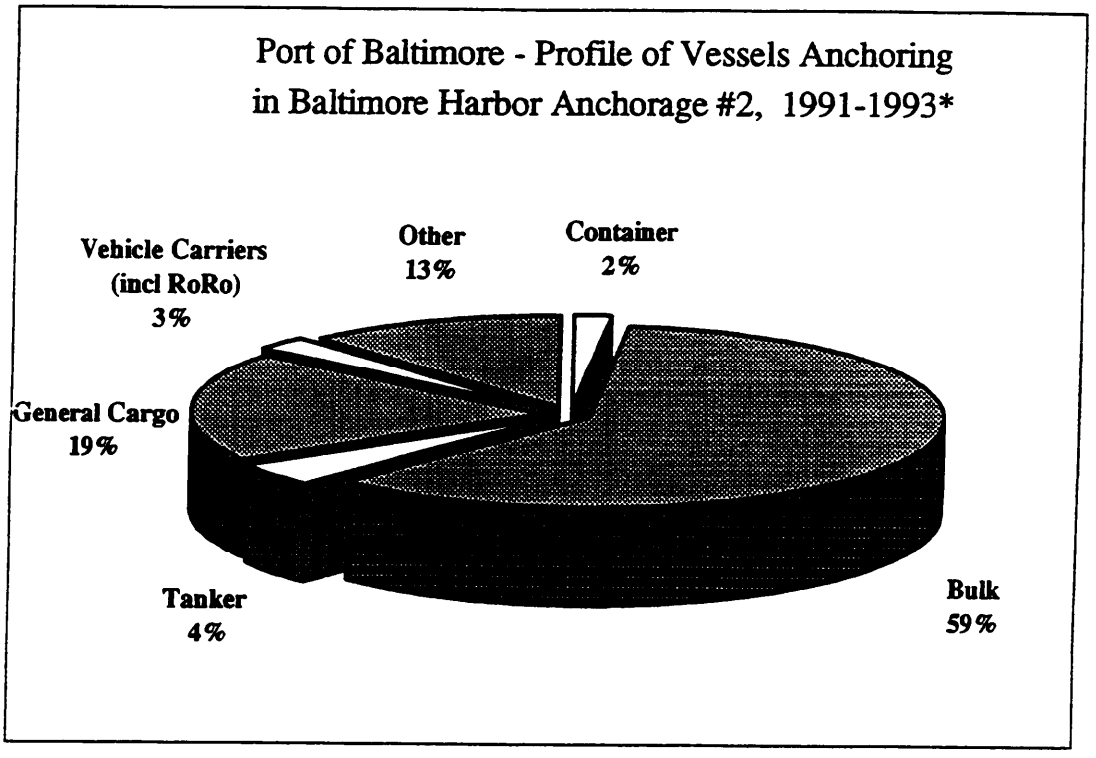
Chart 82

Profile of Inbound Vessels by Terminal Area
to the Port of Baltimore 1991 - 1993

Terminal Area	1991	1992	1993
South Locust Point Terminals	265	287	276
Seagirt Terminals	148	227	188
Dundalk West Marine Terminals 1-6	206	212	205
Dundalk East Marine Terminals 7-12	332	385	350
Total of Select Terminal Areas	951	1,111	1,019
Percent of Overall Inbound Vessels	44.4%	49.4%	45.4%
Overall Inbound Total	2,144	2,249	2,241

Source: Baltimore Maritime Exchange

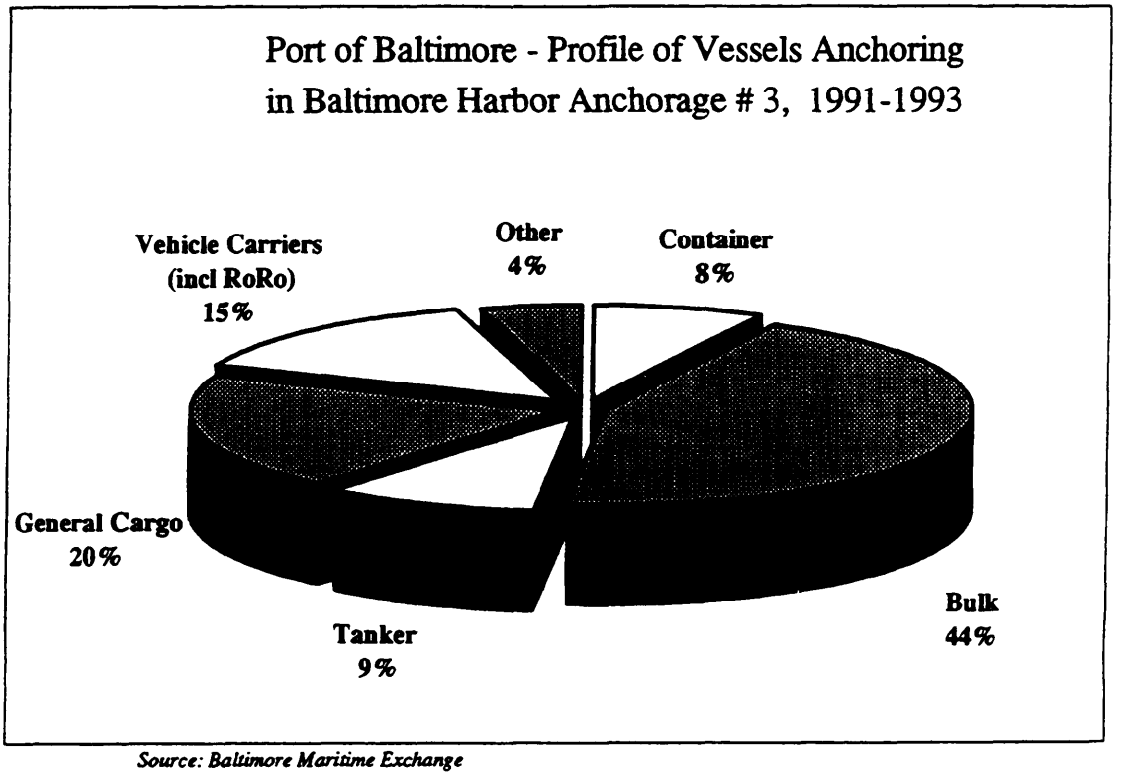
Chart 83



Source: Baltimore Maritime Exchange

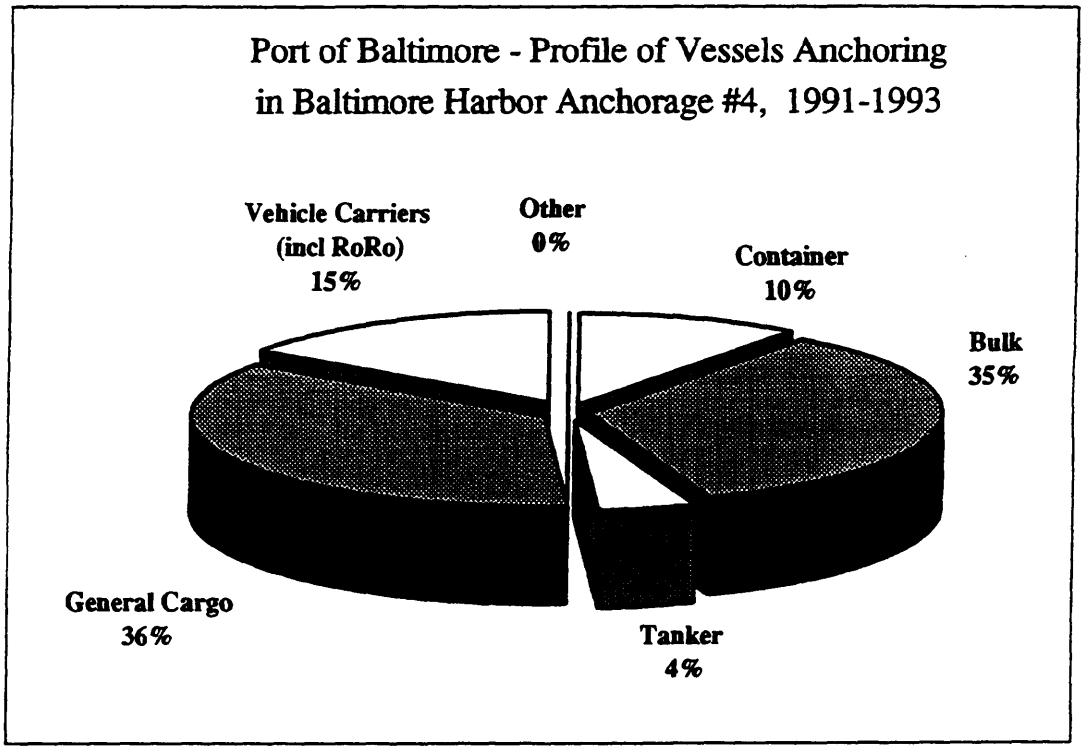
* Excludes Durmitor Vessel which has been on anchorage #2 for two years.

Chart 84



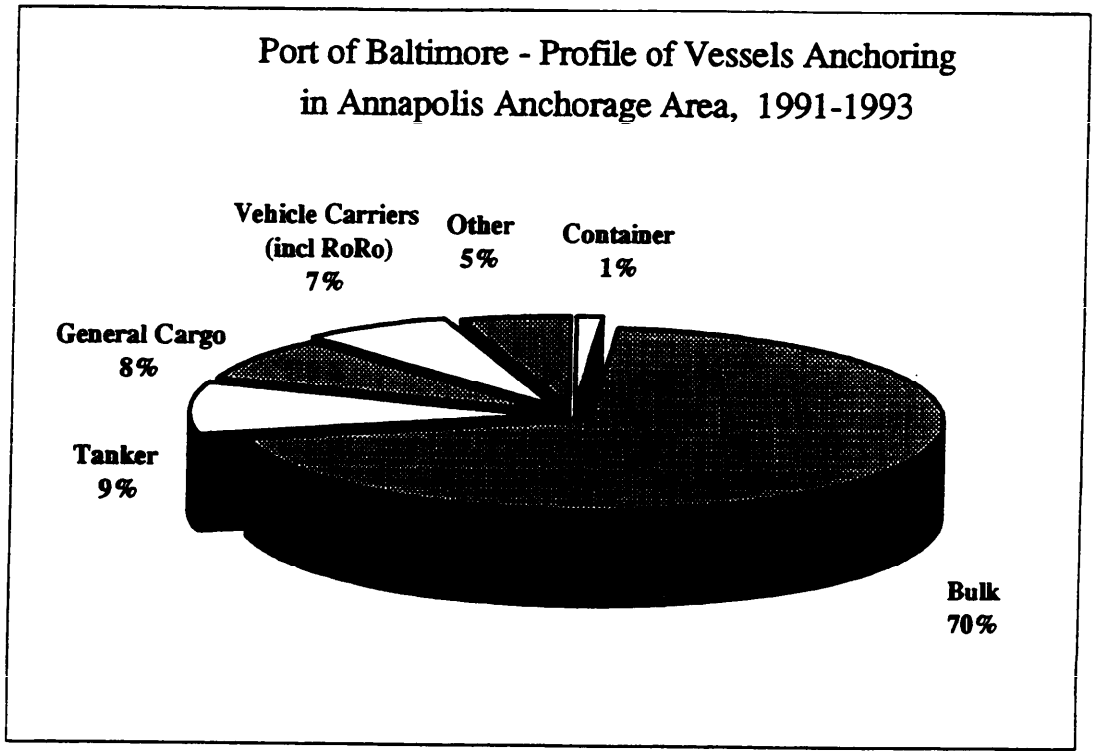
Source: Baltimore Maritime Exchange

Chart 85



Source: Baltimore Maritime Exchange

Chart 86



Source: Baltimore Maritime Exchange

Chart 87

Profile of Vessels Anchoring on
Arrival to Port of Baltimore 1991 - 1993

Vessel Classifications	Total of All Inbound Vessels to Baltimore	Baltimore Anchorage #2	Baltimore Anchorage #3	Baltimore Anchorage #4	Annapolis Anchorage Area
Container	1,488	2	34	14	5
Bulk	1,582	71	198	47	286
Tanker	549	5	42	6	38
General Cargo	907	23	90	49	32
Vehicle & RoRo	1,437	3	65	21	29
Other	794	14	20	0	20
Total	6,757	118	449	137	410

Source: Baltimore Maritime Exchange

Other: Includes cement, naval, newsprint, passenger, research, tug and other classifications.

VESSEL ROUTING ACTIVITIES

It is important to understand commodity flows and vessel flows through the Port of Baltimore and the potential for impediments to smooth vessel flows in the port system. Therefore, efforts were made to identify the routes traversed by the vessels. Vessel speed, travel time, activities, decision points during the voyage, and interactiosn with various elements of the maritime community were some of the elements identified. Two routes provide access to the Port of Baltimore. A southerly approach to Baltimore involves entering the Chesapeake Bay at Cape Henry, Virginia, and steaming to Baltimore. This route offers a 50-foot deep main channel. A second route connects the northern portion of Chesapeake Bay with the Delaware River and Bay. This route, through the Chesapeake and Delaware (C&D) Canal, provides a 35-foot channel depth into the Port of Baltimore navigation system. The following discussion details, by route, the logistics involved with vessels entering and departing the Port of Baltimore. Charts are provided to assist in understanding the network of entities and decision-making that culminates in a vessel calling on the Port of Baltimore.

Cape Henry Inbound Route

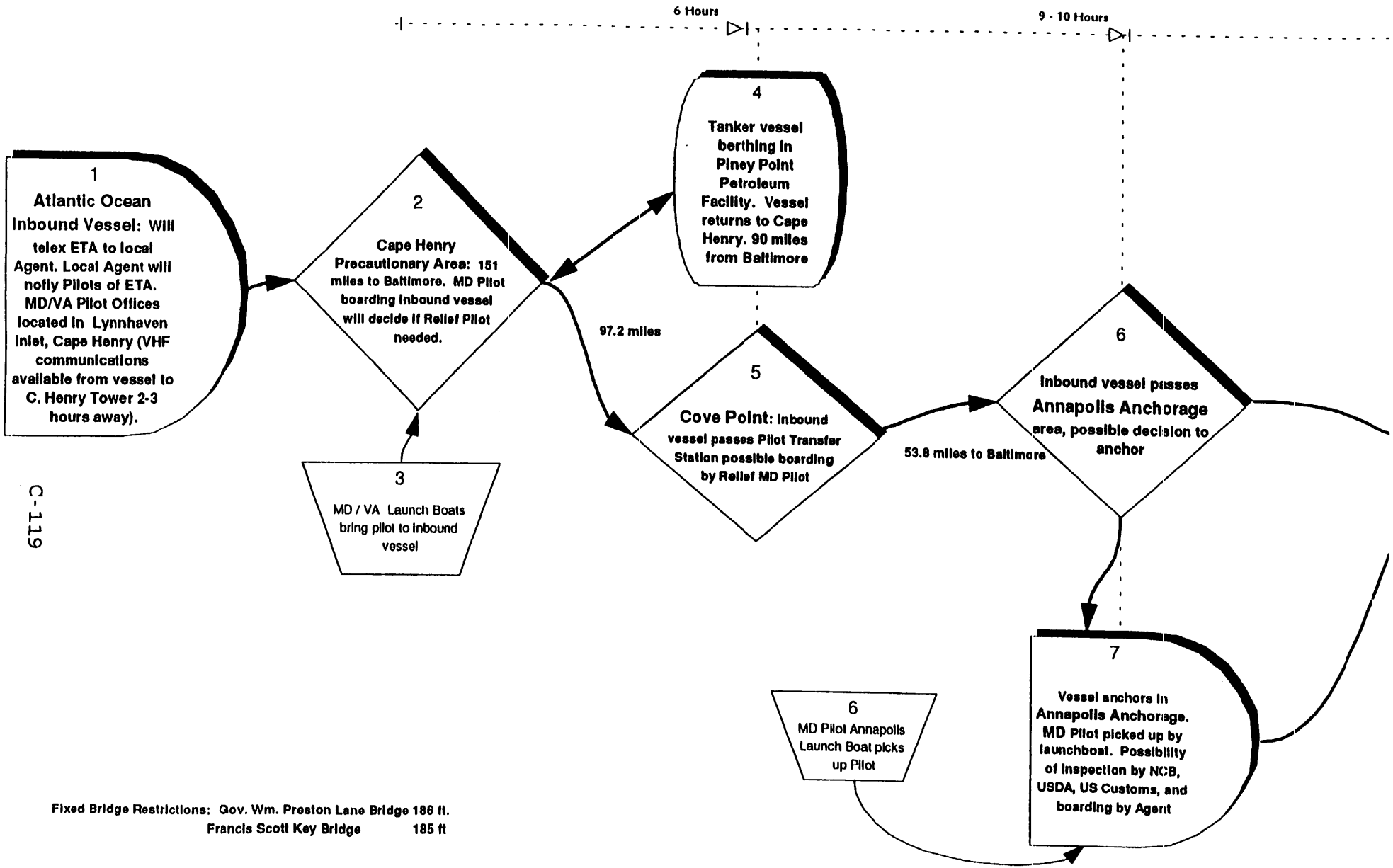
The information and communications network involved with deep draft vessel movement in the Port of Baltimore has been integrated into flow charts represented by Chart 88 through Chart 90. As observed in the flow diagram provided as Chart 88, the networks involved with vessel movement are complex. Pilot associations are constantly collecting and disseminating information on vessel arrival and departure times, and making logistical arrangements with pilots, drivers, tugs and docking pilots. To assist in their duties there is an informal network among the pilot associations along the east coast where essential information, such as estimated time of arrivals (ETA's), are relayed and conveyed among each other. Organizations such as the non-profit, Baltimore Maritime Exchange (BME) also assist pilots and others in the port community. The BME serves as a relay, conveyor and clearinghouse of various types of essential information including weather, vessel tracking, and ETA's to the numerous organizations which are members of the Exchange. Members of the BME include the Association of Maryland Pilots (located in same building), steamship

companies, agents, tug companies, terminals, line handlers, government agencies, and others. The BME uses the radio, fax, telephone, and print mediums to share information with its members..

Deep draft vessels which enter the Port of Baltimore either come from the C&D Canal in the north or Cape Henry in the south. Ocean vessels headed into the Port of Baltimore from the south enter the Chesapeake Bay at Cape Henry and proceed north for about 10 to 12 hours and 151 miles to Baltimore. The Maryland and Virginia pilot associations have offices in the Cape Henry area at Lynnhaven Inlet (Maryland pilots also have offices in Baltimore, Solomons Island and Chesapeake City). These pilot offices serve as a staging point where pilots wait for the launch service to deliver them to the inbound vessel. Typically, the Maryland pilot will be driven south to the Cape Henry pilot office from Baltimore by one of their fleet vehicles. Generally, Maryland pilots require a vessel ETA for one of their pilot stations 48 hours before arrival with confirmation 24 hours before vessel ETA including any change in ETA in excess of 2 hours. If an inbound vessel does requires a Maryland pilot, the pilot will be brought out to the vessel via a pilot launch boat. The pilot boarding actually occurs in the designated "precautionary" navigation radius area. Inbound vessels entering Cape Henry can either head north which requires a Maryland pilot, or head into the Norfolk area with the assistance of a Virginia Pilot.

In many instances the inbound vessels that are berthing in Baltimore can provide notice of their arrival to the Maryland pilots by telex while in the Atlantic. A Maryland pilot is required to board deep draft vessels entering Cape Henry if heading to Baltimore (unless a Federal pilot is boarding). As mentioned, there is a navigational radius area designated as a "precautionary area" near Norfolk, Virginia. It is in this "precautionary area" where the Maryland, Virginia, or other pilots, such as a Federal pilot, will board the vessel via either a private or commercial launch boat.

Cape Henry Inbound to Baltimore



Fixed Bridge Restrictions: Gov. Wm. Preston Lane Bridge 186 ft.
Francis Scott Key Bridge 185 ft

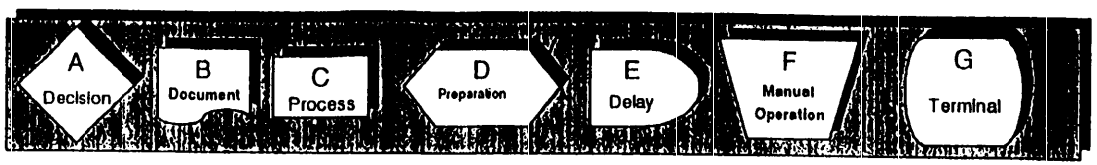


CHART 88

C-119

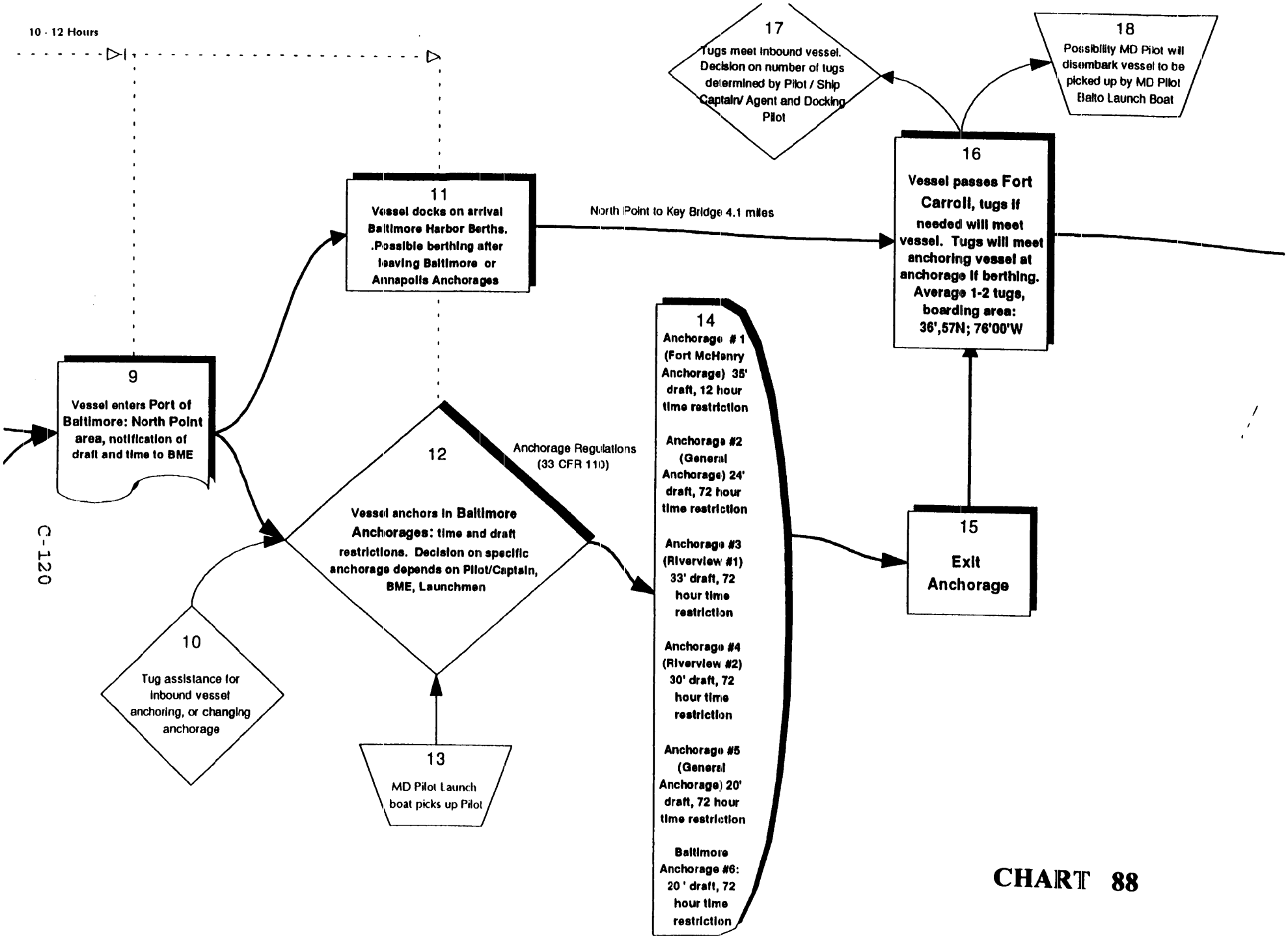

10 - 12 Hours
9
Vessel enters Port of Baltimore: North Point area, notification of draft and time to BME
10
Tug assistance for inbound vessel anchoring, or changing anchorage
11
Vessel docks on arrival Baltimore Harbor Berths. .Possible berthing after leaving Baltimore or Annapolis Anchorages
12
Vessel anchors in Baltimore Anchorages: time and draft restrictions. Decision on specific anchorage depends on Pilot/Captain, BME, Launchmen
Anchorage Regulations (33 CFR 110)
13
MD Pilot Launch boat picks up Pilot
14
Anchorage # 1 (Fort McHenry Anchorage) 35' draft, 12 hour time restriction
Anchorage #2 (General Anchorage) 24' draft, 72 hour time restriction
Anchorage #3 (Riverview #1) 33' draft, 72 hour time restriction
Anchorage #4 (Riverview #2) 30' draft, 72 hour time restriction
Anchorage #5 (General Anchorage) 20' draft, 72 hour time restriction
Baltimore Anchorage #6: 20 ' draft, 72 hour time restriction
15
Exit Anchorage
North Point to Key Bridge 4.1 miles
16
Vessel passes Fort Carroll, tugs if needed will meet vessel. Tugs will meet anchoring vessel at anchorage if berthing. Average 1-2 tugs, boarding area: 36',57N; 76'00'W
17
Tugs meet inbound vessel. Decision on number of tugs determined by Pilot / Ship Captain/ Agent and Docking Pilot
18
Possibility MD Pilot will disembark vessel to be picked up by MD Pilot Balto Launch Boat

CHART 88

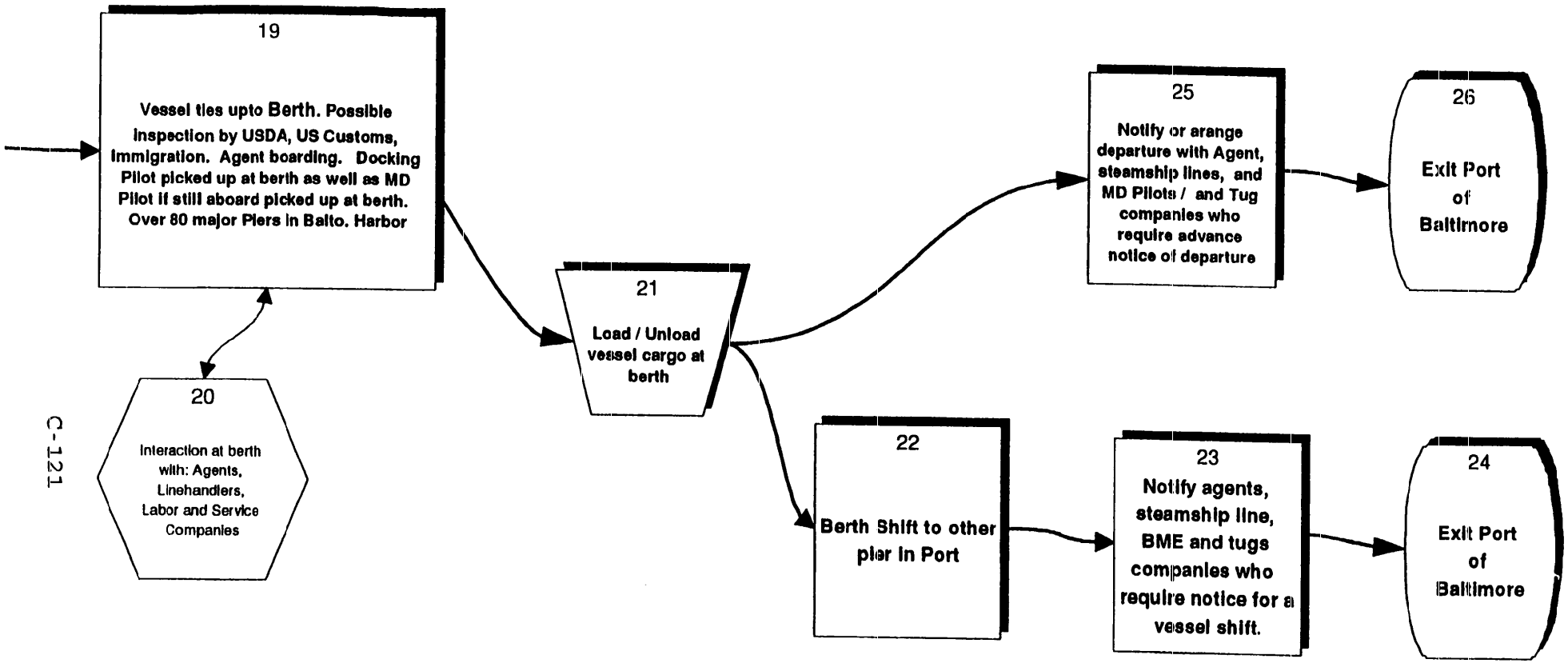

19
Vessel ties upto Berth. Possible inspection by USDA, US Customs, Immigration. Agent boarding. Docking Pilot picked up at berth as well as MD Pilot if still aboard picked up at berth. Over 80 major Piers in Balto. Harbor
20
Interaction at berth with: Agents, Linehandlers, Labor and Service Companies
21
Load / Unload vessel cargo at berth
22
Berth Shift to other pier in Port
23
Notify agents, steamship line, BME and tugs companies who require notice for a vessel shift.
24
Exit Port of Baltimore
25
Notify or arange departure with Agent, steamship lines, and MD Pilots / and Tug companies who require advance notice of departure
26
Exit Port of Baltimore

CHART 88

Not all vessels heading north out of Cape Henry are headed to Baltimore. A large number of tanker vessels headed north into the Chesapeake Bay are to berth at Piney Point, MD. Piney Point is a petroleum facility located at the mouth of the Potomac River and the Chesapeake Bay. Vessels that enter the Chesapeake Bay at Cape Henry and berth at Piney Point either load or unload, and than return back to Cape Henry. The typical vessel trip to Piney Point averages 6 hours each way.

Maryland pilots who have boarded vessels in Cape Henry and are headed to Baltimore have the option of obtaining assistance on their 10 to 12 hour journey. Relief pilots typically board vessels in the Cove Point (mid-point Cape Henry to Baltimore) area. The Maryland pilots have a satellite office in Solomons Island, Maryland, along with a launch service to take the Maryland pilot out to Cove Point for a boarding. At the Maryland pilot headquarters in Baltimore there is a central dispatcher, sleeping quarters for pilots, and a fleet of vehicles and drivers to take the pilots to Solomons Island, Cape Henry, Chesapeake City, or, alternatively, to pick up pilots that have disembarked from vessels.

There are speed and time related criteria related to the ability to pick up a relief pilot when passing Cove Point. Relief pilots are not always asked for and in many cases a relief pilot is not picked up. If an inbound vessel bypasses Cove Point, then the average time for the trip is 10 to 12 hours to Baltimore. If the vessel bypasses Cove Point and goes to Annapolis Anchorage, the trip will run approximately 9.5 hours. Picking up a relief pilot in many instances will not significantly slow down the overall trip time to Baltimore. It usually take about 4 to 6 hours to travel from Cove Point to Baltimore.

Not all vessels that proceed north up the Chesapeake Bay go directly to their berth in the Baltimore area. Some will anchor in the Annapolis anchorage area, located below the Chesapeake Bay Bridge. It takes approximately 3.5 hours from Cove Point to the Annapolis anchorage area. The Maryland pilots have launch boats to pick up pilots, one in Annapolis and one in Baltimore. If a vessel does anchor at Annapolis anchorage (designated as anchorage number 9 by the BME) a Maryland pilot launch boat based in Annapolis will be sent out to take the pilot off the vessel (TPO). Once on land the pilot will be picked up by

one of the Maryland pilot drivers. Once a vessel is anchored at the Annapolis anchorage it could be boarded by the U.S. Department of Agriculture (USDA), U.S. Customs, surveyors, inspectors or others. Customarily the agent for the vessel in the Baltimore area will board the vessel if it is anchored for any length of time.

If an inbound vessel is headed to the Port of Baltimore is docking on arrival, or anchoring in one of the Baltimore anchorages it will customarily radio the BME when it passes the North Point area, an unofficial entry point to Baltimore. The inbound vessel will radio to the BME its current draft and time passing North Point. Once an inbound vessel radios the BME denoting its draft and time at North Point, the dispatcher will proceed to make a series of phone calls to tug companies, agents, line handlers and others in the Port community to give appropriate notice. Recently, the Maryland pilots and BME installed an antenna on top of the World Trade Center in Baltimore with enhanced radio capability to Cape Henry.

If the inbound vessel is docking on arrival at a berth in Baltimore, or even anchoring in Baltimore, it will require the assistance of tugs. The agent and Master of the inbound vessel are responsible for ordering tugs to meet the vessel, giving two hours notice to the tug companies. The docking pilots are a separate entity from the tug companies. The Docking pilots are part of the Baltimore Harbor Docking Pilots Association. Docking pilots are required to board the inbound vessel when it reaches the Francis Scott Key Bridge area (Key Bridge). The tugs companies are responsible for ordering the docking pilots and for providing sufficient advanced notice (2 hours) from the tug companies.

The main tug companies in the Port of Baltimore include McAllister Towing and Moran Towing, along with a local company, Krause Towing. It is in the interest of these tug companies to tightly schedule the docking pilots since they are the ones paying for their services. Usually tugs will meet an inbound vessel at the Key Bridge area extending to Anchorage #2.

Typically, the Maryland pilot will disembark from the inbound vessel on a Maryland

Pilot launch boat, in roughly the same time frame that the Baltimore Harbor docking pilot boards the same vessel from the assisting tug. Not all Maryland pilots are picked up by the pilot launch boats. There is the possibility that the Maryland pilot could stay with the vessel until it reaches its berth, and then depart, especially under adverse weather conditions. Once the docking pilot boards the vessel he or she can request additional tugs for assistance if they are not comfortable with the tug situation. It usually takes between one and six tugs to berth a vessel, with two tugs the average number used. The number of tugs required to assist a vessel depends on the size of the vessel, the weather, and the specific pier and berth the vessel is to occupy . The Master of the vessel, the Docking pilot, and the vessel's agent have a role in determining the number of tugs to hire.

Not all vessels that come into the Port of Baltimore dock on arrival. There is the possibility they could anchor in Baltimore to wait for a berth to clear for mechanical problems or for a variety of reasons. Vessels could anchor in one of the 6 designated Baltimore anchorages for varying lengths of time. The designated anchorages are regulated by the USCG. Anchorage # 1 officially has a 12 hour restriction. Anchorages # 2 through #6 have 72 hour restrictions. The USCG has regulations on these anchorages, though the Maltese ship Durmitor has been at Anchorage # 2 for over two years, under "seizure" by the U.S. Customs Service. The Baltimore Anchorages can each handle vessels with specific drafts: Anchorage #1 --33'; Anchorage #2 --24'; Anchorage #3 --33', Anchorage #4 --28'; Anchorage #5 --20'; and Anchorage #6 --20'.

For vessels that do plan to anchor in Baltimore, the usual procedure to determine the specific anchorage to use is for the Maryland pilot and the Master of the vessel to contact the BME while in the North Point vicinity. The Maryland pilot aboard the inbound vessel establishes radio contact with the BME, and asks the dispatcher to determine which anchorages are currently being utilized. The dispatcher will know what vessels are on what anchorages by looking at the daily log sheet. The daily log sheet tracks what vessels arrived at or left the Port that day, times, drafts, berths, countries of origin, vessel shifts and anchorage use.

Forecast assumptions used in this project essentially fall into two categories: those relating to

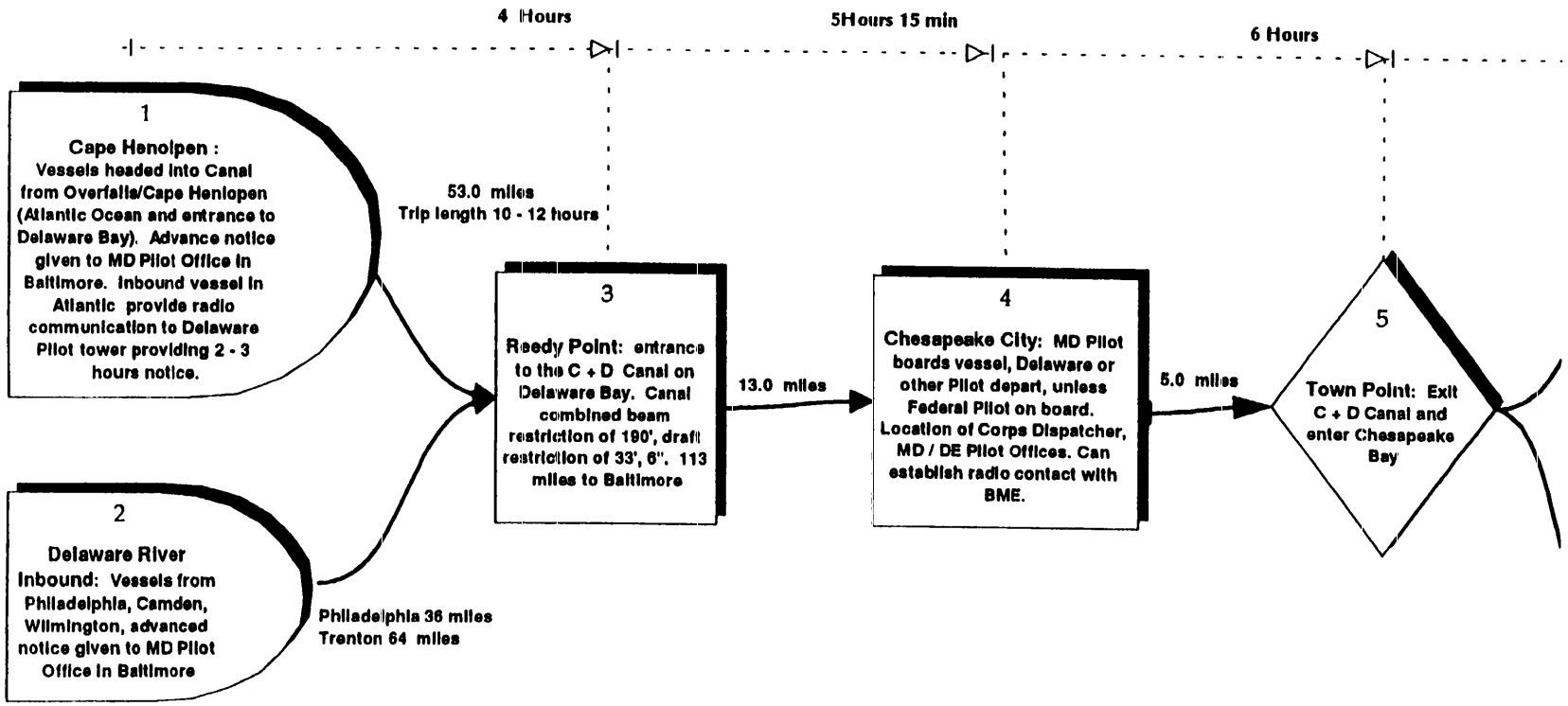
To determine in which anchorage area the vessel will anchor, the dispatcher at the BME will check the log sheet, then check with the pilot launch either in Baltimore or Annapolis for a visual check of the anchorage area. The BME is operational from 4:00 am to 7:00 pm every day. BME confers with the launch to determine what vessels anchored during the hours the BME is not operational. In many instances barges (sugar barges) come to anchorage areas late in the night or early morning when the BME is closed, or tug companies shift vessels (berth shift) during the night hours and don't always notify the BME. Inbound vessels also consider the anchorage draft restrictions in deciding which anchorage to utilize. After the visual check is made by the pilot launch, the information will be communicated to the dispatcher at the BME. The dispatcher then will proceed to radio to the vessel the anchorage availability information for decision making purposes. As mentioned, if an inbound vessel does not anchor in one of the Baltimore anchorages it will dock on arrival. Another set of transactions involves vessels leaving one of the Baltimore anchorages for a Baltimore berth.

At berth, vessels will either load or unload their respective cargoes. While at the berth, the vessel is subject to boarding by USDA, U.S. Customs, U.S. Immigration, and other parties, depending on the type of vessel and previous port of call. If the vessel is leaving the Port, or shifting to another berth, arrangements need to be made with agents, lines, tugs, BME and the Maryland Pilots, along with advance notice when required.

C&D Canal Inbound Route

One option for vessels coming to the Port of Baltimore is to take the C&D Canal. Vessels trading with European ports can save approximately 125 miles by utilizing the C&D Canal and avoiding Cape Henry. Chart 89 illustrates the flow network utilized by vessels traversing the C&D Canal. Vessels which head into or leave the C&D Canal are referred to as heading eastbound or westbound. It is generally accepted terminology to refer to C&D Canal inbound vessel traffic to Baltimore as westbound traffic, and C&D Canal outbound to

C + D Canal Inbound to Baltimore



Bridge Restrictions:	
Chesapeake City Fixed Bridge:	140.0 ft
Summit Fix Bridge	138.4 ft
Pipeline Crossing	141.0 ft
St George's Fixed Bridge	137.2 ft
Reedy Point Fixed Bridge	136.4 ft

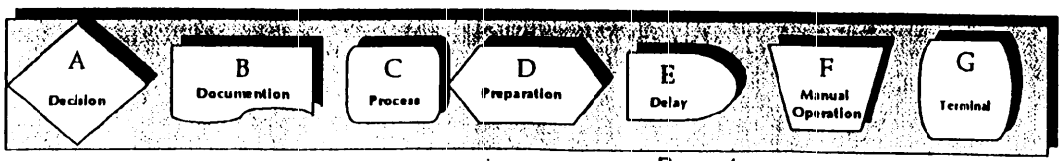


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CHART 89

10 Hours through Brewerton Extension
11 Hours without Brewerton Extension

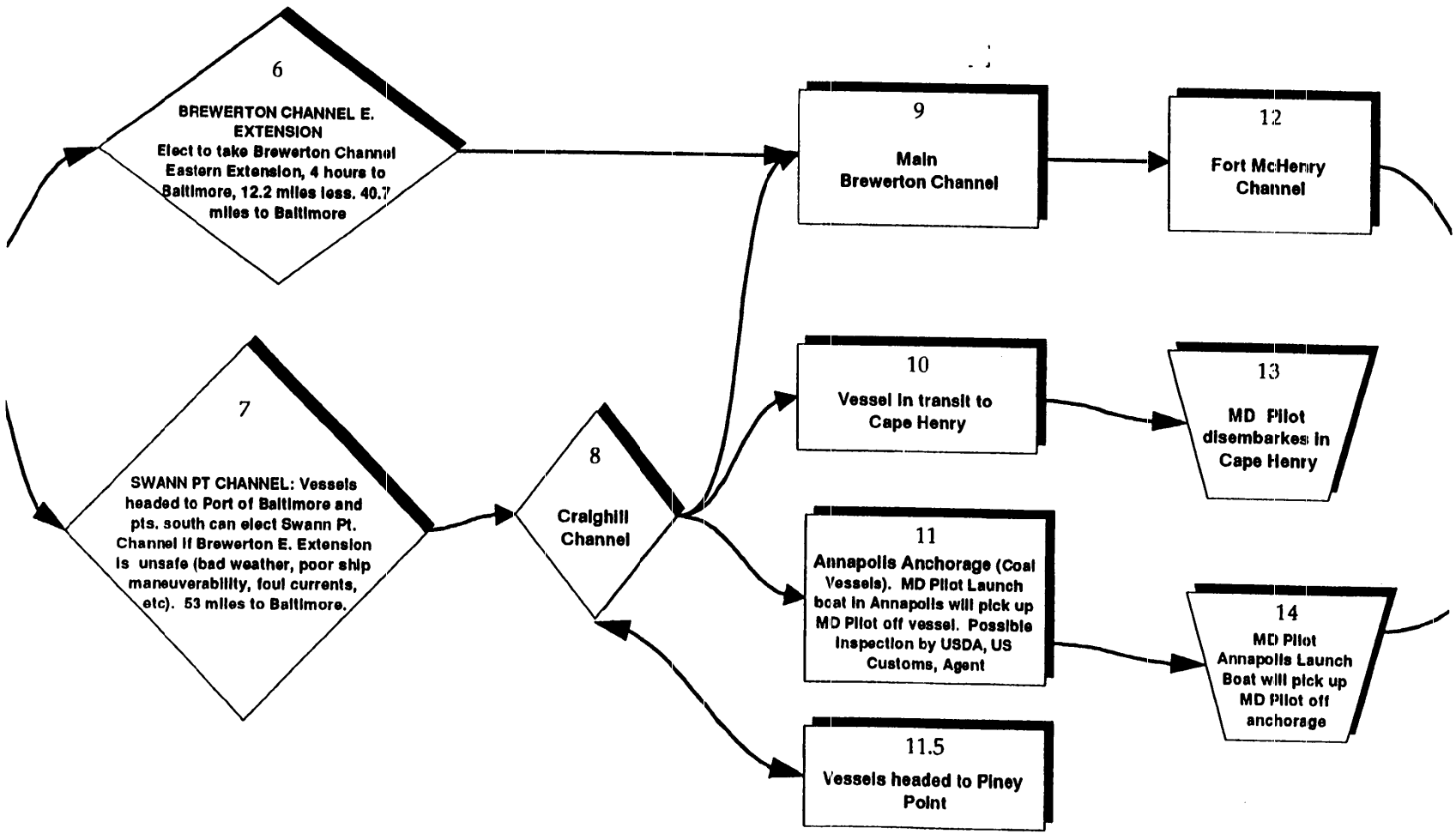
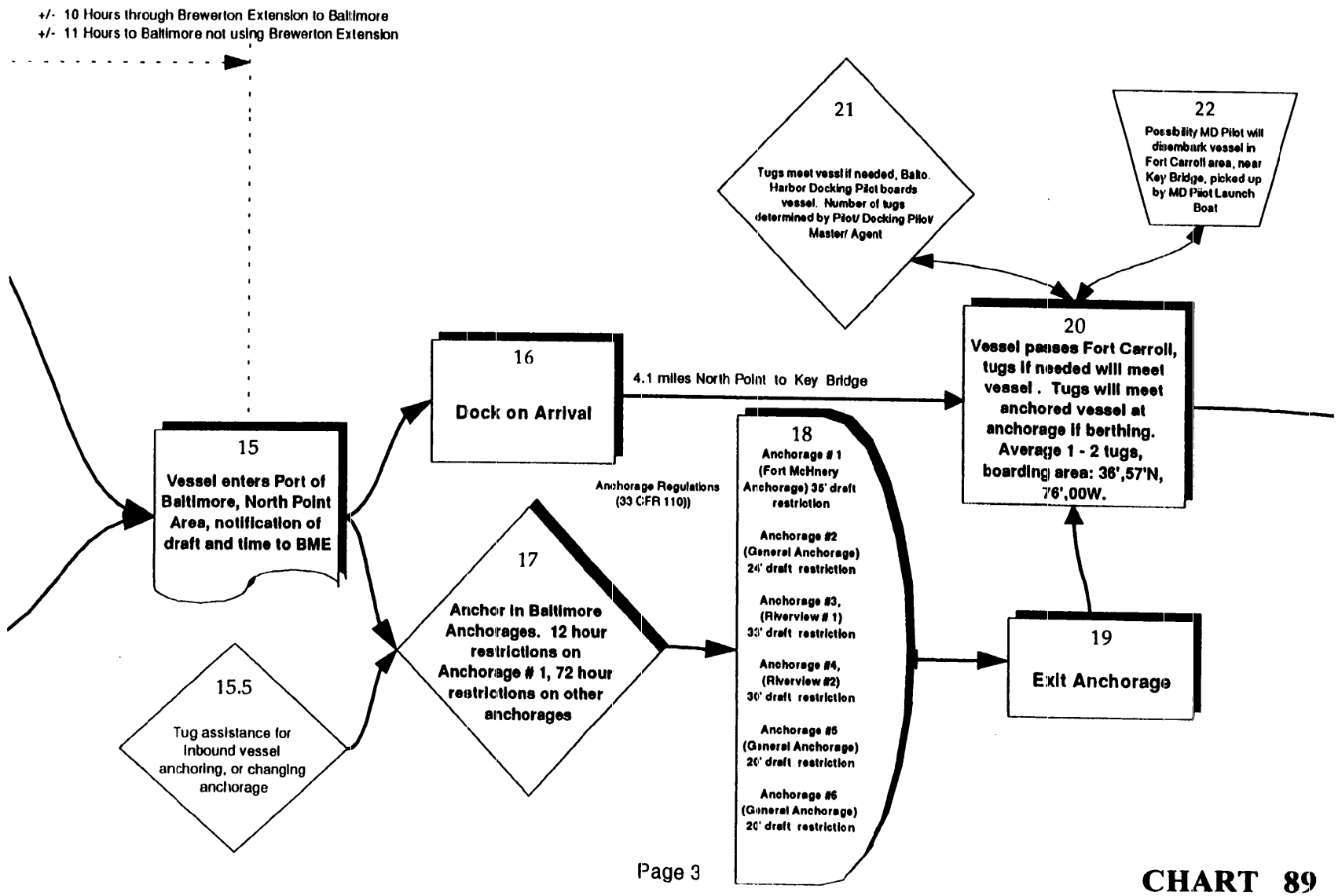
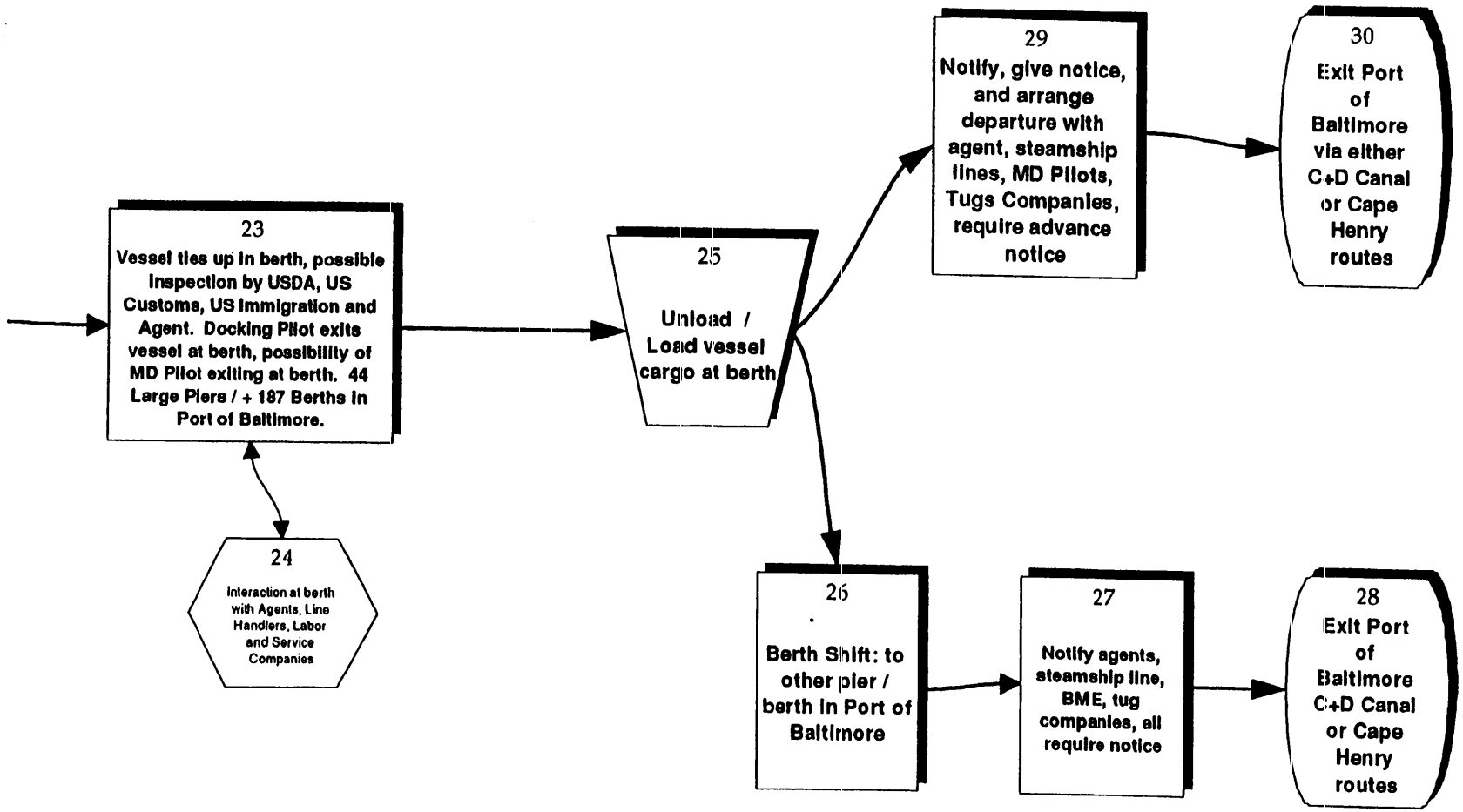


CHART 89



Page 3

CHART 89



Page 4

CHART 89

the Delaware Bay and River, as eastbound traffic. Restrictions for vessels entering the C&D Canal include a draft restriction of 33'6" along with a 136 maximum vertical clearance (bridge), and a combined beam restriction of 190'.

The geographical area where the Delaware Bay is adjacent to the Atlantic Ocean is referred to as the Overfalls area. On average it takes 9 - 10 hours for most of the larger vessels to move from the Overfalls area to the Port of Baltimore via the C&D Canal. Canal inbound vessels from the Delaware River and Cape Henolopen (Overfalls) areas which are headed towards the Port of Baltimore are required to call the Association of Maryland Pilot Office in Baltimore to give at least 3.5 hours advance notice of their estimated arrival time at Chesapeake City. Chesapeake City is located along the C&D Canal and is 58.5 miles from Baltimore via Swan Point Channel, or 46.2 miles from Baltimore utilizing the Brewerton Channel Eastern Extension. It is at Chesapeake City where the Delaware Pilot disembarks and the Maryland Pilot boards the same vessel. The total journey from the Overfalls area to Baltimore is a distance of approximately 124.5 miles and takes most vessel 10 to 12 hours. As mentioned, advanced notice of Chesapeake City arrival time is required by the Association of Maryland Pilot in Baltimore for inbound ships from the Delaware River and Overfalls areas. The Association of Maryland Pilot utilizes arrival information to organize its fleet of drivers in Baltimore in order to take one of its pilots to Chesapeake City for a boarding, or to pick up a Maryland Pilot on an eastbound journey.

The Corps of Engineers has a dispatch office in Chesapeake City. The Corps dispatchers have the responsibility to track vessel movement in and out of the Canal and regulate traffic. The Corps dispatcher usually is in phone contact with the Baltimore Maritime Exchange (BME) and other groups, and in radio contact with other vessels in the Canal heading eastbound out of Baltimore, or heading westbound towards Baltimore. To regulate traffic flow, the Canal itself has traffic lights and six cameras which are used by the dispatcher to monitor vessel movement activity. One of the most serious problems affecting vessel navigation in the Canal is fog, which in many instances will close down all traffic already in the Canal, and inbound Canal traffic.

The entrance point to the C&D Canal from its eastern side is a geographic reference point referred to as Reedy Point. Reedy Point is 59.2 miles from Baltimore through the Eastern Brewerton Extension, and 71.5 miles through the Swan Point channel. Usually vessels which enter into the Canal come from either the Atlantic Ocean via the Delaware Bay, or from the Delaware River. Vessels entering the Canal from the Delaware River typically come from the ports of Philadelphia, Wilmington or Camden. For vessels inbound from the Atlantic Ocean, it takes approximately 4 hours for most of the larger vessels to get to Reedy Point from the Overfalls area.

The next westbound Canal reference point along the Canal is Chesapeake City. The Corps of Engineers, the Maryland Pilots and the Delaware Pilots all maintain offices in Chesapeake City. Chesapeake City is, on average, 75 minutes from Reedy Point for most vessels. A westbound vessel in the Canal coming in from the Overfalls area or the Delaware River, will typically have either a Delaware, Philadelphia Pilot, or possibly a Federal Pilot aboard when the ship reaches Chesapeake City. Typically, at Chesapeake City the Delaware or Philadelphia Pilot will disembark the vessel and the Maryland Pilot will board.

Usually the Federal Pilots, if elected on the vessel, will stay with the same ship from original destination point to final destination point. Specific criteria must be met before a vessel can elect a Federal Pilot. Federal Pilots can be elected to board the vessels if the ship is a coastwise vessel, with a US Flag and US crew.

The next reference point coming from Chesapeake City for westbound vessels is Town Point, 5.5 miles from Chesapeake City. It takes most vessels approximately 60 minutes from Chesapeake City to Town Point depending on weather and other factors. Town Point is the last reference point for westbound Canal traffic before entering the Chesapeake Bay, and is located near the Elk River.

Vessels heading to the Port of Baltimore have the option to take the Brewerton Channel Eastern Extension to the Port. If vessels elect this route they will save approximately 60-75 minutes of travel time which translates into 12.3 nautical miles. Approximately 95% - 99%

of the vessels elect the Brewerton Channel Eastern Extension Route. The total time from Town Point to the Port of Baltimore utilizing the Brewerton Channel Eastern Extension is 4 hours. If vessel do not elect the Brewerton Channel Eastern Extension, the total time from Town Point to the Port of Baltimore is 5 hours. Vessels not using the Brewerton Channel Eastern Extension Channel come down from Town Point, past Tolchester to Swan Point, to the Craighill Channel, to the Brewerton Channel, to the Fort McHenry Channel into the Port of Baltimore.

In certain instances, vessels will take the longer route to Baltimore if they elect to clear specific situations delaying their entrance to the port. These delay situations could be due to circumstances where tugs are not ready to meet the inbound vessels due to their specific scheduling conflicts. Not all vessels leaving the C&D Canal head into the Port of Baltimore. Some vessels heading out of the Canal include vessels in transit heading to Cape Henry or vessels planning to anchor in the Annapolis Anchorage area below the Bay Bridge.

Vessels which come down the Chesapeake Bay and anchor in the Annapolis Anchorage area will be met by the Maryland Pilot Annapolis Launch Boat to take the Maryland pilot off (TPO) the vessel. Foreign and coastwise vessels which anchor are subject to inspection on the Annapolis Anchorage by both the U.S. Customs, USDA, surveyors, and others. Customarily, the agent for the vessel in the Baltimore area will also board the vessel at the anchorage to make general travel, provision, logistics, and other assistance to the crew, depending on the time period of the anchorage.

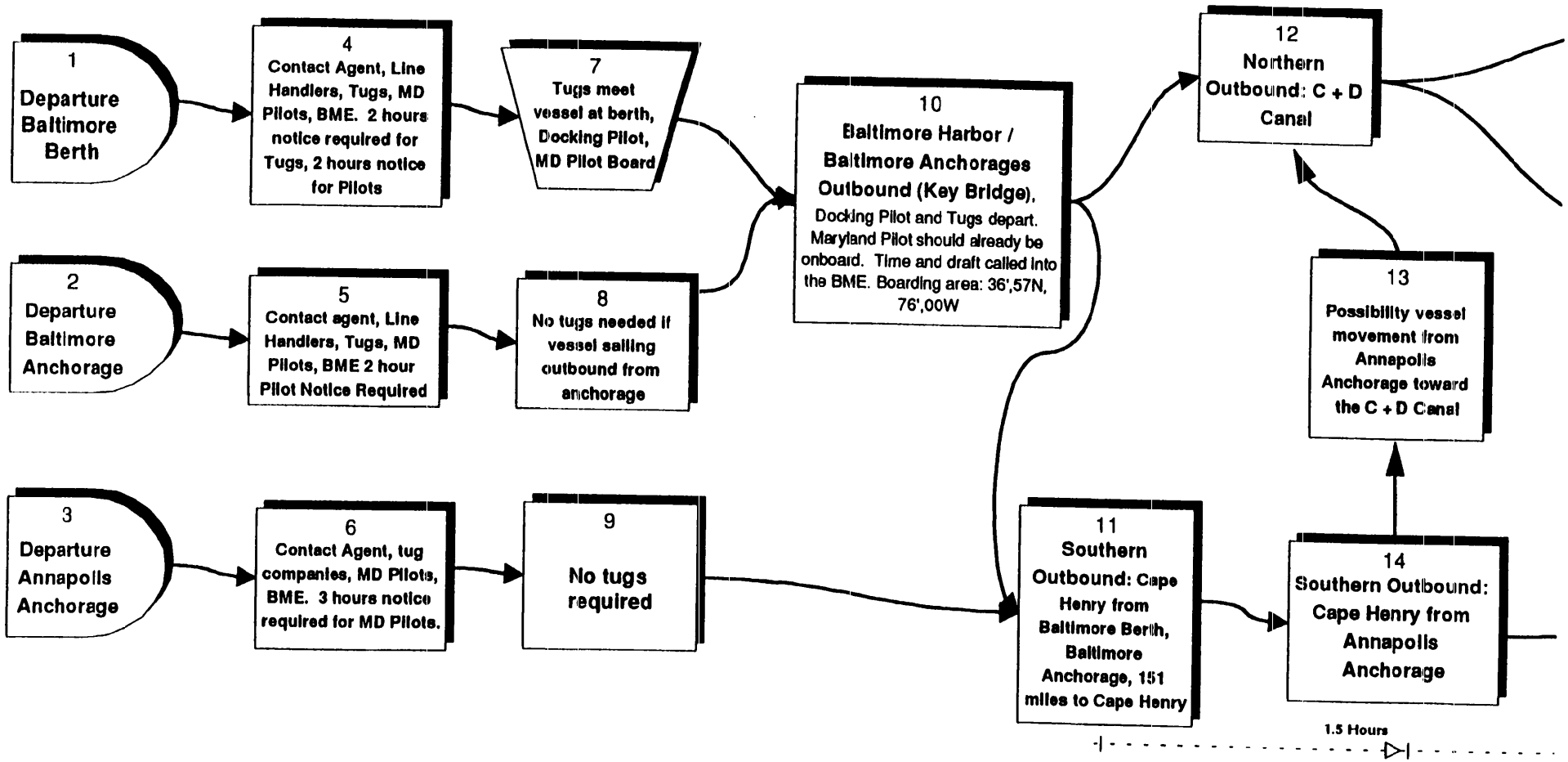
The determination on the number of tugs to meet the inbound vessel, the anchorage at which to anchor and many of the other decision points once the vessel passes the North Point area to its berth are identical to the descriptions found in the discussion of Cape Henry inbound vessel movements.

C&D Canal Outbound Route

After loading or unloading cargoes there is the possibility that the vessel will either

depart the berth and leave the port or move to another berth in the Port, to unload or load. When a vessel goes to multiple berths it is referred to as a berth shift. If there is a berth shift, the BME, tugs, lines, and agents are either given notice or informed. If the vessel is exiting the port, the following parties will be notified: agents, lines, tugs, BME and Association of Maryland Pilots. Usually the agents for the vessels are responsible for reserving pilots, tugs, linemen, stevedores, and for their vessels inbound and outbound. The outbound activities typically encountered during a vessel movement are presented in detail in Chart 90.

Outbound Baltimore: Cape Henry / C + D Canal



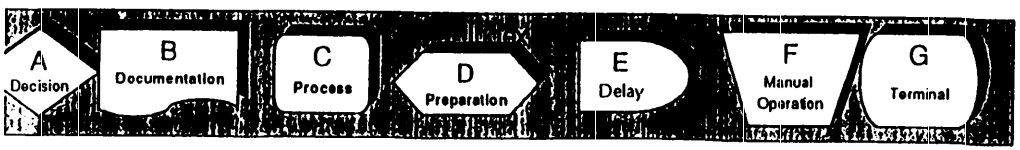


CHART 90

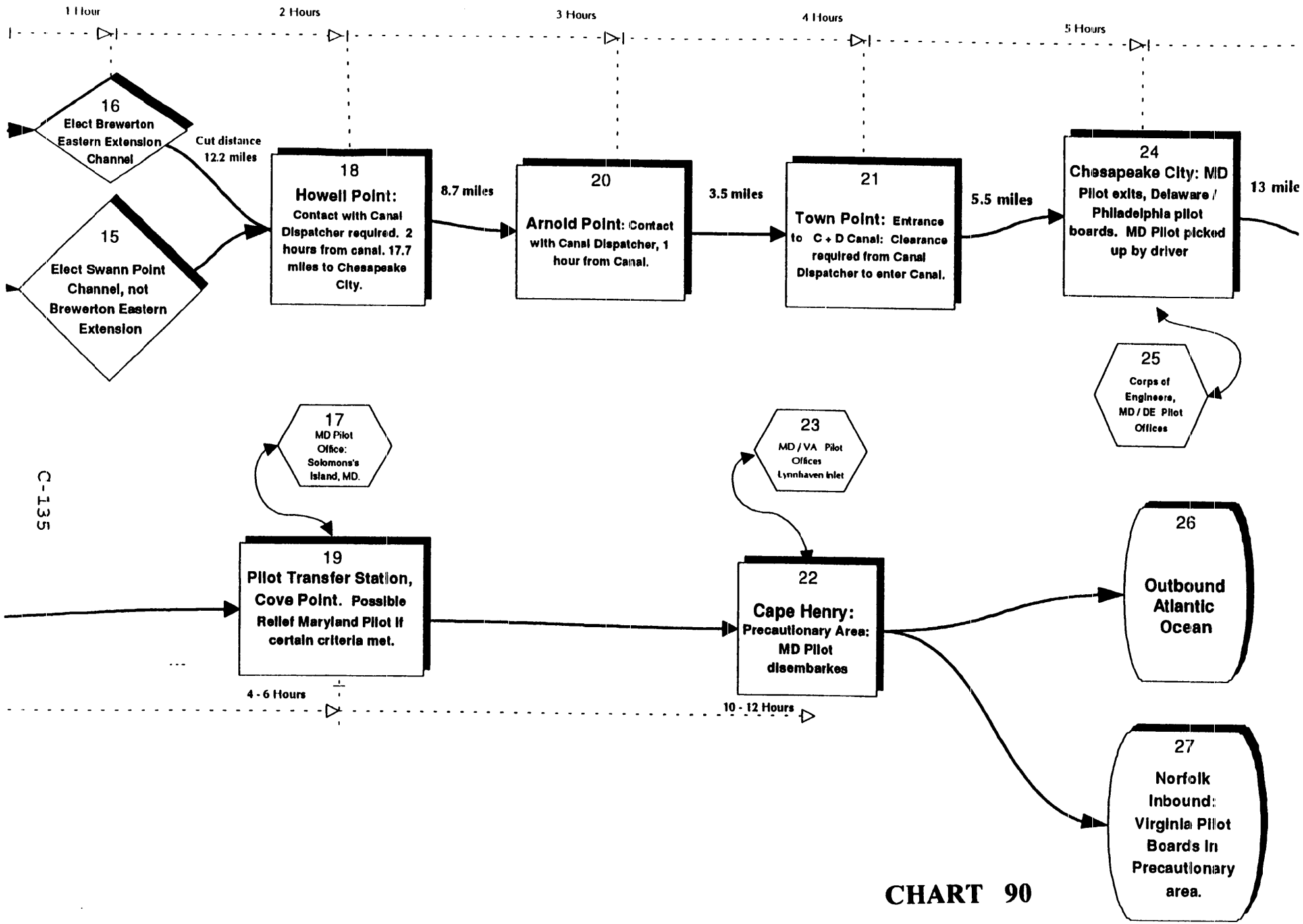
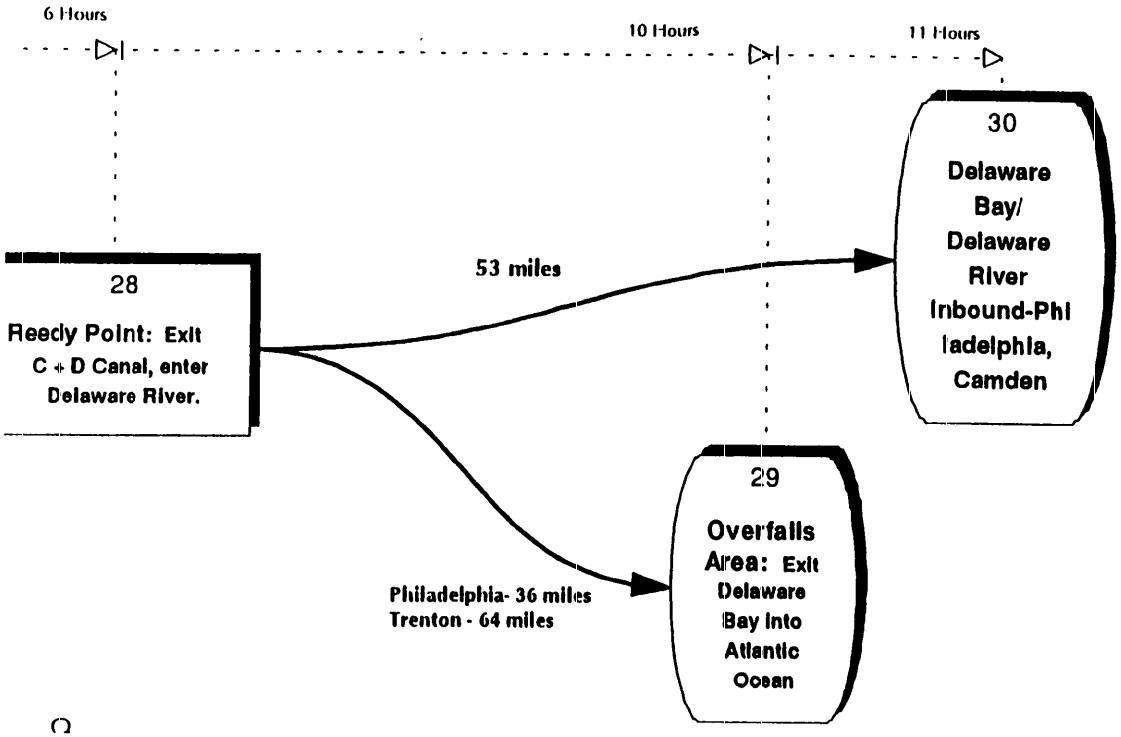

1 Hour
2 Hours
3 Hours
4 Hours
5 Hours
16
Elect Brewerton Eastern Extension Channel
15
Elect Swann Point Channel, not Brewerton Eastern Extension
Cut distance 12.2 miles
18
Howell Point: Contact with Canal Dispatcher required. 2 hours from canal. 17.7 miles to Chesapeake City.
8.7 miles
20
Arnold Point: Contact with Canal Dispatcher, 1 hour from Canal.
3.5 miles
21
Town Point: Entrance to C + D Canal: Clearance required from Canal Dispatcher to enter Canal.
5.5 miles
24
Chesapeake City: MD Pilot exits, Delaware / Philadelphia pilot boards. MD Pilot picked up by driver
13 mile
25
Corps of Engineers, MD / DE Pilot Offices
17
MD Pilot Office: Solomons's Island, MD.
19
Pilot Transfer Station, Cove Point. Possible Relief Maryland Pilot if certain criteria met.
4 - 6 Hours
23
MD / VA Pilot Offices Lynnhaven Inlet
22
Cape Henry: Precautionary Area: MD Pilot disembarkes
10 - 12 Hours
26
Outbound Atlantic Ocean
27
Norfolk Inbound: Virginia Pilot Boards in Precautionary area.

CHART 90



C-136

CHART 90

US Army Corps
of Engineers
BALTIMORE DISTRICT

BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MARYLAND

WITHOUT PROJECT CONDITIONS REPORT

Prepared as part of
BALTIMORE HARBOR ANCHORAGES AND CHANNELS INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

Prepared for
US Army Engineer District, Baltimore
10 South Howard Street
Baltimore, MD 21201

and

Maryland Port Administration

by:
DRI/McGraw-Hill
1200 G Street, N.W.
Washington, D.C. 20005

Without Project Conditions

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Annex B World Fleet Forecast Service Methodology

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Annex D Baltimore Maritime Exchange pcExpress Database

Annex E Forecasts of Vessel Calls by Vessel Type and Sailing Draft

Annex F Vessel Activity -- Terminal Usage

Annex G Landside Infrastructure at the Port of Baltimore

TABLE 18

PORT OF BALTIMORE'S LARGEST TRADING PARTNERS FOR YEAR 2050 IN METRIC TONS AND SHIPTYPES

Baltimore Vessels	Shiptype	South America East Coast to Port of Baltimore	Caribbean Basin to Port of Baltimore	Port of Baltimore to South America, E. Coast	Port of Baltimore to E. Europe	Port of Baltimore to Other Med	N. Europe to Port of Baltimore	Port of Baltimore to N. Europe	Australia/New Zealand to Port of Baltimore	Port of Baltimore to S. Europe	Port of Baltimore to Japan
Gen Cargo >10,000	AA	2,940,096	593,557	1,125,047	1,510,158	482,741	212,729	178,848	304,227	216,086	16,057
Gen Cargo <10,000	AB	12,794	0	85	0	0	24,459	5,374	0	136	122
Cellular < 1000 TEU	A1	1,441,431	6,339	205,947	0	1,380	92,043	135,147	8,671	278	251
Cellular 1000-2499 TEU	A2	2,805,507	86,586	3,054,305	7,878	296,354	281,100	389,569	63,326	221,865	65,529
Cellular 2500-3999 TEU	A3	2,048,442	47,707	1,798,419	10,124	165,863	351,623	679,032	36,833	179,365	148,637
Cellular 4000-5999 TEU	A4	1,666,033	18,490	897,618	13,960	68,762	330,691	731,620	17,603	95,482	135,212
Cellular 6000-7999 TEU	A5	0	0	0	0	0	0	0	0	0	0
Cellular = >8000 TEU	A6	0	0	0	0	0	0	0	0	0	0
RoRo >10,000	AE	346,441	0	349,151	623,644	56,269	625,750	709,271	65,793	80,065	11,146
RoRo <10,000	AF	0	0	0	2	13,584	272	0	0	14,132	0
Reefer	BA	6,889	2,260	0	0	0	1,888	382	54	0	0
Bulk <20,000 DWT	DA	0	0	0	166	0	51	101	0	3,481	0
Bulk 20K to 40K DWT	DB	1,010,304	5,264,181	227,618	5,103	948,777	28,460	18,335	0	70,501	0
Bulk 40K to 80K DWT	DC	1,097,492	3,676,421	853,872	2,689,268	1,367,048	145,757	149,760	499,955	345,748	39,418
Bulk 80K to 100K DWT	DD	385,587	592,811	219,060	1,466,389	440,635	38,245	48,491	293,465	163,798	13,557
Bulk 100K to 175K DWT	DE	869,682	236,232	111,914	1,192,976	692,460	19,700	142,160	244,969	214,642	236,178
Bulk >175,000 DWT	DF	501,913	36,392	20,475	322,386	360,844	3,621	88,574	67,156	97,133	168,124
Combo <20,000 DWT	EA	0	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	EB	0	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	EC	0	0	0	0	0	0	3,419	0	0	0
Combo 80K to 100K DWT	ED	0	0	0	0	0	0	1,903	0	2,032	0
Combo 100K to 175K DWT	EE	0	0	0	0	0	0	10,471	0	16,366	0
Combo 175,000 DWT	EF	0	0	0	0	0	0	7,374	0	11,478	0
Tanker < 16,500 DWT	FA	0	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	FB	0	0	0	0	0	10,611	0	0	0	0
Tanker 25K to 45K DWT	FC	0	1,547,333	0	0	66,742	24,970	0	0	176	0
Tanker 45K to 80K DWT	FD	0	1,158,094	0	0	37,155	26,972	44,997	0	98	0
Tanker 80K to 160K DWT	FE	0	391,620	0	0	9,768	83,409	25,050	0	26	0
Tanker 160K to 250K DWT	FF	0	80,773	0	0	1,611	42,806	6,585	0	4	0
Tanker >250,000 DWT	FG	0	12,804	0	0	204	12,980	1,224	0	1	0
Prod. Tanker < 16,500 DWT	PA	0	0	0	0	0	0	0	0	0	0
Prod. Tanker 16.5K to 25K DWT	PB	65,774	296,692	0	5,618	56	34,743	4,599	0	38	14
Prod. Tanker 25K to 45K DWT	PC	1,509,807	461,861	47,045	3,128	31	42,218	41,900	0	164	8
Prod. Tanker 45K to 80K DWT	PD	1,566,348	208,589	26,190	822	8	17,820	22,574	0	85	2
Prod. Tanker 80K to 160K DWT	PE	1,967,891	59,560	8,165	153	2	4,915	6,953	0	26	0
Gas Tankers	GA	0	0	0	0	0	0	23,614	0	0	0
Vehicle Carriers	HB	0	0	0	0	0	1,995,040	870,315	0	0	0
Other Ships	XX	797,275	0	0	0	0	204,843	0	2,732,023	0	0
TOTALS		21,039,706	14,778,302	8,944,911	7,851,775	5,010,294	4,657,716	4,347,642	4,334,075	1,733,206	834,255

BALTIMORE HARBOR ANCHORAGES AND CHANNELS FEASIBILITY STUDY

Without Project Conditions

Purpose

This report describes the without project conditions developed for the Baltimore Harbor Anchorages and Channels Feasibility Study for the year 2000 and beyond. This discussion includes a presentation of the without project forecasts of commodity volume and vessel fleet distribution for trade through the Port of Baltimore. The distribution of trade by route is presented for the major trade routes discussed in the Existing Conditions report prepared as part of this study. Also included is a description of the methodology used for identifying and forecasting the cargo and ballast moves for the Port of Baltimore for the without project conditions. Detailed presentations on the various econometric models used to develop the forecasts are presented in the annexes following the report, along with a detailed breakdown of vessel calls on the Port of Baltimore.

Methodology and Assumptions

Forecast Methodology

This section is divided into three sections: (1) the methodologies used in DRI's forecast and (2) the assumptions underlying those methodologies; and (3) a discussion of the risks and uncertainty factors that should be considered when analyzing forecast results.

The baseline forecast for this study uses the "First Quarter 1995 DRI/Mercer World Sea Trade Service (WSTS) Forecast" released in March 1995 to make special projections for the Baltimore Harbor Anchorages and Channels analysis. (Annex A explains the WSTS forecast in detail.) At the time of the forecast Europe was in the midst of a recession and topical issues

included the "peso crisis" from December 1994 and an all time weak dollar against the yen and the Deutsche Mark. While Mexico is not terribly important to Baltimore itself and its crisis status dissipated quickly, it illustrates the recurring theme of interdependence of world markets which is key to the DRI approach.

The WSTS model itself is derived from the more complex DRI trade models. The trade models forecast trade in value terms using a complex econometric approach in which goods traded are subdivided into 59 product groups for 34 reporting countries' trade with major partner countries and regions. Each of those product groups is modeled separately incorporating macroeconomic forecasts for prices, market size, production, consumption, relative wealth (to size future markets) and historic trading patterns. The forecast covers trade through 2010. The WSTS model converts those dollar figures to tons and assigns the cargo to a shiptype. For the U.S., information for six standard coastal ranges is also available.

The long-term parameter forecast is an extension of the trade forecast beyond 2010. It covers the same information available in the standard WSTS and is first estimated in value terms. It uses a parametric model to keep the growth rates within reasonable boundaries.

In the World Fleet Forecast Service (WFFS), the WSTS output is assigned to 38 different vessel types and sizes of vessels by route. This model uses supply data from Lloyd's Maritime Information Services (LMIS) and demand data from DRI's WSTS model to project the future structure of the world merchant shipping fleet. For each route the model aggregates over commodities to generate the total amount of trade moving on each route by vessel type. Total cargo by shiptype is used to project shiptype capacity based on projected capacity utilization. The WFFS model then calculates the number of voyages needed to carry the allocated cargo, based on exogenously determined per-voyage capacity and voyages per shipyear. The ratios are generally projected to be decreasing as larger ships come on line in response to increased international trade and/or replacement.

The coastal outlook is then linked to port specific information and the port's trade and vessel activity is forecasted based on the assumption that the port's share of the coastal region it is part of will remain constant in the forecast period. For this project, additional vessel detail based on the Baltimore Maritime Exchange data on movements within the port and to and from anchorages was also linked to the forecasts. The projected growth by commodity between 1993 and 2000 is shown in Table 3 (Exports) and Table 5 (Imports). The projected growth by vessel type is included in Table 19.

Base Year 2000

The forecast for the year 2000 is the base year for the proposed project and therefore the base year for the study. The forecasts of trade and vessel fleet distribution are based on data as available in March 1995. The underlying U.S. regional, national, macroeconomic and world industry forecasts are the most current available as of March 1995. From these forecasts, new cargo and fleet forecasts were prepared for trade through the Port of Baltimore.

Years 2000 - 2050

The underlying forecast of world commodity trade and the cargo fleet for the years 2000 through 2010 were taken directly from the regular DRI/Mercer World Sea Trade Service and DRI/LMIS (Lloyd's Maritime Information Service) World Fleet Forecast Service (WFFS) forecasts available in March 1995. (Annex B is the methodology for the WFFS forecast; Annex C contains the methodology specifically developed for this long-term forecast.)

These forecasts of long-term activity in the Port of Baltimore are grounded in DRI's short-term forecasting models and include First Quarter 1995 commodity and vessel fleet information. These econometric models are based on global economic, demographic, and

political activities and related trading patterns and are not constrained by factors such as existing infrastructure. The port-specific forecasts for the Port of Baltimore are also unconstrained. Indeed, one of the many purposes served by forecasting commodity and vessel activity is the estimation of future infrastructure needs.

The commodity and vessel fleet forecasts developed by DRI and presented in this report were used as input to a simulation model developed for the Baltimore District, Corps of Engineers and the Maryland Port Administration as part of the Baltimore Harbor Anchorages and Channels Feasibility Study. This model simulated vessel movements within the Port of Baltimore for specific "benchmark" years and contributed to the establishment of the "without project" condition. The simulation model also served as the tool by which various alternative deepwater improvements were evaluated.

During execution of the many simulation runs, model output indicated that the port system experienced inordinate delays in moving the projected vessels through the system in the year 2030 timeframe. It was determined that known infrastructure and productivity rates (both existing and planned) would not satisfactorily accommodate the tonnages and vessels forecast for the Port after the year 2030 (all other infrastructure elements remaining the same). For this reason, the evaluations utilizing these forecasts conducted by the Baltimore District Corps of Engineers excluded consideration of commodity and vessel traffic growth reflected in the unconstrained forecasts for the years 2040 and 2050. Chart 1 illustrates the forecast process.

CHART 1

DRI'S FORECAST PROCESS

... begins globally ...

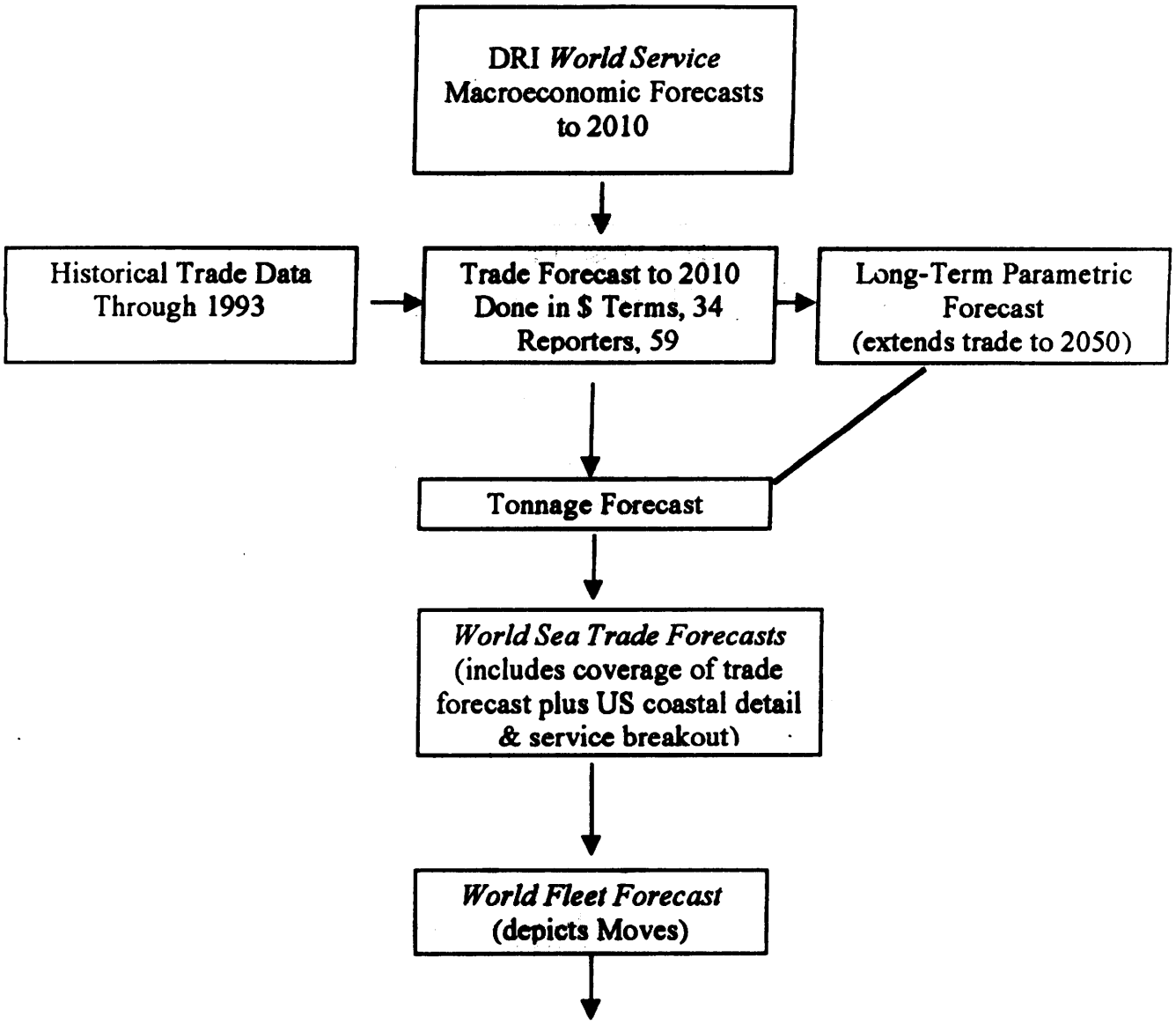

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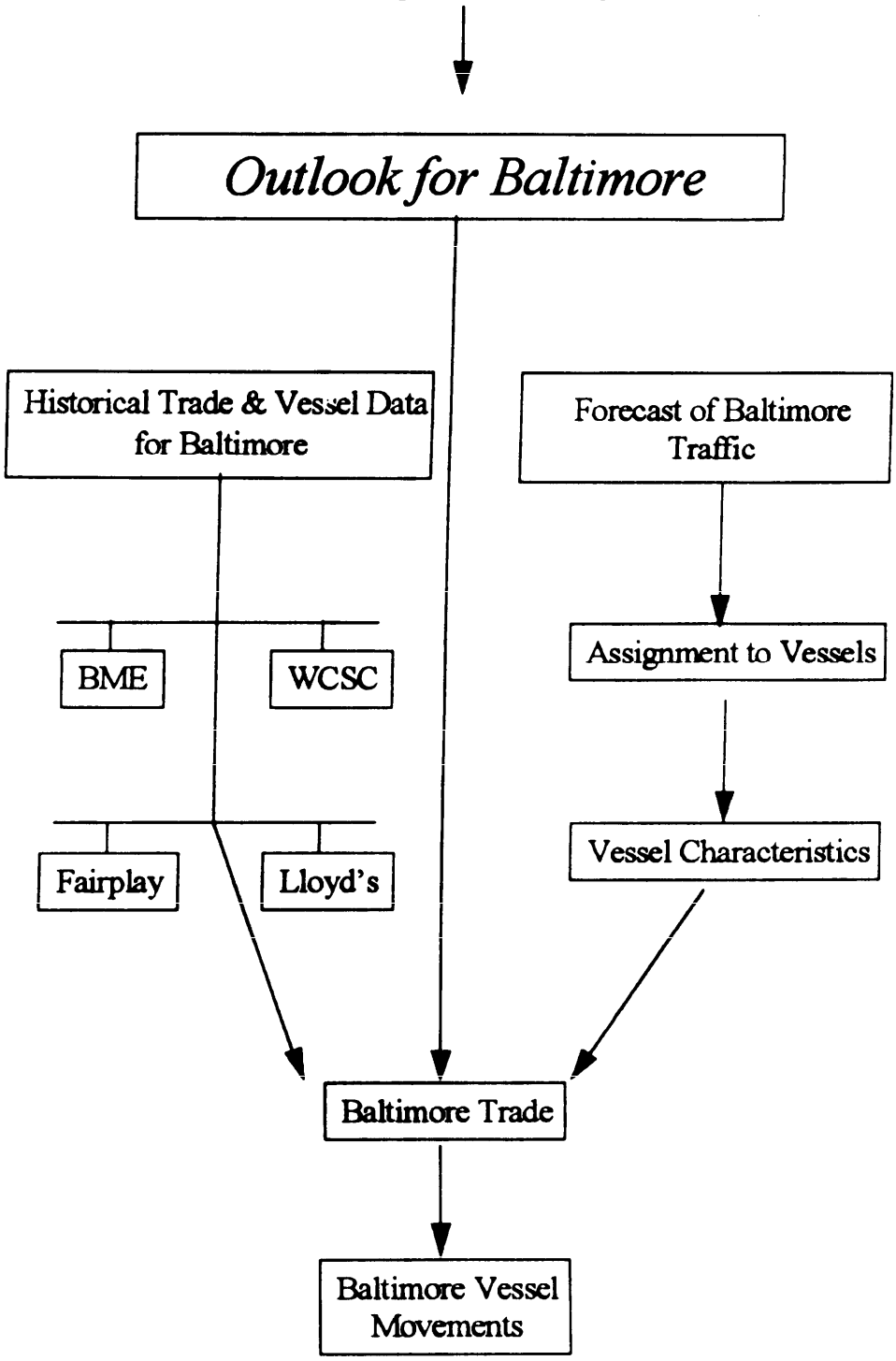
CHART 1 (cont'd)

... and finishes locally...



Assumptions Used in the Forecast Process

Forecast assumptions used in this project essentially fall into two categories: those relating to the port and transportation and those economic in nature that drive the trade forecast.

Transportation & Port-Level Assumptions

The forecast model is demand driven, that is, it assumes that there will be the capacity in place to handle the trade (demand) projected and does not specifically address supply issues. It also assumes that each portion of the current mix of traded commodities and partners will increase at the projected growth rate. The forecast does not assume changes in the port's market area. It is the fully forecasted total U.S. outlook and each port's relative share that drives projected port figures. Ports will therefore have different outlooks because of their different trade concentration (commodity and partner) based on the different growth rates each commodity and partner is expected to have at the national level. The mapping of cargo to types of vessels is based on the cargo carried on specific vessels and voyages in the base period.

Economic Assumptions used in the Trade Model

Assumptions underlying the cargo and fleet forecast are based on detailed forecasts of the U.S. and global economies. At the time of the forecast in March 1995, many of the major economies were grappling with periods of slow growth or recession, and unlike the United States, most had yet to experience a sustained recovery. On the other hand, many of the newly industrializing regions of Latin America and Asia were growing strongly. Because Baltimore trades heavily with Europe, Europe's recession impacted the outlook for Baltimore. In other words, the recessions that occurred in the industrialized countries between 1991 and 1994 impacted the forecast for Baltimore due to the significant proportion of Baltimore trade

represented by trade with Europe and the impact of the declines in those markets on the base trade levels for Baltimore. At the same time, the declines in the European trades overshadowed the strong growth in trade with developing markets in Latin America and Asia. While the WSTS forecasts are based on forecasts for each commodity traded with each of the individual trade partners, the magnitude of the European trades and the short term declines in key commodities in that trade had a significant effect on the base Baltimore trade levels and, as has been discussed, while WSTS forecasts growth in those significant commodity flows, the pace of recovery was ultimately faster than the growth projected.

Short-Term Outlook -- 1990-1996

After a period of strong economic growth in the late 1980s, expansion of world economic activity, especially among the industrial countries, was disappointing in the mid-90s. Since 1990 the world economy's growth had averaged under 2 percent, and unemployment in the major developed countries had risen.

Overall world growth was hampered by a desynchronized recession in the industrialized countries. Recessionary pressures had been building for some time due to asset deflation and high debt levels, but the downturn was triggered by the August 1990 Iraq-Kuwait conflict and the consequent rise in oil prices. In some economies, such as the U.S., U.K., Canada and Australia, these developments destroyed the confidence of consumers and businesses, a confidence that had allowed them to shrug off the impact of rising interest rates during the late 1980s. The downturn that followed was sharp, drastically cutting average growth in 1990 and leading to sharp falls in output in 1991.

The recession in output growth in Europe did not begin until the middle of 1992 and continued through the start of 1994. High rates of inflation in Germany, triggered by the heavy cost of reunification of the two Germanys, led to a succession of rate hikes, which were

passed on through the exchange rate mechanism to other countries. As a result, growth slowed through 1993 and 1994. In the next few years, the forecast analysis indicates that world growth will again accelerate slowly. Demand growth will continue to accelerate in most of the industrialized countries during 1994-95, while the newly industrializing and developing economies will continue to show strong growth that is often 3 to 4 percent higher, in real terms, than the industrialized economies. Although the gap between industrial and developing country growth rates is expected to narrow over the next few years as the industrialized countries recover, it still will be significant. This higher growth path is sustainable, particularly in Asia and much of Latin America, because of higher savings rates, higher investment, rising domestic consumption levels due to rising income, and increased export competitiveness among themselves and with the industrial countries.

In 1995, Europe and Japan were expected to continue their recovery buoyed by lower interest rates and rising consumer demand. The U.S., however, will exhibit slower growth as Federal Reserve tightening dampens the strength of the economic recovery. The result of all these changes is that U.S. export growth should be faster and U.S. import growth slower in 1995.

The Medium Term Outlook, 1997 - 2000

In determining the outlook for the world economy until the end of the century, our analysis focuses on two key aspects:

1. The likely extent of any spare capacity in the world economy and its affect on inflation, interest rates and, hence, potential economic activity,

2. The expansion of potential supply coming from increased labor availability, rising capital stock and technological improvement.

In the industrialized countries, growth over the next few years is unlikely to be fast enough to remove all the current large overhang of spare capacity. Despite economic recovery,

continual debt overhang and government deficits will moderate the speed of the recovery. Moreover, unemployment will continue to be high, especially in Europe. At the same time, the existence of this spare capacity means that inflation will remain subdued. The combination of spare capacity and low inflation will allow output growth to outpace capacity growth over the latter part of the 1990s.

It is useful to put the forecast for capacity growth into a historical context. During the long expansion, which lasted from 1982 to 1991, the world economy grew at an average rate of 3.2 percent. Over the 1996 to 2000 period, world economic capacity is projected to grow at around 3.3 percent a year -- very near the performance during the 1980s expansion. In supply-side terms, this growth comes from various sources. The contribution from the capital stock is slightly higher as investment rates have improved. However, contribution from labor is falling as world population growth slows, while the contribution from technological progress remains around 1 percent a year. While this represents the world average, it is important to note the significant difference between the growth tracks of the average mature industrial economy (about 2 to 2-1/2%) and the more successful developing economies (5-6% per year).

The growth projections represent the most likely scenarios, but it is important to consider which downside risks may alter these scenarios. Two sets of assumptions are most critical. First, as noted in more detail later, oil prices (and associated energy prices) are assumed to grow moderately without significant disruption. A detailed examination of demand and supply conditions support this as the most likely outcome. Second, it is assumed that trade conditions under a concluded GATT will, in general, continue to improve. While bilateral trade disputes are inevitable, no significant rise in protectionism between the U.S. and Europe and Asia is assumed in this forecast. Clearly, a significant trade war or protectionist movement would lower the outlook for trade growth, but this remains as a less probable risk at the time of this analysis.

Traditionally, a one percent expansion in world output has been accompanied by a more than 1 percent increase in world trade, where a 3 percent economic growth normally led to a 5 to 6 percent growth in trade. This trend is expected to continue over the medium and long term. Over the 1996 to 2000 period, world trade volumes are projected to expand by 5.7 percent a year, over one and a half times as fast as the rise in world output.

The Long Term Outlook -- 2001-2050

In the first decade of the 21st century, overall economic growth is expected to moderate to approximately three percent per year. Compared with the previous five years, the contribution from labor is lower, as population growth is slowly declining, while in the industrialized countries, participation rates (the proportion of the population enrolled in the labor force) are stabilizing after a long period of trend increase. Slower growth in the labor force causes world investment levels to increase as firms replace labor with capital. This maintains growth in the capital stock and helps maintain the expansion of world economic capacity, and given the significance of capital goods trade to the United States, insures relatively strong growth in U.S. exports well into the next century. Supported by rising investment, the contribution from technological progress remains close to one percent a year, although total factor productivity growth in this period is beginning to be slowed by the elimination of the easiest cases of technological catch-up. Asia is still expected to provide most of the leading growth economies, although some successfully transformed areas of Eastern Europe should be showing rapid improvement as they slowly integrate economically into the European market.

Trade growth within this context can be expected to moderate slightly on an overall basis. Much of the impetus for rapid trade growth in the 1980s and 1990s was due to liberalization and marketization trends that will have reached maturity. Moreover, the gap between trade

growth and economic growth will narrow as foreign investment substitutes local production for exports in many regions. As a natural consequence, trade cannot continue to expand indefinitely as a percentage of economic activity. Given the significant number of factors that do encourage cross border interactions, however, this narrowing of the trade and economic growth gap can be expected to be quite gradual.

Within the context of differing patterns of growth are underlying assumptions and forecasts that relate to the larger economic, political and social factors that shape the development of the world economy. Key factors include moderate increases in crude oil prices, a continuation in the pace of reform and positive regionalization of global trade and economic activity. The following charts illustrate some of the economic trends.

CHART 2

WORLD ECONOMY MOVING OUT OF SLOW GROWTH PHASE

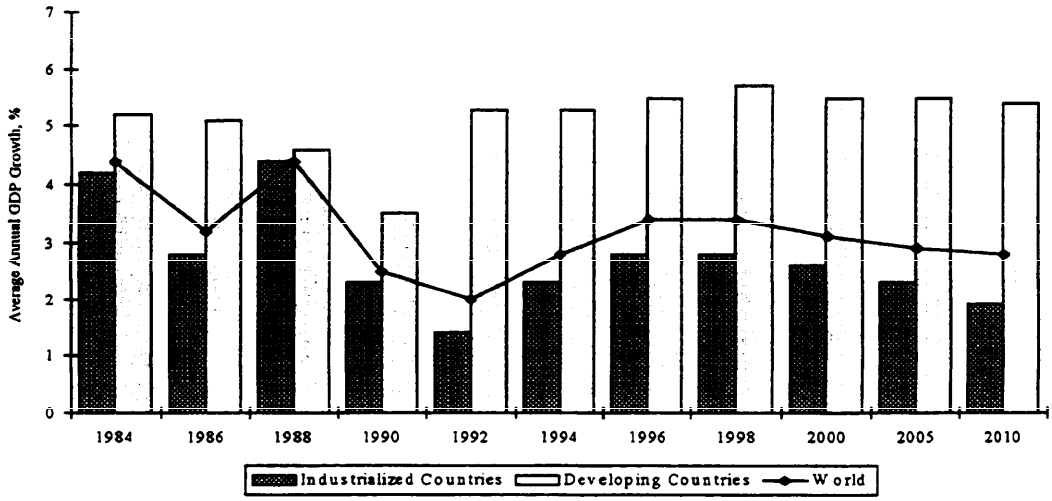


CHART 3

WORLD CRUDE OIL PRICES REFLECT MODERATE DEMAND GROWTH

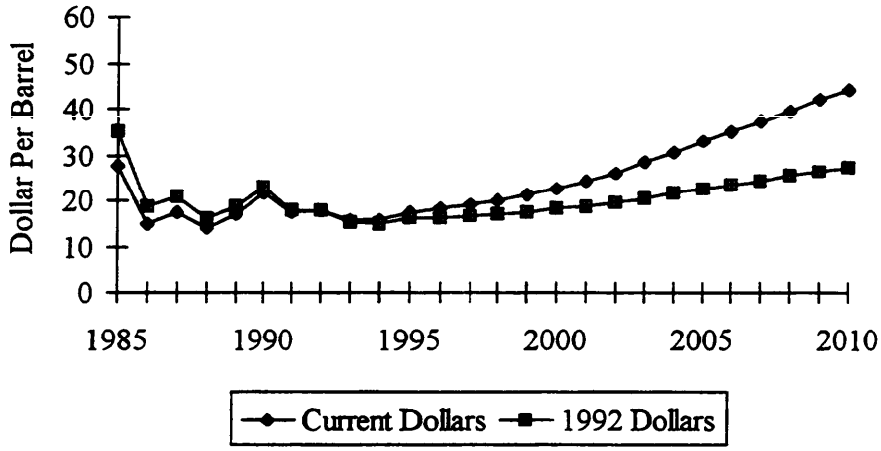
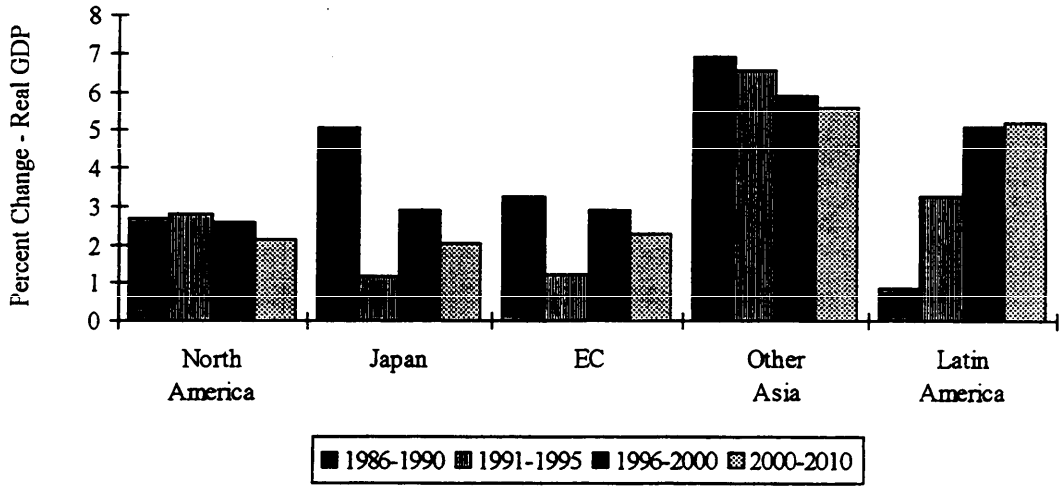


CHART 4
PROJECTED ECONOMIC GROWTH BY REGION



Risk & Uncertainty Factors

Based on the information about current and future trade and vessel patterns as specific as those for Baltimore, the Army Corps can effectively evaluate Baltimore's problems associated with its limited anchorages, circuitous channels and associated hazards.

As with any forecast, there are risks and uncertainties that could be associated with any of the DRI models used or for that matter with any of the assumptions or any piece of underlying data. Some of the more general risk elements include:

1. Alternative outlooks for U.S. regional activity that could affect port activity

   the U.S. North Atlantic coast was growing more slowly than other U.S. regions, particularly noticeable was the relatively slow trade growth from the North Atlantic region.

2. Alternative international growth scenarios could affect port activity

   had growth been better in Europe in 1992 through 1994, the conservative base volumes and trade volumes projected would have been higher in Baltimore

3. Port may not maintain constant share of coastal trade at historic levels

   the base WSTS forecasts for the Port of Baltimore assume maintenance of the base historic port share of the North Atlantic Coast. This could be altered in different scenarios

4. Alternative local industrial specialization

   a different industrial emphasis in a local region may affect its commodity mix & thus trade

5. Marketing by the port to attract new trade or by competitors could affect commodity mix

   e.g., Norfolk could arrange competitive inland rates to attract Pennsylvania's coal from Baltimore

6. Port technology and availability of inland transportation facilities (trains, roads, etc)

capacity is assumed available to handle the demand (refer to Annex G for information on Port of Baltimore capabilities)

7. Underlying assumptions linking cargo to specific vessels.

alternative changes in vessel technology and/or size may be tested. The baseline forecasts are based on the WFFS forecasts by vessel type.

8. Conservative forecast means remaining risk on greater cargo and traffic is higher

Because the forecast of Baltimore's exports conservatively included growth in key markets that declined in the 1993/1994 overseas recessions and did not incorporate short term recoveries of the magnitude that have since occurred, the probability or risk of future market levels falling short of the forecasts is less than the probability that future markets will exceed the forecast.

9. Oil prices (and associated energy prices) are assumed to grow moderately without significant disruption

Gulf War triggered oil price rise

10. Trade conditions assumed to continue to improve (under GATT)

a trade war or protectionist measures would lower trade outlook

Major Commodities Forecast

Baltimore handled 23 million metric tons of foreign cargo in 1993. By 1995 the volume of the international cargo handled in Baltimore was forecasted to increase to 25 million metric tons. (Actual foreign tonnage through the Port of Baltimore in 1995 totaled 28 million metric tons.) Both economic growth abroad and continued economic growth in the U.S. (locally and in the U.S. mid-West) were believed to spur this growth. Much of this tonnage is from bulk commodities. Outbound the largest export by far is coal -- much of it used to generate electricity in Europe and Japan. Inbound, historically iron ore (much of it from Canada and

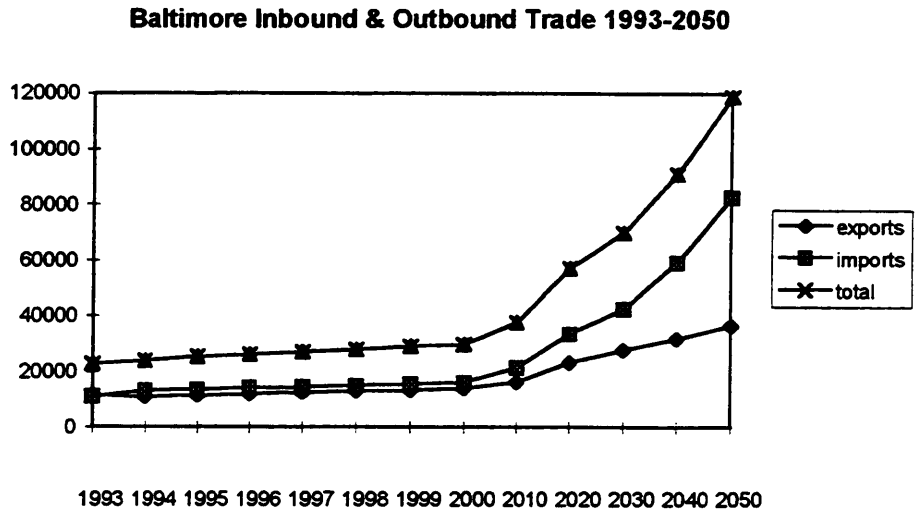
Brazil) tops the imports by weight, but the product mix is more diverse than outbound. By 2000, it was estimated that foreign cargo handled would grow to 29 million metric tons and to 56 million metric tons by 2020. The 2050 forecast figures show increased trade strength, with the volume of foreign trade up to 118 million metric tons as reflected in Table 1.

The relationship between outbound and inbound foreign cargo flows has changed over time (see Chart 5). In the early 90s, exports exceeded imports in tonnage terms. In 1993, the amount of exports to imports was almost the same as export cargoes declined. In 1994 Baltimore's imports grew rapidly, especially iron ore imports from Brazil, while exports fell, particularly in grains. This created a trade imbalance for Baltimore that year in which exports represented only 84 percent of imports total tonnage. Because that imbalance occurred historically, the (port share of the coast) forecast method employed for the port of Baltimore conservatively carried that imbalance and the lower exports into the forecast. In 1995, exports were expected to be 86 percent of imports. By 2010, exports were projected to be just 75 percent of total imports and by 2020, 70 percent of imports. The release of subsequent historical data, however, shows 1995 foreign trade for Baltimore in virtual balance -- about 13 million metric tons in each direction (with increases particularly noticeable in grain and coal exports by 1995). The increase in exports in 1995 would increase the projected volumes and reduce the projected imbalances. The forecast used for the "without project" analysis, therefore, was and continues to be a conservatively low projection of future volumes through the Port of Baltimore since the recent figures indicate projected import tons are likely to be achieved while the recovery in exports indicate export flows will exceed projected levels..

CHART 5

PORT OF BALTIMORE TOTAL FOREIGN TRADE, INBOUND AND OUTBOUND FOR 1993-2050

Based on 000s metric tons



Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

The commodity profile of Baltimore's foreign cargo in tonnage terms is projected to continue to closely resemble its historical patterns. The commodity detail available for Baltimore based on the 40 WSTS commodities is shown in Table 1. Bulk commodities especially will remain a significant portion of this trade's total tonnage.

Referring to Table 1, commodities are listed in decreasing order for the total trade for the Port of Baltimore for 1993 - 2050. As indicated, bulk commodities dominate by total metric tons, however growth rates for cargoes will vary; many non-bulk products will expand far more rapidly than bulk products. For example, healthy growth rates exist in auto parts/motorcycles, light industrial machinery, heavy transportation equipment, and pharmaceuticals.

TABLE 1
TOTAL FOREIGN TRADE FOR PORT OF BALTIMORE FROM 1993-2050
Commodities in Metric Tons, Growth Rates on Compounded %

	Commodity	1993	2000	2010	2020	2030	2040	2050	Growth Rates 1993-2000	Growth Rates 2000-2010	Growth Rates 2010-2020	Growth Rates 2020-2030	Growth Rates 2030-2040	Growth Rates 2040-2050
19)	Coal & Coke	8,615,467	9,901,954	9,393,883	14,035,105	15,538,891	16,026,129	15,786,893	2.01	-0.53	4.10	1.02	0.31	-0.15
16)	Iron Ore	3,279,103	4,386,735	5,240,671	8,267,596	7,828,333	11,697,801	17,614,444	4.24	1.79	4.66	-0.54	4.10	4.18
14)	Cement, Lime & Stone	2,004,274	3,309,275	5,400,544	8,791,689	11,476,596	15,015,994	19,597,564	7.43	5.02	4.99	2.70	2.72	2.70
4)	Grain	1,389,019	1,434,750	2,055,866	2,008,112	1,816,502	1,561,411	1,317,153	0.46	3.66	-0.23	-1.00	-1.50	-1.69
8)	Oilseeds	966,008	809,054	721,731	705,321	648,666	616,736	602,596	-2.50	-1.14	-0.23	-0.83	-0.50	-0.23
21)	Petroleum Products	729,667	1,177,846	1,720,310	3,069,924	5,075,684	7,857,586	11,485,117	7.08	3.86	5.96	5.16	4.47	3.87
5)	Sugar	617,242	585,544	508,649	1,283,067	1,835,225	2,195,840	2,589,872	-0.75	-1.40	9.69	3.64	1.81	1.66
30)	Iron & Steel	606,644	1,004,240	1,265,980	1,778,625	1,982,594	2,231,765	2,587,102	7.47	2.34	3.46	1.09	1.19	1.49
17)	Bauxite & Oth. Base Metal Ores	462,121	420,276	546,647	750,117	1,022,585	1,379,355	1,739,962	-1.35	2.66	3.21	3.15	3.04	2.35
35)	Passenger Cars	366,141	624,513	1,122,153	1,130,271	1,374,347	1,758,621	2,175,244	7.93	6.04	0.07	1.97	2.50	2.15
12)	Pulp & Waste Paper	336,362	646,871	1,318,041	1,544,201	1,229,279	1,525,138	1,871,355	9.79	7.38	1.60	-2.25	2.18	2.07
24)	Other Chemicals	322,189	463,109	598,616	936,996	1,457,414	2,319,441	3,489,554	5.32	2.60	4.58	4.52	4.76	4.17
11)	Lumber & Wood	311,874	474,026	703,579	966,806	1,111,446	1,234,206	1,331,073	6.16	4.03	3.23	1.40	1.05	0.76
34)	Heavy Trans. Equip.	305,124	564,482	903,416	1,885,932	2,850,911	4,148,697	5,964,698	9.19	4.82	7.64	4.22	3.82	3.70
31)	Non-Ferrous Metals	268,568	494,522	820,415	1,733,020	2,979,402	4,661,431	6,901,417	9.11	5.19	7.76	5.57	4.58	4.00
6)	Food Products	241,271	341,307	490,570	728,574	960,405	1,336,263	1,924,621	5.08	3.69	4.03	2.80	3.36	3.72
39)	Consumer Goods	235,033	353,581	514,196	971,082	1,538,398	2,405,344	3,622,146	6.01	3.82	6.56	4.71	4.57	4.18
18)	Other Ores & Scrap	210,514	286,503	370,939	450,873	553,281	669,059	836,033	4.50	2.62	1.97	2.07	1.92	2.25
33)	Light Industrial Mach.	203,731	282,116	381,045	640,600	1,145,443	1,961,129	3,145,509	4.76	3.05	5.33	5.98	5.52	4.84
28)	Paper	185,149	269,904	408,057	675,412	1,188,673	1,882,484	2,740,291	5.53	4.22	5.17	5.82	4.70	3.83
28)	Plastics & Chemical Prod.	162,545	260,958	455,887	689,028	870,821	1,087,022	1,349,803	7.00	5.74	4.22	2.37	2.24	2.19
29)	Other Min. & Metal Manu.	154,238	237,683	305,382	610,418	897,959	1,336,819	1,963,523	6.37	2.54	7.17	3.94	4.06	3.92
3)	Fruits & Vegetables	124,979	177,568	228,399	412,033	523,381	666,041	826,104	5.15	2.55	6.08	2.42	2.44	2.18
36)	Auto Parts/Motorcycles	119,500	196,948	321,670	394,414	624,287	1,039,071	1,784,228	7.40	5.03	2.06	4.70	5.23	5.56
32)	Heavy Industrial Machinery	111,283	180,371	305,571	364,179	398,008	429,018	469,742	7.14	5.41	1.77	0.89	0.75	0.91
2)	Meat, Fish & Dairy Products	109,029	179,670	306,281	570,994	782,092	1,050,866	1,433,401	7.40	5.48	6.43	3.20	3.00	3.15
15)	Manufactured Fertilizers	92,747	212,797	357,546	435,386	512,615	643,964	782,399	12.60	5.33	1.99	1.65	2.31	1.97
10)	Rubber	82,283	93,125	107,067	112,228	129,284	120,511	115,518	1.78	1.40	0.47	1.42	-0.70	-0.42
38)	Electrical Equipment	76,593	138,269	240,953	371,842	542,849	776,271	1,091,713	8.80	5.71	4.43	3.86	3.64	3.47
27)	Textile, Leather & Rubber Mtls.	74,806	121,281	175,175	291,782	427,802	597,385	820,218	7.15	3.75	5.23	3.90	3.40	3.22
7)	Textile Fibers, Hides	45,898	43,018	50,476	58,345	62,209	60,746	60,106	-0.92	1.61	1.46	0.64	-0.24	-0.11
40)	Commodities, NES	43,856	46,366	52,991	86,130	131,999	168,043	226,625	0.80	1.34	4.98	4.36	2.44	3.04
25)	Pharmaceuticals	25,759	39,462	76,805	123,719	187,323	284,669	410,500	6.28	6.89	4.88	4.24	4.27	3.73
23)	Liquid Bulk Chemicals	11,832	10,878	12,345	17,390	25,122	39,435	61,266	-1.19	1.27	3.49	3.75	4.61	4.50
9)	Oils & Fats	7,811	10,375	18,012	28,642	31,879	34,952	38,306	4.14	5.67	4.75	1.08	0.92	0.92
37)	Aircraft & Ships	5,580	7,081	10,680	14,667	17,550	22,931	30,144	3.46	4.20	3.22	1.81	2.71	2.77
20)	Crude Petroleum	46	18	18	0	0	0	0	-12.54	0.00	NA	NA	NA	NA
22)	Natural & Manufactured Gas	33	20	21	108	393	814	1,271	NA	NA	NA	NA	NA	NA
1)	Live Animals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13)	Phosphates	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTALS	22,906,312	29,788,496	37,512,597	56,936,648	69,781,678	90,845,028	118,789,561	3.82	2.33	4.26	2.06	2.67	2.72

Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

When total foreign trade is reviewed by direction, Baltimore's outbound cargo is characterized by large bulk moves of coal and coke, oil seeds, and grain.

TABLE 2

BALTIMORE'S TOP FOREIGN OUTBOUND COMMODITIES
(in thousand metric tons)

Commodity	1993	2000	2010	2020	2030	2040	2050
Coal & Coke	7,561	8,893	8,750	13,474	15,018	15,454	15,136
Oil Seeds	965	809	722	705	648	616	601
Grain	1,368	1,411	2,013	1,954	1,766	1,513	1,268
Total of Above	9,894	11,113	11,485	16,133	17,432	17,583	17,005
TOTAL	11,644	13,748	16,154	23,310	27,640	31,759	36,358
Growth Rates (%)							
Coal & Coke		2.35	-0.16	4.41	1.09	0.29	-0.21
Oil Seeds		-2.49	-1.13	-0.24	-0.84	-0.51	-0.25
Grain		0.44	3.62	-0.30	-1.01	-1.53	-1.75
Total		2.40	1.63	3.74	1.72	1.40	1.36

Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

Table 2 indicates the prominence of these three dry bulk items, showing that their total tonnage was 85 percent of total foreign tonnage exported in 1993. Over time the forecast projected these bulk commodities to decline in importance to 81 percent of Baltimore's exports by weight in 2000 and 69 percent in 2020.

The trade in these commodities through Baltimore was not forecasted to grow rapidly over the years. By the year 2000, these commodities were expected to exhibit a modest average decline of 2 percent. A generally negative trend was expected to continue in the following decade, as tonnage of oilseeds and grain declined. Coal tonnage would double by 2030 and then stabilize through 2050 at 15 million metric tons.

This forecast was impacted by a drop in U.S. exports of coal in 1993 that continued into 1994. This included almost all export markets from Europe and the Far East and a large

portion of these exports would have been handled in Baltimore. The U.S. outlook called for improved exports (in the 5% range) the next year even as Australia was increasing its coal exports. In fact, U.S. coal exports were much stronger than expected and Baltimore's exports alone increased to 11.97 million metric tons in 1995 (above the historical 1991-92 levels).

Baltimore's coal exports to Northern Europe, where Germany's steel industry has been hurt by its slowing economy and by a drop in demand for steel by neighboring European countries, were expected to decline by -0.72 percent in the years 1993 to 2000. However, growth rates move upward by the year 2020, based on the assumption that Northern Europe's main economies continue to have a longer-term growth trend and that there will be no increase in trade barriers.

A change in technology is impacting the coal trades. Steel made in electric furnaces does not require coal. In general, demand for cooking coal is declining as the use of a technology called pulverized coal injection increases. Thus, the demand for metallurgical coals for steel making is flat while coal used to make electricity is growing. On a cautionary note, one must continue to monitor environmental developments in Europe aimed at reducing carbon dioxide emissions that could ultimately affect imports from the U.S.

Baltimore's grain exports were expected to remain basically steady through 2000 in the 1.4 million metric ton range, with growth resuming after 2000 through 2010. The years after 2010 (to 2050) will see small declines, based on growth in alternative global grain sources.

TABLE 3

GROWTH OF BALTIMORE'S TOP OUTBOUND COMMODITIES

(in thousand metric tons)
(compound annual growth rates - %)

		1993	2000	2010	2020	2030	2040	2050	Growth Rates 1993-2000	Growth Rates 2000-2010	Growth Rates 2010-2020	Growth Rates 2020-2030	Growth Rates 2030-2040	Growth Rates 2040-2050
19)	Coal & Coke	7,561,965	8,893,999	8,750,879	13,474,260	15,018,240	15,454,050	15,136,310	2.34	-0.16	4.41	1.09	0.29	-0.21
4)	Grain	1,368,648	1,410,898	2,013,735	1,954,292	1,766,817	1,513,019	1,268,061	0.44	3.62	-0.30	-1.00	-1.54	-1.75
8)	Oilseeds	965,725	808,809	721,599	704,973	647,999	615,656	600,949	-2.50	-1.13	-0.23	-0.84	-0.51	-0.24
11)	Lumber & Wood	262,111	375,090	549,864	766,244	887,529	1,006,405	1,096,868	5.25	3.90	3.37	1.48	1.26	0.86
28)	Plastics & Chemical Prod.	123,274	183,200	295,957	443,957	612,440	802,585	1,020,604	5.82	4.91	4.14	3.27	2.74	2.43
35)	Passenger Cars	119,306	272,664	726,365	885,574	1,254,373	1,690,056	2,128,693	12.53	10.29	2.00	3.54	3.03	2.33
24)	Other Chemicals	108,946	158,636	249,388	454,994	807,538	1,392,253	2,150,724	5.51	4.63	6.20	5.90	5.60	4.44
34)	Heavy Trans. Equip.	89,389	135,251	241,406	408,709	596,082	821,830	1,070,633	6.09	5.96	5.41	3.85	3.26	2.68
39)	Consumer Goods	88,594	135,170	235,790	444,417	746,095	1,132,240	1,688,025	6.22	5.72	6.54	5.32	4.26	4.07
33)	Light Industrial Mach.	87,310	109,618	178,316	325,356	571,475	895,047	1,345,434	3.30	4.99	6.20	5.79	4.59	4.16
28)	Paper	85,428	112,857	166,407	297,956	452,924	638,159	877,524	4.06	3.96	6.00	4.28	3.49	3.24
30)	Iron & Steel	82,476	114,142	197,980	381,243	541,161	741,802	1,014,486	4.75	5.66	6.77	3.56	3.20	3.18
29)	Other Min. & Metal Manu.	78,387	131,358	257,352	389,178	573,343	869,658	1,276,821	7.65	6.96	4.22	3.95	4.25	3.91
6)	Food Products	67,823	119,535	231,017	311,319	358,432	421,565	505,850	8.43	6.81	3.03	1.42	1.64	1.84
32)	Heavy Industrial Machinery	49,150	66,755	122,261	164,614	197,709	217,132	239,350	4.47	6.24	3.02	1.85	0.94	0.98
2)	Meat, Fish & Dairy Products	48,874	106,056	213,725	359,163	492,358	649,362	878,142	11.70	7.26	5.33	3.20	2.81	3.06
31)	Non-Ferrous Metals	47,726	49,247	52,402	123,150	205,247	331,264	545,922	0.45	0.62	8.92	5.24	4.90	5.12
12)	Pulp & Waste Paper	46,605	63,120	110,521	175,551	142,294	186,285	276,739	4.43	5.76	4.74	-2.08	2.73	4.04
36)	Auto Parts/Motorcycles	45,899	78,087	164,034	180,120	214,013	252,964	328,722	7.89	7.70	0.94	1.74	1.69	2.65
38)	Electrical Equipment	41,393	67,431	119,479	206,741	335,831	505,818	742,402	7.22	5.89	5.64	4.97	4.18	3.91
18)	Other Ores & Scrap	36,778	31,898	58,963	82,628	79,297	62,037	51,763	-2.01	6.34	3.43	-0.41	-2.42	-1.79
14)	Cement, Lime & Stone	35,892	66,325	123,026	153,591	193,215	237,096	303,137	9.17	6.37	2.24	2.32	2.07	2.49
7)	Textile Fibers, Hides	34,831	31,723	40,218	47,782	51,838	50,651	50,156	-1.33	2.40	1.74	0.82	-0.23	-0.10
21)	Petroleum Products	32,494	42,973	53,081	139,461	267,597	436,052	640,673	4.07	2.13	10.14	6.73	5.00	3.92
40)	Commodities, NES	32,449	31,022	28,826	57,761	100,039	132,014	182,928	-0.64	-0.73	7.20	5.65	2.81	3.32
27)	Textile, Leather & Rubber Mtls.	25,051	35,290	51,085	81,212	111,264	137,120	174,100	5.02	3.77	4.74	3.20	2.11	2.42
25)	Pharmaceuticals	20,878	32,873	68,900	112,238	172,202	264,582	383,131	6.70	7.68	5.00	4.37	4.39	3.77
10)	Rubber	17,382	23,575	34,415	37,971	53,280	56,701	63,349	4.45	3.86	0.99	3.45	0.62	1.11
3)	Fruits & Vegetables	13,042	20,515	30,278	46,661	68,925	94,639	127,087	6.69	3.97	4.42	3.98	3.22	2.99
17)	Bauxite & Oth. Base Metal Ores	8,960	16,685	27,159	41,043	44,760	48,232	52,248	9.29	4.99	4.22	0.87	0.75	0.80
23)	Liquid Bulk Chemicals	6,786	7,602	10,012	14,065	19,515	29,416	45,600	1.64	2.79	3.46	3.33	4.19	4.48
37)	Aircraft & Ships	5,309	6,603	9,881	13,350	15,932	20,959	27,613	3.17	4.11	3.05	1.78	2.78	2.80
5)	Sugar	4,481	7,900	16,688	27,454	37,474	49,164	61,071	8.44	7.76	5.10	3.16	2.75	2.19
9)	Oils & Fats	1,301	2,006	3,379	3,564	3,033	2,500	2,066	6.38	5.35	0.53	-1.60	-1.91	-1.89
20)	Crude Petroleum	46	18	18	0	0	0	0	-12.54	0.00	0.00	0.00	0.00	0.00
22)	Natural & Manufactured Gas	33	20	21	108	393	814	1,271	-6.90	0.49	17.79	13.79	7.55	4.56
15)	Manufactured Fertilizers	0	0	0	0	0	0	0	0	0	0	0	0	0
1)	Live Animals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13)	Phosphates	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16)	Iron Ore	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTALS	11,646,735	13,750,951	16,156,437	23,312,720	27,642,694	31,761,167	36,360,502	2.40	1.63	3.73	1.72	1.40	1.36

Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

Manufactured products (although a much smaller portion of the tonnage) are expected to show significant growth over time. Table 3 indicates that Baltimore's finished goods exports will grow within a range of 6 to 10 percent a year through 2010 with a few categories of manufactured products growing at an increased pace to 2050. Automobile exports are expected to grow very rapidly through 2010 as U.S. exports and auto production increase to meet global demands.

Many of the fastest growing export commodities would be included among intermodal cargo. On the inbound side, Baltimore's imports will grow overall at a slow, but continuous, pace. By 2010, they will have again reached the levels of the late 1980s in tonnage terms. Typical bulk and tanker products will remain an important part of this trade. Together bulk and tanker cargo will maintain approximately 73 percent of the trade in tonnage terms, although there is a short-term decrease to about 71 percent in 2000.

TABLE 4

BALTIMORE'S TOP FOREIGN IMPORT COMMODITIES
(in thousand metric tons)

Commodity Category	1993	2000	2010	2020	2030	2040	2050
Cement, Lime, & stone	1,968	3,242	5,277	8,638	11,283	14,778	19,294
Iron Ore	3,279	4,386	5,240	8,267	7,828	11,697	17,614
Petroleum Products	649	1,134	1,667	2,930	4,808	7,421	10,844
Coal & Coke	1,053	1,007	643	561	521	572	651
Total of Above	6,949	9,769	12,827	20,396	24,440	34,468	48,403
Total of all Commodities	11,260	16,037	21,436	33,623	42,139	59,083	82,429

Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

Increased imports of both cement (mainly from Canada) and petroleum products (increasingly from Venezuela and Trinidad and Tobago) reflect the positive outlook for the U.S. economy over this period in general. As is true for most of the United States, Baltimore's imports of iron ore from Canada, are expected to continue to fall, but imports from Latin America (especially Brazil) will increase.

TABLE 5
BALTIMORE'S INBOUND FOREIGN COMMODITIES: GROWTH RATES
((in thousand metric tons)
(compound annual growth rates - %)

	Commodity	1993	2000	2010	2020	2030	2040	2050	Growth Rates 1993-2000	Growth Rates 2000-2010	Growth Rates 2010-2020	Growth Rates 2020-2030	Growth Rates 2030-2040	Growth Rates 2040-2050
16)	Iron Ore	3,279,103	4,386,735	5,240,671	8,267,596	7,828,333	1,697,800	17,614,444	4.24	1.79	4.66	-0.54	4.10	4.18
14)	Cement, Lime & Stone	1,968,382	3,242,949	5,277,518	8,638,098	11,283,380	14,778,900	19,294,430	7.39	4.99	5.05	2.71	2.74	2.70
19)	Coal & Coke	1,053,502	1,007,955	643,004	560,843	520,647	572,076	650,578	-0.63	-4.40	-1.36	-0.74	0.95	1.29
21)	Petroleum Products	697,173	1,134,872	1,667,229	2,930,463	4,808,087	7,421,514	10,844,440	7.21	3.92	5.80	5.08	4.44	3.87
5)	Sugar	612,761	577,644	491,961	1,255,613	1,797,751	2,146,676	2,528,800	-0.84	-1.59	9.82	3.65	1.79	1.65
30)	Iron & Steel	524,168	890,098	1,068,000	1,397,382	1,441,433	1,489,963	1,572,616	7.86	1.84	2.72	0.31	0.33	0.54
17)	Bauxite & Oth. Base Metal Ores	453,161	403,591	519,488	709,075	977,826	1,331,123	1,687,715	-1.64	2.56	3.16	3.27	3.13	2.40
12)	Pulp & Waste Paper	289,757	583,751	1,207,520	1,368,650	1,086,986	1,338,583	1,594,616	10.52	7.54	1.26	-2.28	2.10	1.77
35)	Passenger Cars	246,835	351,849	395,788	244,697	119,974	68,564	46,551	5.19	1.18	-4.69	-6.88	-5.44	-3.80
31)	Non-Ferrous Metals	220,842	445,275	768,014	1,609,870	2,774,155	4,330,167	6,355,495	10.54	5.60	7.68	5.59	4.55	3.91
34)	Heavy Trans. Equip.	215,735	429,231	662,010	1,477,223	2,254,829	3,326,867	4,894,065	10.33	4.43	9.29	3.43	3.97	3.94
24)	Other Chemicals	213,243	304,473	349,229	482,002	649,876	927,183	1,338,830	5.22	1.38	3.27	3.03	3.62	3.74
18)	Other Ores & Scrap	173,736	254,605	311,976	368,244	473,984	607,022	784,270	5.61	2.05	1.67	2.56	2.50	2.59
6)	Food Products	173,448	221,773	259,553	417,255	601,972	914,699	1,418,771	3.57	1.59	4.86	3.73	4.27	4.49
39)	Consumer Goods	146,439	218,411	278,406	526,665	792,303	1,273,104	1,934,121	5.88	2.46	6.58	4.17	4.86	4.27
33)	Light Industrial Mach.	116,421	172,498	202,729	315,244	573,968	1,066,081	1,800,076	5.78	1.63	4.51	6.18	6.39	5.38
3)	Fruits & Vegetables	111,937	157,053	198,121	365,372	454,457	571,401	699,017	4.96	2.35	6.31	2.21	2.32	2.04
28)	Paper	99,721	157,047	241,650	377,456	735,750	1,244,325	1,862,767	6.70	4.40	4.56	6.90	5.40	4.12
15)	Manufactured Fertilizers	92,747	212,979	357,546	435,386	512,615	643,964	782,399	12.61	5.32	1.99	1.65	2.31	1.97
29)	Other Min. & Metal Manu.	75,851	106,325	128,030	221,240	324,616	467,161	686,702	4.94	1.88	5.62	3.91	3.71	3.93
36)	Auto Parts/Motorcycles	73,601	118,861	157,636	214,293	410,274	786,107	1,455,507	7.09	2.86	3.12	6.71	6.72	6.35
10)	Rubber	64,901	69,550	72,651	74,256	76,004	63,810	52,169	0.99	0.44	0.22	0.23	-1.73	-1.99
32)	Heavy Industrial Machinery	62,133	113,616	183,309	199,565	200,299	211,886	230,393	9.00	4.90	0.85	0.04	0.56	0.84
2)	Meat, Fish & Dairy Products	60,155	73,613	92,556	211,832	289,734	401,504	555,259	2.93	2.32	8.63	3.18	3.32	3.30
11)	Lumber & Wood	49,763	98,935	153,715	200,562	223,917	227,801	234,204	10.32	4.50	2.70	1.11	0.17	0.28
27)	Textile, Leather & Rubber Mtls.	49,755	85,991	124,090	210,569	316,538	460,265	646,118	8.13	3.74	5.43	4.16	3.81	3.45
28)	Plastics & Chemical Prod.	39,271	77,756	159,931	245,071	258,381	284,436	329,198	10.25	7.48	4.36	0.53	0.97	1.47
38)	Electrical Equipment	35,200	70,838	121,474	165,101	207,018	270,453	349,311	10.51	5.54	3.12	2.29	2.71	2.59
4)	Grain	20,371	23,851	42,131	53,819	49,685	48,392	49,092	2.28	5.85	2.48	-0.80	-0.26	0.14
40)	Commodities, NES	11,407	15,344	24,165	28,369	31,960	36,029	43,697	4.33	4.65	1.62	1.20	1.21	1.95
7)	Textile Fibers, Hides	11,067	11,295	10,258	10,563	10,372	10,095	9,950	0.29	-0.96	0.29	-0.18	-0.27	-0.14
9)	Oils & Fats	6,510	8,369	14,633	25,079	28,846	32,452	36,241	3.65	5.75	5.54	1.41	1.18	1.11
23)	Liquid Bulk Chemicals	5,046	3,277	2,333	3,324	5,607	10,019	15,666	-5.98	-3.34	3.60	5.37	5.98	4.57
25)	Pharmaceuticals	4,881	6,589	7,906	11,482	15,121	20,087	27,369	4.38	1.84	3.80	2.79	2.88	3.14
8)	Oilseeds	283	245	132	347	667	1,080	1,647	-2.04	-6.00	10.15	6.75	4.94	4.31
37)	Aircraft & Ships	271	478	799	1,317	1,618	1,973	2,531	8.44	5.27	5.12	2.08	2.00	2.52
22)	Natural & Manufactured Gas	0	0	0	0	0	0	0	0	0	0	0	0	0
1)	Live Animals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13)	Phosphates	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20)	Crude Petroleum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTALS	11,261,570	16,039,722	21,438,172	33,625,943	42,141,013	59,085,607	82,431,105	5.18	2.94	4.60	2.28	3.44	3.39

Source: DRI/Mercer World Sea Trade Service, 95Q1 forecast

These four products will represent the bulk of inbound trade (60%), but they will not necessarily be the products showing the most growth (see Table 5).

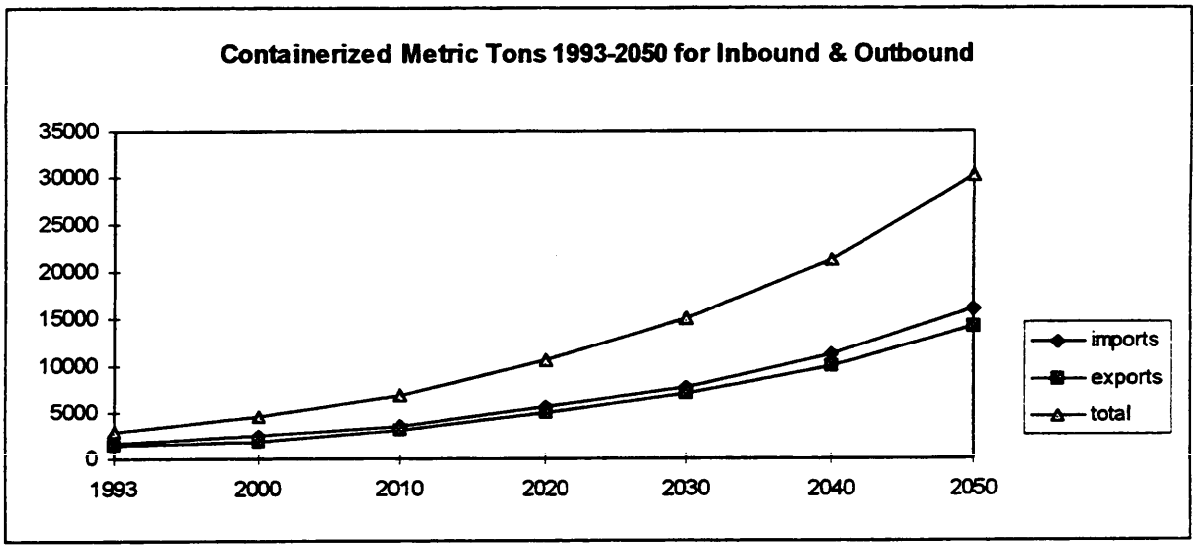
Table 5, above, includes all inbound foreign commodities in 1993-2050. Growth rates for certain products are expected to be as high as 5.6 percent annually for the period from 1993 through 2010. Faster growing cargoes include major commodities such as petroleum products as imports of petroleum products for large consumer markets on the East Coast are increasingly required. Other growing inbound cargoes include: non-ferrous metals, heavy transportation equipment, light industrial machinery, paper, manufactured fertilizers, other mineral and metal manufacturers, auto parts/motorcycles, meat, fish & dairy products, and textile, leather goods.

An increase is also anticipated for consumer and industrial manufactured goods, reflecting the predicted economic recovery over this period and the likelihood of increased demand for commodities of this type. By 2010, these products are expected to become a more significant part of Baltimore's imports, increasing from 9 percent in 1993 to 10 percent in 2010, further climbing to 16% in 2040. Other imported commodities due to decline over time are coal & coke, passenger cars, rubber, and textile fibers and hides.

Containerized Foreign Cargo Forecast

CHART 6

TOTAL FOREIGN CONTAINERIZED METRIC TONS FOR 1993 - 2050
(000s metric tons)



Previous discussions regarding trade for the Port of Baltimore have included all metric tonnage-containerized and noncontainerized. This section will describe the expected growth of metric tons moving in containers. From Chart 6 above, it is apparent that containerized trade is forecast to grow significantly through 2050. Containerized trade will be balanced for the most part, with import tonnage nearly the same as export tonnage.

Outbound Containerized Commodities

Table 6 details the exported containerized commodities for the 1993-2050 .timeframe. The first three commodities, lumber & wood, plastics & chemical products, and other chemicals, maintain a leading edge with steady growth. By 2050, the top four containerized commodities have been replaced in rank by the following commodities: other chemicals, consumer goods, light industrial machinery, and other mining and metal manufacturers.

TABLE 6

TOTAL BALTIMORE OUTBOUND CONTAINERIZED TONNAGE, 1993-2050

Commodity	1993	2000	2010	2020	2030	2040	2050
(11) Lumber & Wood	171,616	244,249	352,761	495,251	573,842	656,392	719,854
(26) Plastics & Chemical Products	114,247	171,283	278,613	420,663	586,314	776,163	993,315
(24) Other Chemicals	104,834	152,444	239,980	436,382	771,738	1,326,721	2,046,921
(4) Grain	86,427	89,497	96,658	83,131	64,456	56,417	51,140
(39) Consumer Goods	85,289	129,982	226,828	427,238	715,633	1,083,385	1,611,150
(33) Light Industrial Machinery	83,976	105,180	171,329	311,721	548,023	859,690	1,293,358
(28) Paper	73,863	94,384	136,574	250,944	391,478	566,079	794,830
(8) Oilseeds	69,995	58,305	52,645	48,002	44,803	45,249	45,768
(29) Other Min & Metal Manufactures	68,063	114,047	223,987	339,982	500,854	759,160	1,114,190
(30) Iron & Steel	66,272	90,869	156,770	302,899	429,497	588,264	803,983
(6) Food Products	60,751	104,728	197,427	267,314	312,749	376,496	459,951
(31) Non-Ferrous Metals	47,373	48,835	51,882	122,444	204,262	329,916	544,077
(2) Meat, Fish & Dairy Products	45,566	91,249	179,451	307,135	427,548	575,350	791,230
(36) Auto Parts/Motorcycles	45,093	76,633	160,916	176,751	209,873	247,618	321,305
(38) Electrical Equipment	39,362	63,584	112,388	194,465	315,189	474,222	695,727
(32) Heavy Industrial Machinery	37,224	49,565	87,604	116,169	136,629	147,271	159,065
(12) Pulp & Waste Paper	30,916	40,352	68,962	90,369	76,557	105,886	163,730
(7) Textile Fibers; Hides	30,272	27,848	35,810	42,793	46,910	46,126	45,855
(40) Commodities, NES	23,434	22,511	21,146	42,280	73,038	97,862	135,577
(27) Textile, Leather & Rubber Mtls	23,045	32,378	46,533	74,201	102,453	127,577	163,161
(25) Pharmaceuticals	20,236	31,942	66,901	109,079	167,937	258,629	374,864
(35) Passenger Cars	17,679	40,077	107,889	141,439	211,774	292,244	371,849
(10) Rubber	15,529	21,069	30,994	34,096	48,078	51,362	57,487
(3) Fruits & Vegetables	12,645	19,672	29,085	45,501	67,585	93,345	125,908
(14) Cement, Lime & Stone	10,262	18,885	34,462	42,409	53,266	65,344	83,741
(18) Other Ores & Scrap	7,346	10,436	18,395	23,517	23,403	21,591	19,797
(5) Sugar	4,386	7,567	15,800	25,971	35,532	46,627	57,906
(23) Liquid Bulk Chemicals	3,792	4,565	6,463	9,931	13,475	19,655	29,371
(9) Oils & Fats	1,010	1,617	2,730	2,883	2,458	2,046	1,714
TOTAL	1,400,503	1,963,753	3,210,986	4,984,960	7,155,356	10,096,690	14,076,820

Inbound Containerized Commodities

Total tonnage for inbound containerized commodities in 1993 is 11 percent greater than that of containerized export tonnage for the same year (see Table 7). From 1993 to the year 2000, exports are approximately 77 percent of total containerized import tonnage. However, between 2000 and 2010, containerized exports take off, as inbound cargoes slow, resulting in exports at 88 percent of total inbound containerized metric tons. By 2030, containerized

exports are 92 percent of total containerized imports. By 2050, containerized import and export flows have resumed their 1993 relationship.

TABLE 7

TOTAL BALTIMORE INBOUND CONTAINERIZED TONNAGE, 1993-2050

Commodity	1993	2000	2010	2020	2030	2040	2050
(30) Iron & Steel	190,678	309,734	352,861	434,118	424,234	434,654	464,998
(6) Food Products	156,793	202,979	237,930	383,610	555,546	845,679	1,311,131
(39) Consumer Goods	139,152	207,272	265,042	497,643	742,676	1,186,314	1,793,532
(12) Pulp & Waste Paper	129,400	260,471	538,671	610,609	484,850	597,163	711,222
(31) Non-Ferrous Metals	120,613	244,274	418,896	866,174	1,432,743	2,207,117	3,221,091
(5) Sugar	81,530	90,912	80,505	217,476	317,201	382,664	452,197
(28) Paper	80,547	127,365	195,646	302,975	580,560	966,503	1,432,996
(33) Light Industrial Machinery	78,350	116,612	138,897	204,430	354,737	632,114	1,046,041
(24) Other Chemicals	71,044	127,463	184,838	268,918	394,367	616,101	953,624
(29) Other Min & Metal Manufactures	64,797	91,331	110,508	192,234	282,701	407,854	601,197
(3) Fruits & Vegetables	58,900	85,929	106,524	198,367	246,478	306,624	367,417
(27) Textile, Leather & Rubber Mtls	47,027	81,405	117,585	200,049	301,287	438,651	616,038
(32) Heavy Industrial Machinery	46,328	84,716	136,489	148,805	148,970	156,901	169,901
(2) Meat, Fish & Dairy Products	40,797	41,818	40,201	93,539	138,477	200,119	286,595
(26) Plastics & Chemical Products	35,688	70,856	146,083	224,186	237,169	262,646	305,546
(14) Cement, Lime & Stone	34,659	56,038	70,584	166,840	285,228	436,792	631,288
(38) Electrical Equipment	33,963	68,602	117,554	160,238	201,869	264,136	341,437
(11) Lumber & Wood	32,549	65,357	102,166	133,626	149,440	152,528	157,525
(36) Auto Parts/Motorcycles	31,408	53,475	89,797	129,476	239,383	446,895	825,912
(35) Passenger Cars	24,119	35,818	42,261	27,124	15,086	9,700	7,151
(4) Grain	20,298	23,772	41,996	53,606	49,460	48,125	48,754
(10) Rubber	14,627	16,151	19,661	22,057	24,784	25,350	25,672
(7) Textile Fibers; Hides	10,692	10,956	9,922	10,239	10,081	9,834	9,715
(40) Commodities, NES	10,263	13,765	21,623	24,340	26,510	28,915	34,144
(18) Other Ores & Scrap	9,362	19,885	28,082	38,847	67,511	114,106	168,685
(25) Pharmaceuticals	4,539	6,075	7,237	10,560	13,981	18,660	25,549
(9) Oils & Fats	3,429	4,651	7,859	13,897	15,510	16,941	18,566
(23) Liquid Bulk Chemicals	2,188	1,718	1,270	1,595	2,136	3,039	4,089
(15) Manufactured Fertilizers	767	732	615	1,476	1,583	2,620	4,196
(8) Oilseeds	263	228	124	327	635	1,044	1,608
TOTAL	1,574,771	2,520,358	3,631,425	5,637,380	7,745,192	11,219,790	16,037,820

Over the time period, containerized exports move toward more finished products. In 1993, the largest tonnage groups are iron & steel, food products, consumer goods, pulp & waste paper, and non-ferrous metals, sugar and paper. By 2050, these larger moving commodities

are non-ferrous metals, consumer goods, paper, food products and light industrial machinery, other chemicals and auto parts/motorcycles.

Containerized Cargo Forecast - TEUs

The containerized metric tonnage described above, can also be reviewed on a TEU (twenty foot equivalent unit) basis. In this way, the volume or number of TEUs or containers may be reviewed for each commodity traded. From Chart 7 below, the movement of containers through the Port of Baltimore is fairly balanced for the time period. For every inbound TEU there is an outbound TEU. It is important to note the steady rise in TEUs. By the year 2050, there are over 3.7 million TEUs moving through the port, compared with the current 336,000 TEUs. Tables 8 and 9 provide detail for outbound and inbound containerized activity.

CHART 7

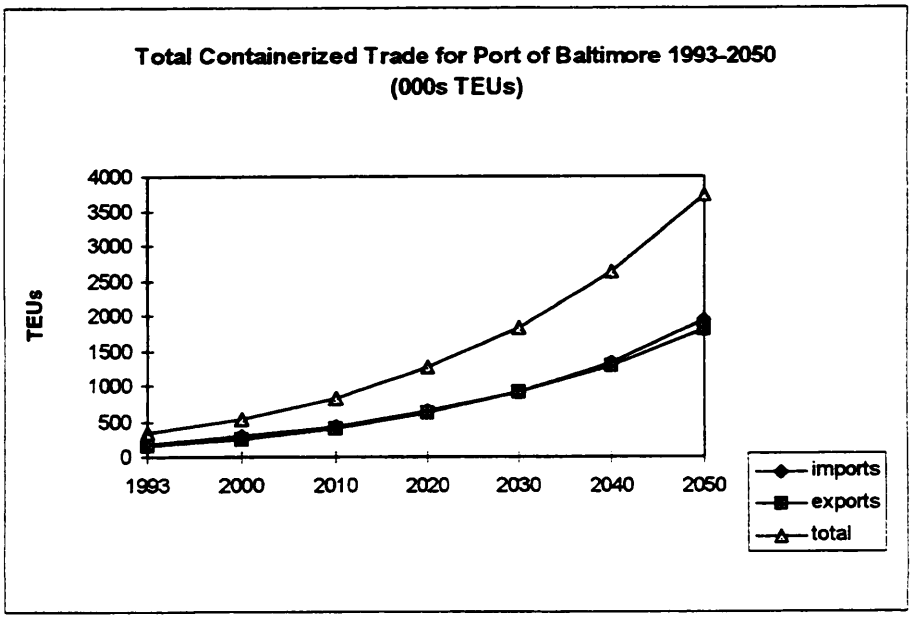


TABLE 8

OUTBOUND CONTAINERIZED TRADE FOR THE PORT OF BALTIMORE FROM 1993-2050 IN TEUs

Commodity	1993	2000	2010	2020	2030	2040	2050
(11) Lumber & Wood	19,016	30,071	43,430	60,973	70,648	80,812	88,625
(39) Consumer Goods	17,956	27,365	47,753	89,945	150,660	228,081	339,189
(26) Plastics & Chemical Products	12,948	19,412	31,576	47,675	66,449	87,965	112,576
(33) Light Industrial Machinery	12,310	15,419	25,116	45,696	80,336	126,024	189,596
(4) Grain	9,573	11,014	11,895	10,230	7,932	6,943	6,293
(36) Auto Parts/Motorcycles	9,019	15,327	32,183	35,350	41,975	49,524	64,261
(24) Other Chemicals	8,828	14,264	22,454	40,831	72,209	124,138	191,525
(28) Paper	7,948	11,284	16,329	30,002	46,804	67,679	95,028
(38) Electrical Equipment	7,097	11,464	20,264	35,063	56,830	85,504	125,442
(6) Food Products	5,400	9,309	17,549	23,761	27,800	33,466	40,885
(29) Other Min & Metal Manufactures	5,159	9,604	18,863	28,631	42,179	63,932	93,830
(30) Iron & Steel	4,949	7,539	13,006	25,130	35,633	48,805	66,702
(8) Oilseeds	4,827	4,021	3,631	3,310	3,090	3,121	3,156
(40) Commodities, NES	4,687	4,502	4,229	8,456	14,608	19,572	27,115
(2) Meat, Fish & Dairy Products	4,658	9,328	18,344	31,396	43,705	58,814	80,881
(32) Heavy Industrial Machinery	3,758	5,004	8,845	11,729	13,794	14,869	16,059
(31) Non-Ferrous Metals	3,755	4,301	4,569	10,783	17,988	29,053	47,913
(35) Passenger Cars	3,501	7,936	21,364	28,008	41,935	57,870	73,633
(27) Textile, Leather & Rubber Mtls	3,139	4,410	6,339	10,108	13,956	17,378	22,225
(25) Pharmaceuticals	3,120	4,924	10,314	16,816	25,890	39,872	57,792
(12) Pulp & Waste Paper	3,077	4,462	7,625	9,992	8,465	11,708	18,104
(7) Textile Fibers; Hides	2,624	2,414	3,104	3,710	4,066	3,999	3,975
(3) Fruits & Vegetables	1,371	2,133	3,153	4,932	7,326	10,119	13,649
(10) Rubber	1,202	1,631	2,399	2,639	3,721	3,975	4,449
(14) Cement, Lime & Stone	885	1,629	2,973	3,659	4,595	5,638	7,225
(18) Other Ores & Scrap	508	721	1,271	1,625	1,618	1,492	1,368
(23) Liquid Bulk Chemicals	337	406	574	883	1,198	1,747	2,611
(5) Sugar	331	572	1,194	1,962	2,685	3,523	4,375
(9) Oils & Fats	101	162	273	288	246	205	171
TOTAL	162,082	240,627	400,620	623,584	908,342	1,285,826	1,798,656

TABLE 9

INBOUND CONTAINERIZED TRADE FOR THE PORT OF BALTIMORE FROM 1993-2050 IN TEUs

Commodity	1993	2000	2010	2020	2030	2040	2050
(39) Consumer Goods	29,295	43,636	55,798	104,767	156,353	249,750	377,586
(30) Iron & Steel	14,237	25,697	29,275	36,016	35,196	36,061	38,578
(6) Food Products	13,937	18,043	21,149	34,099	49,382	75,171	116,545
(12) Pulp & Waste Paper	12,877	28,800	59,561	67,515	53,610	66,029	78,640
(33) Light Industrial Machinery	11,266	16,773	19,995	29,326	50,720	90,113	148,899
(31) Non-Ferrous Metals	9,535	21,468	36,832	76,150	125,929	193,975	283,079
(28) Paper	8,667	15,228	23,391	36,223	69,411	115,553	171,326
(3) Fruits & Vegetables	6,529	9,499	11,785	21,926	27,175	33,754	40,392
(27) Textile, Leather & Rubber Mtls	6,406	11,089	16,017	27,250	41,041	59,752	83,915
(36) Auto Parts/Motorcycles	6,282	10,695	17,959	25,895	47,877	89,379	165,182
(5) Sugar	6,160	6,869	6,083	16,432	23,966	28,912	34,166
(38) Electrical Equipment	6,124	12,369	21,195	28,891	36,398	47,624	61,562
(24) Other Chemicals	5,983	11,926	17,295	25,162	36,900	57,647	89,228
(29) Other Min & Metal Manufactures	4,911	7,691	9,306	16,189	23,807	34,347	50,629
(35) Passenger Cars	4,776	7,093	8,368	5,371	2,987	1,921	1,416
(32) Heavy Industrial Machinery	4,677	8,553	13,780	15,024	15,040	15,841	17,154
(2) Meat, Fish & Dairy Products	4,192	4,312	4,172	9,704	14,339	20,704	29,631
(26) Plastics & Chemical Products	4,045	8,030	16,556	25,408	26,879	29,767	34,628
(11) Lumber & Wood	3,606	8,046	12,578	16,451	18,398	18,778	19,394
(14) Cement, Lime & Stone	2,990	4,835	6,090	14,394	24,608	37,684	54,464
(4) Grain	2,248	2,925	5,168	6,597	6,087	5,922	6,000
(40) Commodities, NES	2,053	2,753	4,325	4,868	5,302	5,783	6,829
(10) Rubber	1,163	1,285	1,557	1,742	1,952	1,987	2,004
(7) Textile Fibers; Hides	927	950	860	888	874	853	842
(25) Pharmaceuticals	700	937	1,116	1,628	2,155	2,877	3,939
(18) Other Ores & Scrap	647	1,374	1,941	2,685	4,666	7,887	11,659
(9) Oils & Fats	343	465	786	1,390	1,551	1,694	1,857
(23) Liquid Bulk Chemicals	194	153	113	142	190	270	363
(15) Manufactured Fertilizers	51	49	41	98	106	175	280
(8) Oilseeds	18	16	9	23	44	72	111
TOTAL	174,840	291,558	423,101	652,252	902,942	1,330,283	1,930,298

Trade Route Forecast

In the existing conditions report, the global trade route systems were introduced and discussed. In this section, forecasted changes or shifts in trade will be introduced. This will be followed by a more detailed analysis for the Port of Baltimore. These trade routes to be discussed are exclusive of crude petroleum. The impact of global trade developments and the

vessels and vessel types serving global trades will impact the vessels and vessel types calling at the Port of Baltimore. However, due to the significant volumes of crude petroleum in global trade, the major global trade routes tend to be dominated by the crude flows and the tankers that carry the crude. Therefore, in order to focus on the vessels and vessel types serving more diverse trades, the global analysis focused on trade routes excluding crude petroleum. While the levels of crude included in Baltimore's trade flows are relatively small and would not limit the diversity of cargo and vessels in the trade, for consistency with the global analysis of commodity flows and vessel types on key routes, the crude petroleum flows were excluded from this analysis.

TABLE 10
TEN LARGEST GLOBAL TRADE ROUTES FOR 2000 AND 2050
(EXCLUDES CRUDE PETROLEUM)

Globe Year 2000	Metric Tons	Globe Year 2050	Metric Tons
Australia/New Zealand to Japan	185,537,792	SE Asia to Far East NIC's	2,012,670,080
Australia/New Zealand to Far East NIC's	107,276,408	Australia/New Zealand to Far East NIC's	1,340,825,472
SE Asia to Far East NIC's	89,803,856	Arabian Gulf to FE NIC's	1,237,114,368
SE Asia to Japan	88,892,664	China to Far East NIC's	933,136,192
China to Far East NIC's	85,340,376	South America EC to FE NIC's	915,116,224
South America EC to Northern Europe	60,516,588	Far East NIC's to South East Asia	800,354,624
Japan to Far East NIC's	49,577,360	Far East NIC's to China	791,052,480
China to Japan	44,736,920	Australia/New Zealand to China	751,717,120
Australia/New Zealand to Northern Europe	43,252,044	Southern Europe to other Med	438,107,840
South America EC to Japan	41,105,120	Other Med to Northern Europe	437,500,512

Table 10 indicates the changes in the largest global trades for years 2000 and 2050. The largest global trade lanes do not include the United States. However, these trade lane projections indicate the importance and strength of trade among other trading nations, especially those in proximity to the Pacific Ocean. The Far East Newly Industrialized Countries (NIC's) become prominent trading partners during this time period, as well as South East Asia and Australia/New Zealand.

TABLE 11

TEN LARGEST UNITED STATES' TRADE ROUTES FOR 2000 AND 2050 (EXCLUDES CRUDE PETROLEUM)

U.S. Year 2000	Metric Tons	U.S. Year 2050	Metric Tons
U.S. Southwest Coast to Japan	30,848,078	Caribbean Basin to U.S. Gulf Coast	249,998,560
Caribbean Basin to U.S. Gulf Coast	28,125,820	Arabian Gulf to U.S. Gulf Coast	225,991,392
U.S. Gulf Coast to Japan	25,761,348	South America EC to U.S. Northeast Coast	192,734,272
South America EC to U.S. Northeast Coast	24,029,980	Caribbean Basin to U.S. Southeast Coast	182,721,344
U.S. Gulf Coast to Northern Europe	22,576,104	U.S. Northwest Coast to Far East NIC's	173,931,760
U.S. Northeast Coast to Northern Europe	21,868,590	U.S. Gulf Coast to Far East NIC's	153,035,296
Other Med to U.S. Gulf Coast	20,521,084	Caribbean Basin to U.S. Northeast Coast	151,214,160
U.S. Gulf Coast to Caribbean Basin	20,404,690	China to U.S. Northwest Coast	125,592,712
Northern Europe to U.S. Northeast Coast	19,438,216	South America EC to U.S. Southeast Coast	115,693,576
U.S. Gulf Coast to Other Med	18,814,962	Arabian Gulf to U.S. Northeast Coast	105,810,792

Table 11 details the top trade lanes on a total metric ton basis. In addition, it provides a view of the forecasted changes in trade. In the year 2000, the majority of the top trade lanes utilize the Gulf coast, followed by the Northeast Coast. However, by 2050, trade has diversified to include activity at all coastal regions. Trade relationships with Northern Europe, Japan, and the Caribbean Basin are relevant in 2000. However, these relationships appear to change, so that by the year 2050, the relative significance of trade with Japan and Northern Europe has declined. Large trading partners by 2050 are the Caribbean Basin and the Far East NIC's. As stated previously, the trade routes shown in Table 11 do not include the major crude petroleum trade routes. The 226 million metric tons forecast to flow from the Arabian Gulf to the US Gulf Coast and the 105 million metric tons from the Arabian Gulf to the US East Coast are petroleum products and not crude petroleum. Many of the oil producing countries in the Middle East are now constructing and operating refining operations. Instead of exporting only crude petroleum, they are increasingly exporting refined petroleum products.

Growth in the import of petroleum products is due to constraints on refining facilities in the NorthEast United States. Due to relatively outdated existing refining facilities and the environmental requisites associated with upgrade and construction of new facilities,

constrained growth is represented in the forecast. Within the NorthEast United States, a shift is occurring away from crude petroleum refining and toward the import of refined petroleum products.

TABLE 12

TEN LARGEST U.S. NORTH ATLANTIC STATES TRADE ROUTES FOR 2000 AND 2050 (EXCLUDES CRUDE PETROLEUM)

North Atlantic Year 2000	Metric Tons	North Atlantic Year 2050	Metric Tons
South America EC to U.S. Northeast Coast	24,029,980	South America EC to U.S. Northeast Coast	192,734,272
U.S. Northeast Coast to Northern Europe	21,868,590	Caribbean Basin to U.S. Northeast Coast	151,214,160
Northern Europe to U.S. Northeast Coast	19,438,216	Arabian Gulf to U.S. Northeast Coast	105,810,792
U.S. Northeast Coast to Southern Europe	13,827,891	Northern Europe to U.S. Northeast Coast	73,926,344
Caribbean Basin to U.S. Northeast Coast	10,871,582	South America WC to U.S. Northeast Coast	52,701,756
Southern Europe to U.S. Northeast Coast	9,255,135	Southern Europe to U.S. Northeast Coast	41,445,360
U.S. Northeast Coast to Far East NIC's	7,889,427	U.S. Northeast Coast to South America EC	39,940,168
South America WC to U.S. Northeast Coast	6,677,117	U.S. Northeast Coast to Far East NIC's	34,680,872
U.S. Northeast Coast to South America EC	6,466,713	SE Asia to U.S. Northeast Coast	32,089,802
U.S. Northeast Coast to Japan	5,415,466	China to U.S. Northeast Coast	28,357,340

Table 12 presents the top ten trade lanes for the North Atlantic trade. The forecasted trade for year 2000 and 2050 indicates that South America will become the largest trading partner for the North Atlantic region. However, Northern Europe and the Caribbean Basin will continue to be important trading partners. Also, by the year 2050, the Arabian Gulf, Southeast Asia and China will become significant trading partners, as well.

TABLE 13

TEN LARGEST U.S. SOUTH ATLANTIC STATES' TRADE ROUTES FOR 2000 AND 2050 (EXCLUDES CRUDE PETROLEUM)

South Atlantic Year 2000	Metric Tons	South Atlantic Year 2050	Metric Tons
South America EC to U.S. Southeast Coast	14,293,927	Caribbean Basin to U.S. Southeast Coast	162,721,344
Caribbean Basin to U.S. Southeast Coast	11,915,591	South America EC to U.S. Southeast Coast	115,693,576
South America WC to U.S. Southeast Coast	5,962,898	U.S. Southeast Coast to South America EC	71,631,400
U.S. Southeast Coast to Northern Europe	5,421,460	South America WC to U.S. Southeast Coast	38,859,472
Northern Europe to U.S. Southeast Coast	5,020,645	U.S. Southeast Coast to Far East NIC's	28,715,644
U.S. Southeast Coast to Caribbean Basin	4,666,924	U.S. Southeast Coast to Caribbean Basin	27,382,032
U.S. Southeast Coast to South America EC	3,647,579	Southern Europe to U.S. Southeast Coast	24,462,808
Southern Europe to U.S. Southeast Coast	3,557,979	U.S. Southeast Coast to Northern Europe	18,101,106
U.S. Southeast Coast to Far East NIC	2,998,652	U.S. Southeast Coast to SE Asia	17,580,706
U.S. Southeast Coast to Japan	2,870,376	Indian Subcontinent to U.S. Southeast Coast	15,544,088

Table 13 exhibits the top ten trade routes for the South Atlantic region of the United States. The Table for the year 2000 indicates the importance of the South American trade, as the number one trade lane based on total metric tons. This trade continues to be an important part of the South Atlantic region's trade, as it becomes the second largest lane in 2050. The Caribbean Basin is also important to the South Atlantic ports. Northern and Southern Europe remain important trading partners, as well. In 2050, the Indian Sub-Continent becomes an active trading partner in the top ten, as Japan is removed from the list.

TABLE 14

TEN LARGEST BALTIMORE TRADE ROUTES FOR 2000 AND 2050 (EXCLUDES CRUDE PETROLEUM)

Baltimore Year 2000	Metric Tons	Baltimore Year 2050	Metric Tons
POB to Northern Europe	3,610,443	South America EC to POB	21,039,706
South America EC to POB	3,100,703	Caribbean Basin to POB	14,778,280
POB to Other Med	2,057,362	POB to South America EC	8,944,902
POB to Eastern Europe	1,968,306	POB to Eastern Europe	7,851,774
POB to Southern Europe	1,895,802	POB to Other Med	5,010,291
Northern Europe to POB	1,425,128	Northern Europe to POB	4,657,715
POB to Japan	1,364,443	POB to Northern Europe	4,345,646
Caribbean Basin to POB	1,359,816	Australia/New Zealand to POB	4,334,074
Australia/New Zealand to POB	1,160,371	POB to Southern Europe	1,733,204
POB to South America EC	1,130,708	POB to Japan	832,256

The Port of Baltimore's prominent trading partners remain the same over the time period 1993-2050 (see Table 14). However, by 2050, South American imports are the largest trade lane, followed by the Caribbean Basin. To further study this activity, refer to Table 15 below. The trade lanes shown in Table 14 are directional trade lanes, that is the table ranks the trade volumes separately for each direction of trade. For instance, by the year 2050 the largest trade lane is inbound to the Port of Baltimore from the East Coast of South America, while it was the second largest trade lane in the year 2000. Significantly, the projected traffic for the outbound direction in this trade lane from the Port of Baltimore to the East Coast of South America ranked third in Table 14 for the year 2050, up from tenth place in the year 2000.

TABLE 15

PORT OF BALTIMORE'S LARGEST TRADING PARTNERS FOR YEAR 2000 IN METRIC TONS FOR ALL CARGOES

	Commodity	Port of Baltimore to N. Europe	South America East Coast to Port of Baltimore	Port of Baltimore to Other Med.	Port of Baltimore to E. Europe	Port of Baltimore to S. Europe	N. Europe to Port of Baltimore	Port of Baltimore to Japan	Caribbean Basin to Port of Baltimore	Australia/New Zealand to Port of Baltimore	Port of Baltimore to South America, E. Coast
1)	Live Animals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2)	Meat, Fish & Dairy Products	6,843	20,454	861	50,355	3,524	4,489	1,280	66	82	1,465
3)	Fruits & Vegetables	2,410	3,555	1,455	1,173	783	6,089	39	291	NA	4,013
4)	Grain	58,891	178	684,642	57,767	146,535	58	91,577	NA	NA	1,808
5)	Sugar	122	173,492	1,535	219	NA	207	10	235,989	8,052	2,682
6)	Food Products	38,272	34,225	6,530	24,631	1,428	91,461	73	384	44	9,611
7)	Textile Fibers: Hides	18,207	641	32	116	541	1,034	563	NA	41	1,684
8)	Oilseeds	39,725	35	49,294	41,666	418,383	152	249,851	NA	NA	250
9)	Oils & Fats	353	504	87	97	NA	142	NA	NA	NA	235
10)	Rubber	15,487	332	54	8	376	3,829	NA	NA	NA	4,906
11)	Lumber & Wood	221,491	5,395	4,304	857	51,174	28,463	5,865	184	475	2,504
12)	Pulp & Waste Paper	10,590	583,536	318	NA	4,539	176	199	NA	NA	3,010
13)	Phosphates	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14)	Cement, Lime & Stone	6,397	421,830	271	4,655	7	132,091	NA	847,261	979	8,356
15)	Manufactured Fertilizers	NA	134	NA	NA	NA	25,850	NA	NA	NA	0
16)	Iron Ore	NA	687,527	NA	NA	NA	NA	NA	NA	560,393	NA
17)	Bauxite & Oth. Base Metal Ores	10,366	22,500	5	NA	NA	1,704	NA	NA	311,686	43
18)	Other Ores & Scrap	1,554	86,624	NA	NA	337	10,665	202	145	NA	652
19)	Coal & Coke	2,499,917	NA	1,264,413	1,731,052	1,189,822	NA	974,658	NA	269,538	787,039
20)	Crude Petroleum	18	NA	NA	NA	NA	NA	NA	NA	NA	NA
21)	Petroleum Products	16,177	527,437	9,353	4,221	180	92,092	24	241,278	NA	5,567
22)	Natural & Manuf. Gas	8	NA	3	NA	NA	0	NA	NA	NA	NA
23)	Liquid Bulk Chemicals	5,423	1,816	18	38	6	1,007	NA	NA	NA	467
24)	Other Chemicals	52,945	39,343	941	2,112	3,069	81,101	130	32,001	1,465	43,952
25)	Pharmaceuticals	14,691	761	593	4,555	334	4,080	7	NA	NA	6,225
26)	Plastics & Chemical Products	70,370	9,507	1,752	2,261	8,308	34,077	300	56	90	41,989
27)	Textile, Leather & Rubber Mtls.	17,438	16,337	733	868	1,314	15,944	495	NA	400	2,770
28)	Paper	49,628	77,730	902	1,260	588	60,570	NA	NA	NA	15,293
29)	Other Min & Metal Manuf.	25,129	13,082	2,089	567	4,689	24,072	77	108	100	35,703
30)	Iron & Steel	20,399	102,744	3,062	379	7,675	264,779	76	NA	NA	34,589
31)	Non-Ferrous Metals	16,436	52,939	417	233	2,464	50,433	116	NA	4,535	2,579
32)	Heavy Industrial Machinery	15,791	20,741	6,327	4,208	1,728	58,624	50	NA	NA	15,295
33)	Light Industrial Machinery	37,468	93,781	4,776	1,072	2,587	42,516	10	NA	55	23,493
34)	Heavy Trans. Equipment	52,567	9,724	2,708	2,681	4,935	227,068	45	NA	NA	19,254
35)	Passenger Cars	150,308	10	3,033	3,076	26,761	101,568	38,048	2	2,341	6,830
36)	Auto Parts/Motorcycles	55,558	70,938	916	307	1,448	6,704	160	NA	NA	3,132
37)	Aircraft & Ships	3,811	14	131	2	1,286	400	NA	NA	NA	190
38)	Electrical Equipment	12,650	4,024	2,884	612	3,113	12,147	277	NA	17	20,959
39)	Consumer Goods	61,043	16,972	2,207	4,306	7,266	33,686	294	1,496	63	23,339
40)	Commodities, NES	1,965	1,839	715	22,953	604	7,851	18	555	16	826
	Totals	3,610,448	3,100,701	2,057,361	1,968,307	1,895,804	1,425,129	1,364,444	1,359,816	1,160,372	1,130,710

In the year 2000, the POB's largest export partner is Northern Europe at 3.6 million metric tons, with South America as the largest import partner with over 3 million metric tons. POB's largest export to Northern Europe continues to be coal & coke, making up over 70 percent of total metric tons transported. South American (East Coast) cargoes include iron ore, petroleum products, pulp & waste paper, sugar and iron & steel. POB's exports to the Mediterranean are largely coal & coke and grain. The port's exports to Eastern Europe parallel the Mediterranean's with 90 percent of total metric tons in coal & coke and 5 percent as grain and meat, fish & dairy products.

Referring to Table 15, the Port of Baltimore's export trade to Southern Europe is mostly coal & coke (63%) and oilseeds and grain. Imports from Northern Europe at year 2000, are characterized by iron & steel, heavy transportation equipment, cement, lime & stone, and passenger cars. POB's exports to Japan are nearly all coal & coke (71%) and oilseeds that are 18 percent of total metric tons. Caribbean Basin imports into the port are cement, lime and stone making up 62 percent of total tons carried. Also, sugar (17%) and petroleum products (18%) make up another 35 percent of total tonnage. Australia/New Zealand brings iron ore, bauxite, and coal & coke to the port in Year 2000. The port's exports to South America's East Coast have developed to support a more industrial partner. The POB's majority (82%) of outbound tonnage includes coal & coke, other chemicals, plastics & chemical products, and iron & steel.

TABLE 16

PORT OF BALTIMORE'S LARGEST TRADING PARTNERS FOR YEAR 2050 IN METRIC TONS FOR ALL CARGOES

	Commodity	South America East Coast to Port of Baltimore	Caribbean Basin to Port of Baltimore	Port of Baltimore to South America, E. Coast	Port of Baltimore to E. Europe	Port of Baltimore to Other Med	N. Europe to Port of Baltimore	Port of Baltimore to N. Europe	Australia/New Zealand to Port of Baltimore	Port of Baltimore to S. Europe	Port of Baltimore to Japan
1)	Live Animals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2)	Meat, Fish & Dairy Products	76,536	565	22,548	225,207	4,824	23,261	32,664	1,274	15,556	7,052
3)	Fruits & Vegetables	22,528	2,405	86,950	3,247	5,076	31,291	7,077	NA	3,057	147
4)	Grain	164	NA	1,197	13,857	688,490	105	19,614	NA	55,533	58,288
5)	Sugar	817,783	1,344,270	41,518	333	7,500	455	549	7,387	NA	13
6)	Food Products	216,012	506	253,885	64,935	19,420	333,794	89,013	537	4,162	168
7)	Textile Fibers: Hides	759	NA	5,409	208	30	862	10,282	19	280	432
8)	Oilseeds	143	NA	1,802	2,415	3,660	335	23,272	NA	317,768	241,029
9)	Oils & Fats	686	NA	663	59	95	107	675	NA	NA	NA
10)	Rubber	942	NA	25,445	12	64	8,413	33,498	NA	712	NA
11)	Lumber & Wood	16,317	531	14,993	1,308	6,691	27,722	543,636	4,049	116,570	7,338
12)	Pulp & Waste Paper	1,594,548	NA	9,249	NA	2,341	31	40,380	NA	27,492	294
13)	Phosphates	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14)	Cement, Lime & Stone	5,250,196	9,108,347	161,348	46,623	585	294,921	16,104	1,012	13	NA
15)	Manufactured Fertilizers	79	NA	0	NA	NA	177,981	NA	NA	NA	NA
16)	Iron Ore	2,386,674	NA	NA	NA	NA	NA	NA	2,732,024	NA	NA
17)	Bauxite & Oth. Base Metal Ores	5,060	NA	626	NA	1	6,775	19,479	1,530,201	NA	NA
18)	Other Ores & Scrap	494,795	52	831	NA	NA	46,137	304	NA	937	156
19)	Coal & Coke	NA	NA	1,651,999	7,128,844	3,561,908	NA	418,213	10,611	752,872	452,241
20)	Crude Petroleum	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
21)	Petroleum Products	5,097,973	4,217,306	81,399	24,497	256,627	300,688	155,711	NA	608	72
22)	Natural & Manuf. Gas	NA	NA	NA	NA	642	0	618	NA	NA	NA
23)	Liquid Bulk Chemicals	12,468	NA	8,334	6	97	881	30,226	NA	19	NA
24)	Other Chemicals	148,131	51,182	1,725,971	669	3,062	171,232	133,189	27,477	17,741	200
25)	Pharmaceuticals	4,524	NA	207,229	39,040	2,277	11,206	118,989	NA	2,031	22
26)	Plastics & Chemical Products	19,991	292	709,904	4,488	3,755	65,774	144,136	197	28,243	296
27)	Textile, Leather & Rubber Mtls.	194,524	NA	64,357	1,527	7,922	61,258	37,528	9,085	3,792	718
28)	Paper	1,434,023	NA	516,079	13,797	6,049	362,320	172,273	NA	1,916	NA
29)	Other Min & Metal Manuf.	96,287	1,830	968,573	1,234	2,306	51,982	66,756	1,196	19,323	107
30)	Iron & Steel	75,805	NA	456,811	1,684	69,154	128,636	215,749	NA	27,832	36
31)	Non-Ferrous Metals	679,954	NA	17,580	27	480	61,825	44,113	4,368	12,301	88
32)	Heavy Industrial Machinery	61,779	NA	59,032	74,769	23,701	94,505	9,319	NA	2,451	48
33)	Light Industrial Machinery	1,297,077	NA	576,773	21,359	95,160	96,300	332,469	570	50,267	81
34)	Heavy Trans. Equipment	184,733	NA	343,585	17,690	15,745	2,127,870	106,912	NA	20,771	327
35)	Passenger Cars	11	4	46,657	2,538	114,709	11,543	897,149	2,998	141,197	57,862
36)	Auto Parts/Motorcycles	689,117	NA	40,477	461	21,043	14,560	209,044	NA	11,509	1,130
37)	Aircraft & Ships	31	NA	942	2	1,204	1,823	4,997	NA	15,033	NA
38)	Electrical Equipment	14,812	NA	317,559	4,757	27,797	20,594	74,127	203	23,600	1,402
39)	Consumer Goods	126,675	48,031	519,554	31,185	49,006	118,052	330,801	801	58,123	2,627
40)	Commodities, NES	18,569	2,981	,632	124,997	8,373	4,477	8,776	66	1,497	2,081
	Totals	21,039,706	14,778,302	8,944,911	7,851,775	5,010,294	4,657,716	4,347,642	4,334,075	1,733,206	834,255

As shown in Table 16, South America remains the largest import partner at Baltimore, and is also the largest trading partner for the port (21 million metric tons). The commodity mix in this trade lane now includes: cement, lime & stone, petroleum products, iron ore, pulp & waste paper, paper, and light industrial machinery. Imports from the Caribbean are largely cement, lime & stone and petroleum products. These two commodities total 13 million metric tons, about 93 percent of total Caribbean metric tonnage carried to Baltimore. Port of Baltimore's exports to the South American East Coast are dominated by other chemicals (19%) -- which have grown considerably since Year 2000. POB's larger export tonnage also includes coal & coke (18%). Additional prominent commodities include other mining and metal manufacturers, plastics & chemical products, light industrial machinery, and consumer goods- these totaling 31 percent of total tonnage exported. The port's main export to Eastern Europe is coal & coke, which makes up 91 percent of total metric tons carried in this trade. Exports to the Mediterranean are still largely coal & coke (70%). Grain shipments make up 13 percent and petroleum products 5 percent of total export tons. POB's imports from Northern Europe include heavy transportation equipment (46%), food products (7%), paper (7%), cement, lime & stone (6%), and petroleum products (6%). Port of Baltimore's greatest export to Northern Europe is passenger cars, which make up 20 percent of total metric tons. The port's other large exports are lumber and coal & coke which make up 12 percent and 9 percent of total tonnage. Light industrial machinery, consumer goods, and iron & steel make up nearly 8 percent, 7 percent and 5 percent, respectively, of total tonnage. Australia/New Zealand imports are largely iron ore (62%) and bauxite (35%). The port's export to Southern Europe and Japan are quite similar. The two top commodities in each export trade lane are coal & coke and oilseeds.

Vessel Forecasts Based on Metric Tons

Below in Tables 17 and 18, forecasts of vessel type are presented. In Table 17, vessels are listed for the year 2000. Overall for the top ten trade lanes, bulk carriers will continue to

carry a large part of the tonnage. The Northern Europe to Baltimore trade involves a large part of metric tons in passenger cars and heavy transportation equipment. Due to this commodity mix, this trade lane utilizes vehicle carriers (21%) and Roll-on Roll-off vessels (16%) to transport nearly 37 percent of total tons. Container vessels carry another 30 percent of total tonnage. In the next fifty years, trade profiles will change resulting in different commodity mixes and different vessel types in the trade lanes.

TABLE 17
PORT OF BALTIMORE'S LARGEST TRADING PARTNERS FOR YEAR 2000 IN METRIC TONS AND SHIPTYPES

Baltimore Vessels	Shiptype	Port of Baltimore to N. Europe	South America East Coast to Port of Baltimore	Port of Baltimore to Other Med.	Port of Baltimore to E. Europe	Port of Baltimore to S. Europe	N. Europe to Port of Baltimore	Port of Baltimore to Japan	Caribbean Basin to Port of Baltimore	Australia/New Zealand to Port of Baltimore	Port of Baltimore to South America, E. Coast
Gen Cargo >10,000	AA	211,953	627,879	134,642	390,395	282,100	169,432	23,027	31,053	91,073	107,429
Gen Cargo <10,000	AB	4,898	11,788	0	0	43	48,420	203	0	0	9
Cellular < 1000 TEU	A1	53,603	152,073	632	0	27	54,262	130	5,383	3,109	15,892
Cellular 1000-2499 TEU	A2	147,551	331,315	71,384	3,191	73,538	146,719	91,610	29,709	17,404	187,729
Cellular 2500-3999 TEU	A3	219,267	128,310	17,726	3,622	37,729	138,566	178,089	7,530	4,792	49,581
Cellular 4000-5999 TEU	A4	144,917	81,568	3,412	4,194	11,202	84,517	85,492	1,638	1,493	13,219
Cellular 6000-7999 TEU	A5	0	0	0	0	0	0	0	0	0	0
Cellular = >8000 TEU	A6	0	0	0	0	0	0	0	0	0	0
RoRo >10,000	AE	235,820	45,263	2,024	126,998	36,976	234,039	11,633	0	14,576	24,346
RoRo <10,000	AF	0	0	1,245	23	16,819	138	0	0	0	0
Reefer	BA	82	1,841	0	0	0	364	0	273	3	0
Bulk <20,000 DWT	DA	704	0	0	937	7,460	37	0	0	0	0
Bulk 20K to 40K DWT	DB	132,133	203,872	801,759	28,556	138,274	15,051	0	664,035	0	147,050
Bulk 40K to 80K DWT	DC	755,716	268,896	602,186	900,470	648,320	38,462	98,999	341,854	348,361	506,160
Bulk 80K to 100K DWT	DD	157,196	93,323	126,984	350,505	245,508	4,499	19,802	30,858	85,717	60,080
Bulk 100K to 175K DWT	DE	903,319	266,487	234,352	142,539	261,418	955	671,364	5,856	30,421	12,820
Bulk >175,000 DWT	DF	239,854	67,158	56,790	15,200	55,262	61	184,086	349	3,030	819
Combo <20,000 DWT	EA	0	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	EB	0	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	EC	47,505	0	0	0	0	0	0	0	0	0
Combo 80K to 100K DWT	ED	11,754	0	0	0	7,464	0	0	0	0	0
Combo 100K to 175K DWT	EE	139,826	0	0	0	57,820	0	0	0	0	0
Combo 175,000 DWT	EF	38,313	0	0	0	15,657	0	0	0	0	0
Tanker < 16,500 DWT	FA	0	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	FB	0	0	0	0	0	4,407	0	0	0	0
Tanker 25K to 45K DWT	FC	0	0	3,299	0	71	9,008	0	120,046	0	0
Tanker 45K to 80K DWT	FD	6,339	0	816	0	17	8,226	0	52,720	0	0
Tanker 80K to 160K DWT	FE	1,568	0	88	0	2	31,694	0	8,910	0	0
Tanker 160K to 250K DWT	FF	170	0	5	0	0	7,589	0	815	0	0
Tanker >250,000 DWT	FG	11	0	0	0	0	865	0	48	0	0
Prod. Tanker < 16,500 DWT	PA	0	0	0	0	0	0	0	0	0	0
Prod. Tanker 16.5K to 25K DWT	PB	648	9,620	14	1,313	16	14,917	6	23,018	0	0
Prod. Tanker 25K to 45K DWT	PC	5,703	209,068	3	325	61	13,192	2	28,713	0	4,363
Prod. Tanker 45K to 80K DWT	PD	1,389	154,741	0	35	15	2,750	0	6,312	0	1,079
Prod. Tanker 80K to 160K DWT	PE	159	155,734	0	2	2	297	0	696	0	124
Gas Tankers	GA	4,237	0	0	0	0	0	0	0	0	0
Vehicle Carriers	HB	145,813	0	0	0	0	304,938	0	0	0	0
Other Ships	XX	0	291,765	0	2	3	91,724	1	0	560,393	10
TOTALS		3,610,448	3,100,701	2,057,361	1,968,307	1,895,804	1,425,129	1,364,444	1,359,816	1,160,372	1,130,710

Table 18 lists Baltimore's vessel activity for year 2050. In this analysis, the vessels that carry the majority of tonnage are containers, vehicle carriers, and bulk carriers. Although the bulk carriers are involved in a large part of tonnage moves, they are not utilized to the same extent in 2050, as they were in the year 2000. In the South America East Coast to POB trade, 39 percent of cargo tonnage will be carried by container vessels, 24 percent on product tankers, and 18 percent on bulk carriers. Some transport of bulk commodity on container vessels is reflected in the 2050 forecast. This relates to the overall effort to balance and properly match, as best as possible, the vessel movements. Over 72 percent of export tonnage to Eastern Europe will be on board bulk carriers. Imports from the Caribbean Basin will be mostly cement and sugar, thus over 50 percent of this tonnage will move on bulk carriers. Additionally, imported petroleum products (21% of total tonnage) will move on tankers. The inbound trades from the East Coast of South America shifts to petroleum products as crude producing countries refine an increasing amount of their output. However, the second largest trade lane from the Caribbean Basin to the Port of Baltimore is still dominated by crude petroleum through the year 2050. In the Northern Europe trade, 43 percent of total metric tonnage will be carried by vehicle carriers. This is in line with the fact that nearly half of this trade lane is devoted to passenger cars. The Baltimore to the Mediterranean trade will involve large moves of coal & coke. Nearly 75 percent of this trade's total tonnage is transported by bulk carriers. Over 65 percent of imports from Australia/New Zealand will move on bulk carriers. Nearly half of the Baltimore to Japan cargoes will move on bulk carriers, thus relating to the large moves of coal & coke to this destination.

TABLE 18
PORT OF BALTIMORE'S LARGEST TRADING PARTNERS FOR YEAR 2050 IN METRIC TONS AND SHIPTYPES

Baltimore Vessels	Shiptype	South America East Coast to Port of Baltimore	Caribbean Basin to Port of Baltimore	Port of Baltimore to South America, E. Coast	Port of Baltimore to E. Europe	Port of Baltimore to Other Med	N. Europe to Port of Baltimore	Port of Baltimore to N. Europe	Australia/New Zealand to Port of Baltimore	Port of Baltimore to S. Europe	Port of Baltimore to Japan
Gen Cargo >10,000	AA	2,940,096	593,557	1,125,047	1,510,158	482,741	212,729	178,848	304,227	216,086	16,057
Gen Cargo <10,000	AB	12,794	0	85	0	0	24,459	5,374	0	136	122
Cellular < 1000 TEU	A1	1,441,431	6,339	205,947	0	1,380	92,043	135,147	8,671	278	251
Cellular 1000-2499 TEU	A2	2,805,507	86,586	3,054,305	7,878	296,354	281,100	389,569	63,326	221,865	65,529
Cellular 2500-3999 TEU	A3	2,048,442	47,707	1,798,419	10,124	165,863	351,623	679,032	36,833	179,365	148,637
Cellular 4000-5999 TEU	A4	1,666,033	18,490	897,618	13,960	68,762	330,691	731,620	17,603	95,482	135,212
Cellular 6000-7999 TEU	A5	0	0	0	0	0	0	0	0	0	0
Cellular = >8000 TEU	A6	0	0	0	0	0	0	0	0	0	0
RoRo >10,000	AE	346,441	0	349,151	623,644	56,269	625,750	709,271	65,793	80,065	11,146
RoRo <10,000	AF	0	0	0	2	13,584	272	0	0	14,132	0
Reefer	BA	6,889	2,260	0	0	0	1,888	382	54	0	0
Bulk <20,000 DWT	DA	0	0	0	166	0	51	101	0	3,481	0
Bulk 20K to 40K DWT	DB	1,010,304	5,264,181	227,618	5,103	948,777	28,460	18,335	0	70,501	0
Bulk 40K to 80K DWT	DC	1,097,492	3,676,421	853,872	2,689,268	1,367,048	145,757	149,760	499,955	345,748	39,418
Bulk 80K to 100K DWT	DD	385,587	592,811	219,060	1,466,389	440,635	38,245	48,491	293,465	163,798	13,557
Bulk 100K to 175K DWT	DE	869,682	236,232	111,914	1,192,976	692,460	19,700	142,160	244,969	214,642	236,178
Bulk >175,000 DWT	DF	501,913	36,392	20,475	322,386	360,844	3,621	88,574	67,156	97,133	168,124
Combo <20,000 DWT	EA	0	0	0	0	0	0	0	0	0	0
Combo 20K to 40K DWT	EB	0	0	0	0	0	0	0	0	0	0
Combo 40K to 80K DWT	EC	0	0	0	0	0	0	3,419	0	0	0
Combo 80K to 100K DWT	ED	0	0	0	0	0	0	1,903	0	2,032	0
Combo 100K to 175K DWT	EE	0	0	0	0	0	0	10,471	0	16,366	0
Combo 175,000 DWT	EF	0	0	0	0	0	0	7,374	0	11,478	0
Tanker < 16,500 DWT	FA	0	0	0	0	0	0	0	0	0	0
Tanker 16.5K to 25K DWT	FB	0	0	0	0	0	10,611	0	0	0	0
Tanker 25K to 45K DWT	FC	0	1,547,333	0	0	66,742	24,970	0	0	176	0
Tanker 45K to 80K DWT	FD	0	1,158,094	0	0	37,155	26,972	44,997	0	98	0
Tanker 80K to 160K DWT	FE	0	391,620	0	0	9,768	83,409	25,050	0	26	0
Tanker 160K to 250K DWT	FF	0	80,773	0	0	1,611	42,806	6,585	0	4	0
Tanker >250,000 DWT	FG	0	12,804	0	0	204	12,980	1,224	0	1	0
Prod. Tanker < 16,500 DWT	PA	0	0	0	0	0	0	0	0	0	0
Prod. Tanker 16.5K to 25K DWT	PB	65,774	296,692	0	5,618	56	34,743	4,599	0	38	14
Prod. Tanker 25K to 45K DWT	PC	1,509,807	461,861	47,045	3,128	31	42,218	41,900	0	164	8
Prod. Tanker 45K to 80K DWT	PD	1,566,348	208,589	26,190	822	8	17,820	22,574	0	85	2
Prod. Tanker 80K to 160K DWT	PE	1,967,891	59,560	8,165	153	2	4,915	6,953	0	26	0
Gas Tankers	GA	0	0	0	0	0	0	23,614	0	0	0
Vehicle Carriers	HB	0	0	0	0	0	1,995,040	870,315	0	0	0
Other Ships	XX	797,275	0	0	0	0	204,843	0	2,732,023	0	0
TOTALS		21,039,706	14,778,302	8,944,911	7,851,775	5,010,294	4,657,716	4,347,642	4,334,075	1,733,206	834,255

Vessel Call Forecasts

This section of the report describes the process used to forecast the vessel calls that were utilized in the simulation models to analyze with and without project conditions. As discussed in the previous sections, DRI produced forecasts of cargo carriage by vessel type based on forecasts from the World Sea Trade Service (WSTS) and World Fleet Forecast Service (WFFS). These were combined with WSTS forecasts for the Port of Baltimore and detailed vessel calls and sailing drafts derived from the Waterborne Commerce Statistics Center data (WCSC) and vessel entrance and clearance data plus vessel characteristics from Lloyds Maritime Information Services (LMIS) and Fairplay. The analysis also related the forecasts to inland distribution patterns derived from Journal of Commerce PIERS data (JoC) and Reebie Associates Transearch data. Finally the projected vessel calls by sailing draft were combined with the vessel movements by terminal and anchorage within the Port of Baltimore from the Baltimore Maritime Exchange (BME) database (which is discussed in Annex D). The BME database provided information on the arrival/departure patterns (C&D vs. Cape Henry) and the detailed terminal and anchorage activity utilized in the simulation models.

The forecasts of vessel calls were derived by applying the DRI WSTS forecast growth by commodity and trade partner to the commodities identified on each WCSC vessel call to and from the Port of Baltimore. This procedure produced an initial forecast of vessel calls by vessel type based on projected commodity growth. The results of the vessel call forecast based on cargo growth were then combined with the vessel type forecasts from the World Fleet Forecast Service in order to incorporate changes in activity levels by vessel type. The projected vessel calls by direction were then modified to reflect future ballast voyages necessary to accommodate the vessel calls required in the dominant direction of cargo carriage. The individual vessel calls from the WCSC database were also linked to the Lloyd's vessel characteristics and sailing drafts from entrance and clearance files. These data sources allowed the projected vessel calls to reflect vessel characteristics and sailing drafts. The projected vessel calls by individual vessel type and sailing draft are included in Annex E. Table

projected vessel calls by individual vessel type and sailing draft are included in Annex E. Table 19 below includes a summary of the projected inbound and outbound vessels calls.

Table 19

PROJECTED PORT OF BALTIMORE VESSEL CALLS BY DIRECTION 1993 TO 2050

Direction	1993	2000	2010	2020	2030	2040	2050
Inbound	2,208	3,429	4,793	7,667	10,435	14,595	20,323
Outbound	2,210	3,430	4,793	7,667	10,435	14,595	20,323

Annex E also includes a summary of total vessel calls by vessel type. Containership and tanker calls are projected to increase as a percentage of total vessel calls. Vessel calls by the General Cargo class and the "Other Vessel" class will experience the largest declines in share of total projected vessel calls.

By the year 2050, overall vessel calls are projected to increase approximately 9.2 times (not a compound annual factor) the base calls observed in 1993. The increase in vessel calls compares to increases in import tons (7.3 times) and export tons (3.2 times). Vessel calls increase faster than projected tonnage since vessel calls are required to serve the dominant direction of trade (imports in the base forecast). The growth in vessel calls is also due to the increase in share of containership calls which are growing faster (increased share) than the slower growing bulk trades. This translates into more calls, for a given amount of tonnage, than required of bulk and tanker services. In addition, ballast voyages are projected to increase with the increases in the vessel calls in the dominant direction. Calls can increase faster than tonnage where imbalanced trades are growing given the procedures utilized by DRI which first project vessel calls necessary to carry the projected cargo and then add the computed ballast voyages required to balance the vessel movements.

The projected vessel calls were utilized to drive forecasts of vessel movements by terminal area and anchorage within the Port of Baltimore. Vessel movements within the Port of Baltimore were based on the analysis of the BME database of vessel movements. In the base year the BME vessel movements were matched to the vessel calls identified from the WCSC databases. This allowed approaches via Cape Henry or the C&D Canal to be identified as well as the linkage of voyages to calls at the major terminals and anchorage areas. A summary of the vessel calls by terminal area is included in Annex F: VESSEL ACTIVITY - TERMINAL USAGE. The BME vessel movement data also provided the baseline information on vessel movements by terminal related to baseline vessel calls.

The DRI forecasts of vessel calls by sailing draft were determined to be the same for the with and without project conditions. This was based on a review of the channel depths for the with and without projects, which indicated that the vessel types and sizes calling the Port of Baltimore would not be altered by the with project changes in branch channel depth. This result reflected the constant main channel depth and the relatively small branch channel depth changes, which, combined with the constant main channel depth, were deemed to not contribute to changes in the vessel types and sizes calling the Port of Baltimore. As a result, the benefits measured for the with project condition are identified from the simulation models based on the efficiencies in handling the forecast vessel activity relative to the without project condition. Thus the baseline DRI projections of vessel calls by vessel type and sailing draft were utilized as inputs to both the with and without project simulations.

ANNEX A WORLD SEA TRADE SERVICE FORECAST METHODOLOGY

ANNEX A

WORLD SEA TRADE SERVICE FORECAST METHODOLOGY

Introduction:

The DRI World Sea Trade Service depends upon a complex set of models. International trade is modeled for individual products over time. Individual models of worldwide trade for more than 59 commodities are included in the general service. Specific forecasts showing inbound and outbound trade of OECD member countries, newly industrialized countries in Asia, ASEAN countries, and selected Latin American countries. At the present time there are 32 reporter countries in the system. For each of these countries a complete trade data base exists showing trade with all 56 partner regions or countries worldwide.

Forecasts are derived from a set of econometric and parameter models. Econometric models generally include both demand and price variables. Over the past seven years, DRI has refined these models so that they are generally robust and stable representations of global trade patterns. In general, price elasticities calculated are of the correct sign and size.

World trade models are commodity specific. They define the interaction of importers and exporters on a global basis. Unlike other attempts at world trade model development these models do not begin with a top down estimate of total trade demand but rather are built up, in logical steps, from demand and supply to partner regions. For the most part econometric models define import demand and export supply. Parameter models are used, in relationship with econometric models (for total demand from world for country i, commodity k, and partner j, as of time period t) if separate econometric models are inappropriate due to the scarceness of the data available or a failure to find a statistically significant model using econometric techniques.

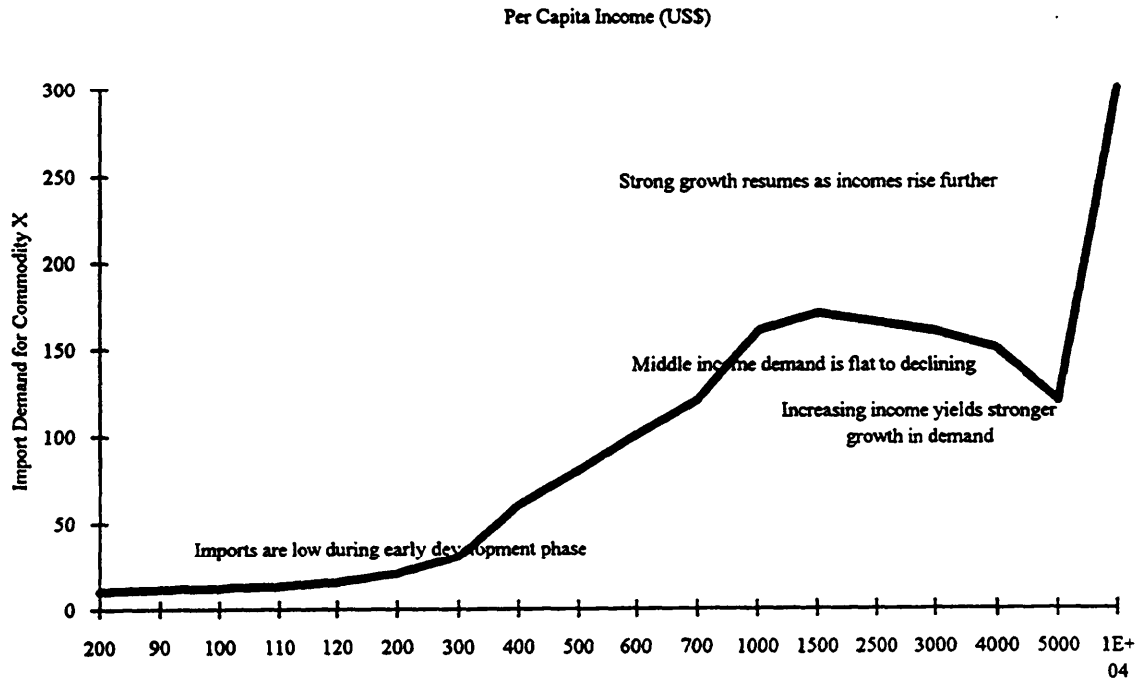
Imports and exports among the major developed market economy countries (32 reporter countries for which primary trade data are available) are balanced with exports flows to reporter countries and regions. The result is a forecast that takes into account both the past pattern of international trade from the perspective of the importer and the potential of individual exporters to improve their trade performance in these same markets as a result of changes in investments, relative wages, exchange rates and growth in total factor productivity.

Forecasts are based on estimates of macroeconomic variables drawn from DRI's extensive set of macroeconomic models (over 50 countries are modeled regularly as part of the DRI World Trade models, while depending upon macroeconomic factors, are not directly linked to country-specific trade forecasts. Despite the difference in approach we have found that the trade forecast -- developed from the collection of individual commodity forecasts covering reporter country trade to and from more than 56 partner regions -- tends to agree with the broadbased macroeconomic projection of trade.

Theoretical Framework: International Trade Life Cycle

The underlying theory for these trade models comes from an understanding of the changing structure that is impacting world trade. As nations develop, they require different inputs. Moreover, the change from a goods-intensive to a service-intensive producer forces a shift in the pattern of trade. In general, DRI trade models are based on a theory of a long term product life cycle theory that is roughly generalized in the diagram below. When a country is poor and underdeveloped it can buy little from the international market. As it develops, however, demand will increase. The developing industrial base and the expanding consumer sector require inputs from outside to sustain development. Often in this phase the country is exporting low value manufactures or attracting foreign investments. Once development is in place, then the domestic market may begin to substitute for the foreign market. This substitution is often a result of foreign investors' having set up manufacturing facilities to export similar products and also to supply the local market demand that is now growing fast as a result of the economic activity. In this growth stage foreign demand declines for the product. When the country becomes advanced, it may reverse this pattern and begin to buy more from abroad. This shift is normally the result of the elimination of low value producers of these type products in the home market because of rising levels of wages which force manufacturers to shift to high value production. During this final phase, import demand will increase.

As we know to be true for many of the most advanced and wealthiest nations this final phase has started. Import demand rises faster than economic growth as foreign producers substitute for domestic producers who have shifted from less-valued to more-valued production. At that time, the imposition of trade barriers would be counter productive since the cost to the economy of rebuilding this lost industrial base (lost not necessarily to foreign competition but rather to costly capital and labor) may be higher than the gains associated with job creation.



The Underlying Quantitative Model

The underlying quantitative model for exports and imports is a pooled cross sectional time series estimation procedure. The basic structure of this model is drawn from a somewhat traditional model for trade demand. In its simplest and most straight forward form, economists believe that changes in international demand can be related to changes in real income growth in the economy. We can hypothesize this model as follows:

$$\mathbf{M = f(Y) \quad or \quad M = APM * Y},$$

where APM = Average M/Average Y.

The APM in the above equation can be simply interpreted to be the average propensity to import as income changes. But APM is not a static relationship. It changes over time -- for a country and for the world in general. As a country becomes more intensively involved in the world economy, the expected additional imports will diminish. Moreover the beta itself must depend upon the structure within the economy. In DRI's trade models we have abstracted a somewhat more complex form for this equation. We know that as nations develop, there has been a tendency to substitute demand for services for demand of products. This shift must necessarily impact the average propensity to import or if we transform this equation from a level to a flow, it becomes the marginal propensity to import, i.e., the change in imports relative to the change in income.

In the 1960s, 1970s, and 1980s, the trade intensity of most nations increased with the demand for traded goods declining as the demand for services increased. The APM may be divided into two parts:

$$APM_{Y} = \frac{CG}{CG} x \frac{M}{},$$

where CG is the consumption of traded goods defined by CG = PG - E + M.

The trade intensity measure, M/CG, moves towards 1.0 while the CG/Y has tended to decline over time. Thus the marginal change in the APM while increasing will gradually slow down over time. We know for most smaller countries in Western Europe the integration has already led to trade intensity measures that are approaching unity (1.0). Over the past thirty years nearly all growth has come in this ratio as the general trend for most countries for CG/Y is negative.

Income can also be divided into two parts: market size and wealth per capita. The shift in demand can be related to market size since larger markets tend to demand more of some products but also to yield economies of scale that allow home market production to substitute for foreign production. The wealth effect on trade is sometimes positive since wealthier markets attract more foreign suppliers; and sometimes negative as wealthier markets may demand products that cannot be produced inexpensively abroad (high technology imports relative to market size may be higher the less wealthy the market).

Using these relationships we can reform our model for imports to be as follow:

$$M = A\,(CG/Y)^{\beta 1}(M/CG)^{\beta 2}(N)^{\beta 3}(Y/N)^{\beta 4},$$

where A is the constant intercept, CG/Y is the average consumption of traded goods to income, M/CG is the trade intensity measure, N is market size (population), and Y/N is per capita income or wealth.

A similar structural model can be hypothesized for exports:

$$E = A\,(PG/Y)^{\beta 1}(E/CG)^{\beta 2}(N)^{\beta 3}(Y/N)^{\beta 4},$$

where A is the constant intercept, PG/Y is the average production of traded goods to income, E/CG is the trade intensity measure, N is market size (population), and Y/N is per capita income or wealth.

Since we have formulated our model in terms of a multiplicative relationship adjusted by the estimated values for the betas (β). This form can be transformed using a logarithmic transformation so that the betas (β) are, in fact, point elasticities. If all betas (β) were approximately equal to 1.0 then the equation would be close to the original specification whereby imports are a function of the average propensity to import and income.

The current version of the DRI World Trade Model embodies structural relationships for consumption and production. The import model, however, has been formulated to mirror more correctly the short term patterns in market demand as reflected by the demand for consumer products (personal consumption expenditures) and investment goods (business fixed investment spending). A relative price term has also been introduced, as well as a commodity specific forecast of total consumption. Commodity specific consumption and production is introduced using broader based categories developed by DRI from OECD and United Nations data on production at the four digit ISIC group level of detail.[1] Per capita wealth is used in the export equation along with other factors such as productivity growth, relative wages, and prices. In both export and import models relative import and export prices are included. Population growth tends to be slow across time and is better captured by an individual country intercept than by a cross-country variable related to population size.

Translating Nominal U.S. Dollar Trade into Real Volume Trade Using Price and Exchange Rate Deflators

One of the most difficult to solve problems involves the question of intertemporal and intercountry comparisons of trade volumes. Econometric models are best described in terms of real volume rather than nominal value. Prices are both descriptive of the current value and also structurally important describing behavior of consumers as they change. Moreover, for internationally traded goods finding a common measure of purchasing power and the best procedure to judge volume changes is key to describing real activity in international trade. Since most trade data are stated in terms of a single denominator currency (U.S. dollars), changes in the local currency/dollar exchange rate can suggest that trade is growing faster or slower than is the case. A revalued currency against the dollar will suggest that dollar based trade is lower than it is in terms of trade volume since for the same amount of local currency more products can be purchased. Similarly, if the value is higher due to the devaluation of the currency against the dollar the actual volume of goods shipped may, in fact, be less.

A standardized approach to adjustment of trade value to volume has been developed that takes into account both commodity prices (in terms of U.S. dollars as measured using SITC based export and import price indices) and cross-exchange rates. Individual country differences in price inflation relative to U.S. prices are taken into account using export price indices. Two principles have guided our approach:

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[1] International Standard Industrial Classifications exist at the 2, 3 and 4 digit levels of detail. Generally, data are available from the OECD at the 4-digit ISIC category for most OECD member countries. Less detailed data are available from the United Nations. This source is generally several years out of date and there are often gaps in the coverage (many countries do not provide full detail). DRI has developed specialized interpretative models to fill in data where necessary. Apparent consumption is constructed from ISIC production data and ISIC level aggregates for international trade to and from the world. Specialized models for relating production and consumption to trade using a unified, input-output model to relate intermediate demand across product categories, have also been developed so that forecasts for both production and apparent consumption can be introduced into the World Trade Model.

1. Real changes in commodity prices should be captured;

2. Exchange rate changes should not be introduced mechanically, in order to avoid assuming that the full effect of the change in international prices is passed onto buyers by sellers.

The lack of fully consistent, trade-specific prices for commodities included in our studies has led to the development of a hybrid methodology using United States price statistics, exchange rates, and general export price indices. These synthetic measures are specific to OECD countries, specific to the commodities analyzed, and also specific to the direction of the trade.

We depend upon United States Department of Labor price indices for U.S. imports and exports. These indices are developed using survey data from U.S. importers and exporters, are commodity specific, and are available quarterly. They are not, however, specific to the direction of trade. Thus to understand the effect of U.S. dollar changes on Japanese export volumes we need to abstract from these commodity-specific U.S. dollar price indices by including the impact of changes in exchange rates and general export price trends in Japan.

In general for OECD country exporters U.S. export commodity price indices for historical data and DRI developed price forecasts for forecast periods are used. For exports of LDC regions, U.S. import commodity price indices are applied. For imports from OECD regions, we develop synthetic import price indices, specific to commodities, importing countries, and exporters -- i.e., for the French imports of product *k* from Japan, we use Japanese export prices to the world of product *k*. When applied to the dollar denominated (at current dollar/franc exchange rates) value for French imports the result is a volume measure of French imports from Japan in constant 1980 U.S. dollars and exchange rates.

While the system is somewhat synthetic -- using U.S. dollar commodity indices rather than country specific indices -- it is also dynamic in that it takes into account intercountry differences in price inflation. The generalized export price term for any reporter country *i* and any commodity *k* is :

$$\textbf{Export Prices jk} = \frac{\textbf{Index of Exchange Rates j (1980 = 1.0 based on LC/\$)}}{\textbf{BLS Commodity Price Export k (1980 = 1.0) *}}$$

(Export Price j (1980 = 1.0) / GDP Price Deflator U.S. (1980 = 1.0).

A currency that is revaluing relative to the dollar has an index that is declining. The adjustment of the commodity price for product *k* is designed to relate the export price of the exporter to the U.S. general price level. For example in the mid-1980s, the yen appreciated against the dollar the Japanese export price declined (in yen terms). A decline in the export price counters the appreciation in the yen/$ exchange rate (fewer yen per dollar).

To translate French imports from Japan into real import volumes we apply this export price relationship against the nominal dollar imports of France from Japan, i.e.:

$$RM_{jj\,k} = M_{ijkt} \times \text{Export Price}_{jk}$$

where RM is real imports, *i* is France, *j* is Japan, and *k* is any commodity category.

The index of exchange rates translates the nominal dollar trade into real dollars at a fixed exchange rate. The real imports are then divided by the commodity price adjusted by the differential rate of inflation between Japan and the United States (the basis for the commodity price data).

These synthetic measures capture some of the dynamic movement in prices paid by importers. Given the importance of the U.S. dollar, the American market, the commodity price shifts apparent and as reflected in U.S. SITC-based price statistics, appear to be reasonable proxies for true, commodity-specific and country-specific price series. Even if selected trade -based commodity prices were available for other reporters, differences in definitions would lead to difficulties. Thus this standardized method provides a good universal translation for all trade data no matter what the source.

In the case of trade between OECD reporters and developing countries, imports are deflated using a combination of U.S. import prices and exchange rate adjusted import prices. It is assumed that to remain competitive, export prices and exchange rates are adjusted within the larger U.S. market. To a limited extent, however, a revaluation of a currency against the dollar may be reflected in higher export prices and, as a result, imports from that country -- when nominal dollar import values are restated in real volume measures -- will show a smaller growth in terms of volume. The degree of adjustment included is, however, generally small since less developed country exporters are very sensitive to how changes in their export prices affect their export market shares.

The Structure of the Model

Each trade model includes a fully described set of historical and trade data for the 32 reporters trading both exports and imports with the 54 partner regions. For some reporters, such as the United States, Canada, Germany, France, United Kingdom, Italy, Japan, Hong Kong, Korea, Taiwan, India, Malaysia, Philippines, Thailand, Singapore, Indonesia, Brazil and Mexico there is a fully described matrix of bilateral trade flows among these countries. Thus, within the system, there exists German exports to the United States, United States imports from Germany (exports from the German trade data and imports from the U.S. trade data) as well as United States exports to Germany and German imports from the United States. [2] In the case of other regions data exists for imports of each reporter from nonreporter partner groups or regions. Thus, Swedish trade with Other Northern Europe exists but not Swedish trade with Norway (a member of Other Northern Europe).

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[2] For the three NIEs, Southeast Asia, India, Mexico and Brazil exports and imports are the same. Therefore, Brazilian exports to the United States are the same as United States imports from Brazil, since for these countries we have chosen to utilize U.S., rather than Brazilian data.

Reporter countries are those for which reliable detailed trade data and DRI macroeconomic forecasts are available regularly (see List A). Countries highlighted in italics on this list are those for which there bilateral trade is feasible. The 32 countries included in the current system cover roughly 90% or more of world trade. Partner countries are destinations and sources for trade for each reporter country (see List B).

The Process: The Multistage Approach to Global Trade Forecasting

Econometric models for imports and exports are based on a pooled-cross-sectional time series model with individual country intercepts (this is essentially the covariance model). Pooled cross-sectional models combine information on many countries over a relatively shortened time span, rather than rely upon country-specific time series models over longer time periods. Because international trade data are consistently available only from 1978 (at revision 2 of the UN's Standard International Trade Classification), and from 1988/89 using SITC Revision 3 (or harmonized codes), pooled cross-sectional time series models offer the best approach to trade analysis. Moreover, cross sectional models when combined with time series models, are capable of predicting both short-term patterns and long-term trends.

Cross country models are based on a theory that suggests patterns of future trade can be determined by observing the relationship between market size and economic wealth of more than a single country. Thus the pattern of trade of an advanced, service dominated economy like the United States may serve as a template for future patterns of trade for other countries, not as large or as wealthy.

Currently models are based on data starting in 1982 and running through 1993. As additional monthly data are available for selected reporters, they are included as annualized data and models are fully restated each quarter. To minimize possible differences in data between outbound and inbound trade on similar routes for non-OECD reporters, trade with OECD countries and regions data based on OECD reporter country statistics are used. [3] For example, Italian imports of steel from Taiwan are based on Italian imports from Taiwan and not Taiwanese exports to Italy.

The econometric relationships vary depending on whether import or export data are used. Most of the variance, however, is explained by the more general economic variables for the entire set of 22 OECD countries included in the estimating equation. To assure that noneconomic factors that affect the propensity of a country to import or its ability to export a specific product, individual country intercepts are also calculated. The form that these intercept terms take -- i.e., the independent variable that they modify -- differs depending if it

[3] Data for non-OECD countries are drawn from a variety of sources. United Nations data are generally only available at the 4 digit level of product detail for most countries. More detailed data is available for Taiwan and Hong Kong, while data for Korea has varied in quality over time. To minimize possible discontinuities, it has been generally decided to use OECD Trade Series C data as a proxy for LDC data to and from OECD members. LDC data are, however, used for non-OECD trade routes.

is an export or an import model. Thus for each country, the econometric equation is made up of three parts:

1. Coefficients specific to that country;
2. Coefficients common to the set of countries, and
3. Country-specific intercepts.

In general the equation has the following form:

$$M_{jk} = \phi k + \beta X + \varpi_i X_i$$

where i is the reporter country for which there is a single intercept term for each (ϕ), k is the product type and j is the partner region. The beta (β) represents the generalized coefficients jointly estimated, while ϖ is the coefficient for reporter and region specific variables. Generally, region-specific variables are used for differential price effects. We have found, for example, quite different reactions to changes in import prices among countries and regions.

Econometric Variables Included in the World Trade Models

Imports of OECD Reporters from Partner Regions

Import equations may depend upon:

- Traded goods consumption as a share of Gross National Product;
- Import share of traded goods consumption;
- Personal consumption expenditures;
- Investment expenditures;
- Import prices (the adjusted local currency price after taking into account changes in local/$ rates, cross rates of exchange, and U.S. commodity price trends);
- Import prices for specific importing regions (U.S., Japan, and Northern Europe);
- Consumption of commodity;
- Production of commodity ;
- Country specific intercepts;

and

- o Country-specific adjustment variables (for refining estimates using a two-stage estimation procedure).

Exports of All Reporters to Partner Regions

Exports are a function of the following variables:

- o Goods production share of Gross Domestic Product;
- o Exports of merchandise, adjusted for service component, as a share of production of goods;
- o Local currency wages;
- o Real factor productivity;
- o Investment share of output;
- o Exporter's price (includes adjustments for commodity prices, general export price trends relative to U.S. price trends, and exchange rates) in importer's currency (index);
- o Production of commodity ;
- o Country specific variables measuring demand growth and relative prices in importing regions,

  and

- o Country specific adjustment variables (developed using the iterative method of model adjustment).

Imports of Non-OECD Partners from All Reporters

Import demand for non-OECD partners are based on a pooled-cross-regional time series model. Total exports of all OECD and non-OECD reporter countries to each partner region are used as dependent variables in this model. It thus captures the dynamic nature of trade with newly industrializing nations. This model reflects the changing demand structure of developing nations. The coefficients reflect the shift that naturally occurs as a nation moves from complete dependence on foreign sources of supply to partial dependence and finally to exports (with a net trade balance that shifts from negative to positive as exports outstrip imports).

The following regional variables are used in this sub-model:

- Population size (the market to be reached);
- Per capita GDP (the region's wealth);
- Long term debt outstanding;
- Relative prices -- a combination term combining export prices and exchange rate movements;
- Consumption estimates for commodity;
- Region-specific coefficients for Total Imports;

  and

- Region specific intercepts (noneconomic factors affecting imports from OECD).

Integration of Econometric Forecasts with Noneconometric Trade Results

As discussed above, the World Trade Model has to combine elements of both methods to insure that results are reasonable estimates of future patterns of growth. To do this the system uses a weighted distribution of estimates for trade from the stochastic propensity and econometric models.

Because of the large number of trade flows forecast and their interdependence, it is critical that the world trade models incorporate internal tests and limits to insure that valid, reasonable forecasts are developed. Since logarithmic forms used in the econometric models are sometimes explosive, limits are imposed in the models assuring the quality of forecasts not singly, but rather for all countries and regions included in the modeling system.

The testing is done through an expert system. The expert system works with a number of simple rules that continuously check results against past trends in trade. Whenever a preliminary flow is assumed to be moving erratically, an alternate, more stable method is substituted.

Generally, we have developed a hierarchy of choice. If there are sufficient observations, then econometric models are estimated. If, however, there are insufficient degrees of freedom for accurate statistical models to be developed, then alternative, noneconometric approaches must be used. If the volume of trade is particularly small or erratic, then noneconometric approaches are again favored.

If an econometric model is sufficiently accurate -- judged by the Standard Error as an initial test, then its forecasting accuracy is tested over the historical period (1982 through 1992) in order to determine on which countries in the cross-country sample, trade forecasts should be based on econometric models and for which propensity models should be used.

To accomplish this an average error over the period (the cumulative average percentage deviation of the forecast from the actual) for each reporter is estimated. The pooled cross-sectional model technique allows the easy separation of each of the 32 reporters once the multi-country model is estimated. If the standard error for country *i* from region *j* for product *k* calculated over the forecast interval (1982-92) over a pre-determined limit -- MaxError -- then the propensity model forecast is used in place of the econometric forecast. When the standard error for the country is less than MaxError, but greater than MinError, then the noneconometrically determined estimate of trade is used. A formula is used to fix the weights:

ADJUST = (Standard Error - MinError)/(MaxError-MinError)

From this formula we can see that if the Standard Error is close to MinError, then the majority of the influence will be derived from the econometric specification. If, on the other hand, the Standard Error is closer to the MaxError then the opposite is the case.

If the standard error of the equation is less than the MinError, then only the forecast, adjusted by the estimated standard error for the flow (from the econometric model), is utilized. In this case, the forecast depends solely on the econometric results.

To insure that the best estimation and forecasting approach is used to project trade, a built-in expert system is used by the model software. The accuracy of the econometric model projection over the historical period is used as a measure of success. It determines when an alternative, noneconometric, approach should be used to project trade flows.

Parametric Models for Trade:
A Noneconometric Approach to Forecasting Trade Flows

In cases where the econometric approaches may not be sufficiently accurate (generally occurring when there is an insufficient number of observations), stable, noneconometric estimates of trade flows are developed using average patterns associated with historical periods. Such methods must, necessarily, choose criteria on which to base estimates, and such estimates are typically less volatile than the actual data they represent.

Noneconometric estimates are based on special propensity model that relates trade of a partner to total trade:

APM ijkt =Mijkt / M i,World,kt,

$$GRAPM(ikj) = \%Growth(APM(ikdt,1985\text{-}1992)),$$

where %Growth is the compound annual rate of growth for the period 1985-92, so that

$$M(ikd,t+1) = (APM(ijkt))*(1+.01*GRAPM(ijk))*M(i,World,kt+1),$$

where M is imports of country *i*, of product *k*, from region *d*, for time *t*; APM is the propensity to import *k* from *j* relative to *k* from World for all reporters *i*; GRAPM is the growth rate of the APM; and M(ik,World) is the imports of the commodity from the world.

If the APM were held constant in the forecast interval then the growth would be limited to the growth from the world for commodity *k*. To include the true change that has occurred, a growth parameter is introduced for the APM that reflects the change in the APM over the historical period and the projected growth in the APM into the forecast period. This growth is, however, constrained by a limit on the amount of growth allowed.

Thus the parameter model assumes that the market share, as measured (in the case of imports) by the ratio of imports from one subregion *j* relative to imports from the world, will change slightly based on the general direction of change recorded in the past. If the market share is growing then the share is growing relative to the imports from the world. Imports from the world is based on an econometric model.

Integration of Import and Export Estimates

This marks the end of the first stage of forecast development where preliminary forecasts of exports and imports are developed. Now in the second stage these preliminary, independent estimates are merged to yield a jointly consistent forecast. The sum of the parts in the model -- i.e., the demand by regions -- is compared to the demand estimated by the model's equations from all sources (from the OECD, from the LDC, and from the World). For each commodity these other estimates serve as additional information and are averaged with the forecasts developed by summing the regional values.

The model also integrates information on import demand with information on export supply. For intra-OECD trade, the import demand forecast serves as the template and the export supply models are used to measure market shares of individual reporter countries. Through a series of steps the export and import estimates -- for countries and regions -- are merged together.

The DRI World Trade Modeling System fits together structurally, not through a set of interlocking bilateral relationships, but through a set of interrelated regional/country relationships. For example imports of the United States are defined by the import demand models, i.e., imports from Japan, from Canada, from Germany, from Other N. Europe, from East Africa. United States imports from the OECD is the collection of the pieces of OECD

compared to U.S. imports from the OECD (an aggregate model estimate). Exports to the United States by OECD reporters is separately developed.

While it is possible that the German export market share in the U.S. market (from the export model) when multiplied by the aggregate U.S. import from All OECD yields in the forecast interval a reasonable estimate comparable to the U.S. import from Germany (one partner region within the OECD partner region set), there is no guarantee that they will be the same. To insure that they are, a separate adjustment procedure is applied in which the forecast pattern for import demand from Germany is given a 75% weight and the forecast Germany exports to the U.S. is given a 25% weight. The revised U.S. import from Germany and German exports to the U.S. for commodity *k* will then have the same growth pattern into the forecast interval.

Summary

World Trade Models are based on an integrated framework that analyzes data for 32 countries, exports and imports, with more than 54 major import or export regions/countries. At the present time there are 59 individual commodities for which trade models exist. At the present time the system includes information on over 200,000 separate trade flows worldwide.

Commodity specific forecasts are developed based on a combined econometric and average propensity framework where exports and import flows are fully integrated to insure global consistency. All forecasts are based also on the latest macroeconomic model variables related to patterns of trade appropriate to the commodity being traded.

Trade forecasts are updated quarterly using monthly data available for 12 countries (soon to be upgraded to 20 countries). Annual data are updated as available from the OECD Trade Series C data base. At the present time annual information through 1993 is included, with monthly supplements providing 1994 data for selected countries. For estimates of current year data, a weighted average of actual and forecast data are used.

List A: Reporter Countries included in World Trade System

MAJOR INDUSTRIALIZED REPORTER COUNTRIES

Australia	Austria
Belgium	*Canada*
Denmark	Finland
France	Germany
Greece	Ireland
New Zealand	*Italy*
Japan	Netherlands
Norway	Portugal
Spain	Sweden
Switzerland	Turkey
United Kingdom	*United States*

NEWLY INDUSTRIALIZING ASIAN DEVELOPING

Hong Kong	*Taiwan*
South Korea	

SOUTHEAST ASIAN DEVELOPING NATIONS

Philippines	*Indonesia*
Thailand	*Singapore*
Malaysia	*India*

LATIN AMERICAN COUNTRIES

Brazil	*Mexico*

List B -- Partner Regions in the World Trade Model System

WORLD — All countries including Socialists.

OECD — All 24 members of the OECD.

NE — Northern European Countries

FRANCE
GERMANY
UNITED KINGDOM
OTHER N. EUROPE

SEU — Southern European Countries
ITALY
OTHER S. EUROPE

JAPAN — Japan
CANADA — Canada
U.S. — United States
AZ/NZ — Australia/New Zealand
AUSTRALIA
NEW ZEALAND

LDC — Less Developed Countries

LATIN AMERICA

WLA - Western Latin America
ELA - Eastern Latin America
ARGENTINA
BRAZIL
OTHER E. LATIN AMERICA
CLA - Central America, Mexico, and Caribbean Islands
MEXICO
OTHER C. LATIN AMERICA

MEDITERRANEAN/PERSIAN GULF
MED - All countries bordering on the Mediterranean Sea including countries in North Africa, Egypt, Middle East
PG -- All countries bordering on the Persian Gulf
SAUDI ARABIA
OTHER PERSIAN GULF

IS -- India, Pakistan, Bangladesh, Afghanistan, Sri Lanka
INDIA
OTHER INDIAN SUBCONTINENT

FAR EAST

NICs -- Newly Industrializing Countries in Asia

KOREA
TAIWAN
HONG KONG

SEA -- Countries in Southeast Asia (members of ASEAN)
SINGAPORE
MALAYSIA
INDONESIA
PHILIPPINES
THAILAND

CHINA -- Including North Korea and Mongolia

AFRICA

SAF -- Southern Africa including Angola, Zambia, Zimbabwe, Malawi, and South Africa
EAF -- East Africa including Kenya, Ethiopia, Uganda
WAF -- West Africa including Ghana, Togo, Nigeria

EASTERN EUROPE -- All countries in Eastern Europe including the Former Soviet Union and former Yugoslavia
FORMER SOVIET UNION
OTHER E. EUROPE

Commodity Descriptions and Codes

Commodity	Description	SITC Rev.2 Categories
WST1	Live animals	00
WST2	Meat, fish and dairy products	01, 02, 03
WST3	Fruits and vegetables	05
WST4	Grain, animal feedstuffs	041 thru 045, 08
WST5	Sugar	06
WST6	Flour, food preparations, beverages & tobacco	046 thru 048, 07, 09, 11, 12
WST7	Animal skins, textile fibers and waste	21, 26, 29
WST8	Oil seeds	22
WST9	Animal and vegetable oil and fats	4
WST10	Rubber	23
WST11	Lumber, plywood and processed wood	24, 63
WST12	Pulp and waste paper	25
WST13	Phosphates	271.3
WST14	Cement, lime, stone, and crude materials	27 (except 271.3), 661
WST15	Manufactured fertilizers	56
WST16	Iron ore	281
WST17	Bauxite and non-ferrous ores	287
WST18	Other ores and scrap	282, 286, 288, 289
WST19	Coal and coke	32, 335.42
WST20	Crude petroleum	333
WST21	Other petroleum products	334, 335 (except 335.42)
WST22	Natural gas	341
WST23	Liquid bulk chemicals	511
WST24	Other chemicals	512 thru 516, 52, 53
WST25	Pharmaceuticals, toiletries	54, 55
WST26	Explosives, plastics, and other chemical prod.	57, 58, 59
WST27	Leather, rubber, and leather products	61, 62, 65 (except 658, 659)
WST28	Paper and paperboard	64
WST29	Other non-metallic mineral and metal manufactures	66 (except 661, 665, 666), 69 (except 696, 697, 699.1, 699.2, 699.3)
WST30	Iron and steel	67
WST31	Non-ferrous metals	68
WST32	Heavy industrial machinery	711, 712, 714, 718, 721, 725, 728, 736, 737
WST33	Light industrial machinery	713, 716, 724, 726, 727, 741, 742, 743, 745, 749
WST34	Heavy transportation & construction equipment	722, 723, 744, 782, 783, 786, 791
WST35	Automobiles	781
WST36	Motorcycles, automotive parts	784, 785
WST37	Aircraft and ships	79 (except 791)
WST38	Electrical equipment and parts	75, 76, 77

Commodity	Description	SITC Rev.2 Categories
WST39	Consumer goods, misc. manufacturing	658, 659, 665, 666, 696, 697, 699.1, 699.2, 699.3, 8
WST40	Commodities and transaction, nes.	9
WST41	Semiconductors and electrical parts	776, 778
WST42	Computers	752
WST43	Internal combustion engines and transmission shafts	713, 749.3
WST44	Automotive parts	784
WST45	Consumer audio and video	761, 762, 763
WST46	Office equipment	751
WST47	Electric power machinery and equipment	771, 772, 773
WST48	Household appliances	775
WST49	Textile furnishings	658, 659
WST50	Apparel and clothing accessories	84
WST51	Footwear	851
WST52	Scientific equipment	871, 872, 873, 874
WST53	Misc. light industrial machinery	716, 724, 726, 727, 741, 742, 743, 745, 749 (except 749.3)
WST54	Motorcycles and cycles	785
WST55	Misc. telecom and electronic equipment	759, 764, 774
WST56	Misc. consumer goods	665, 666, 696, 697, 699.1, 699.2, 699.3, 81, 82, 83, 88, 89
WST57	Engines and motors	714
WST58	Misc. heavy industrial machinery	711, 712, 718, 721, 725, 728, 736, 737
WST59	Pulp	251 (except 251.1)
WST60	Waste paper	251.1
WST61	Textile yarn and fabrics	651, 652, 653, 654, 655, 656, 657
WST62	Leather and rubber products	61, 62
WST63	Non-metallic mineral manufactures	66 (except 661, 665, 666)
WST64	Other metal manufactures	69 (except 696, 697, 699.1, 699.2, 699.3)
WST65	Meat, fish and dairy, requiring refrigeration	01 (except 014), 022.3, 022.41, 023, 024, 025, 034, 036
WST66	Meat, fish and dairy, not requiring refrigeration	014, 022.4 (except 022.41), 035, 037
WST67	Fruits and vegetables, requiring refrigeration	054.4, 054.59, 054.61, 054.84, 054.88, 057 (except 057.52, 057.6, 057.71, 057.72, 057.75, 057.79, 057.96, 057.99), 058.5, 058.61, 058.62
WST68	Fruits and vegetables, not requiring refrigeration	054.1, 054.2, 054.51, 054.62, 054.81, 054.82, 056, 057.52, 057.6, 057.71, 057.72, 057.75, 057.79, 057.96, 057.99, 058.2, 058.3, 058.63, 058.64, 058.9
WST69	Refined petroleum products	334
WST70	Residual petroleum products	335

ANNEX B WORLD FLEET FORECAST SERVICE METHODOLOGY

ANNEX B
WORLD FLEET FORECAST SERVICE METHDOLOGY

Introduction:

The demand side used for forecasting ships in the World Fleet Forecast Service (WFFS) is supplied by the World Sea Trade Service (WSTS). WSTS produces trade forecasts by commodity and by trade route and these forecasts are then combined with ship characteristics and ship movement data to produce a fleet forecast by vessel type and by route. To produce the fleet forecast, the model goes through the following steps:

1. The WSTS forecast is allocated to the 38 vessel types and sizes in the WFFS system by trade route.

2. For each trade route, the model sums the trade moving on each vessel type to produce the total amount of trade moving on each trade route by vessel type.

3. The capacity (in DWT) needed to carry the cargo by trade route and by vessel type is then computed.

4. The number of voyages needed to carry the computed capacity is then calculated.

5. The number of voyages is converted to shipyears to give an approximation of the number of ships needed to carry the cargo per year.

6. Finally, the shipyears are adjusted to account for ballast voyages or voyages needed to reposition ships.

Each one of these steps, as well as the inputs to the model, is discussed in more detail below.

Model Inputs:

The two areas of model inputs are the WSTS cargo forecasts and the ship characteristics and movement files. WSTS forecasts trade by 40 commodity categories for approximately 700 trade routes. WSTS embodies a global approach in that, for example, one must look at world trade to see how the U.S. competes with other countries to forecast U.S. trade.

The ship characteristics are based on 1995 observed characteristics. They are collected by trade route and cover the following concepts:

Ship Capacity: Total observed DWT capacity by shiptype travelling on each route for the year 1995.

Maximum Load Factors: The percent of the DWT capacity which can be used for allocation of cargo.

Number of Voyages: The observed number of voyages by shiptype on a particular route in 1995. In the case where a ship travels to more than one region on a trip (i.e. leaves Rotterdam and travels to Halifax and Boston before returning to Europe), the number of voyages depends on the number of regions in which the ship stops. In the Rotterdam to Halifax to Boston example, one voyage would be recorded for North Europe to East Canada and one voyage would be recorded for North Europe to North Atlantic U.S. So as not to forecast a surplus of ships in such cases of multiple voyages being recorded on one trip, a reallocation factor is calculated as described below.

Time Spent in Port: Average number of days spent in port in each region by vessel type.

Average Design Speed: Design speed based on Lloyd's Registry data.

Average Actual Speed: Average speed observed by vessels travelling on that route.

Distance: Number of miles from coast A to coast B for the route. This number may differ by vessel type for a route depending on the routing of the particular vessel type (i.e., some of the large vessels may not be able to go through a canal and must take a longer routing).

Canal Days: Number of days waiting to pass through a canal.

Off-Hire Days: Average number of days per year which a ship is off-hire. WFFS assumes 15 days per year.

Reallocation Factor: This is a factor which compensates for a ship which may unload and load cargo at more than one WFFS region on a trip. For example, the around-the-world container ships load and unload cargo at a number of different regions on their trips around the world. If a ship moves from the Arabian Gulf to the U.S. Gulf coast and unloads all of its cargo, the reallocation factor of 1.0. If it unloads 50 percent of the cargo on the Gulf coast and 50 percent of the cargo on the South Atlantic coast, the reallocation factor would be 0.5 on the Arabian Gulf to U.S. Gulf route, as well as the Arabian Gulf to U.S. South Atlantic coast.

The above factors constitute the inputs to the WFFS model.

Model Structure

Step 1

The first step in producing the fleet forecast is to allocate the 40 WSTS commodities across the 38 WFFS shiptypes. This is done for each route in the WFFS system and for each year being forecast. The shiptype allocation is based on historical data when available. Lloyd's Maritime Information Services provides the expertise on the shiptype allocations. A matrix is produced for each route for each year which looks similar to the example below.

Example

Shiptype

Commodity	AA	AB	AC	AD	AE	AF	BA	DA	...
WSTS 1	300	0	20	0	500	0	0	0	...
WSTS 2	20	0	200	0	0	0	0	0	...

The letters in the example represent the different shiptypes and the commodities are the 40 WSTS commodity categories.

Step 2

Each of the allocation matrices is summed to produce a total amount of cargo being carried by shiptype. The total cargo by shiptype in 1995 (the base year for the ship characteristics data) is compared with the shiptype capacity on each route to be sure that more cargo has not been allocated than capacity is available. If there is not enough capacity on a shiptype to carry the allocated cargo, the cargo allocation in Step 1 is reviewed for that route and adjusted accordingly.

Step 3

Once the cargo has been allocated by shiptype by trade route by year, the total capacity needed to carry that cargo can be calculated. The capacity required depends on a key assumption -- capacity utilization. Different scenarios can be run using different capacity utilisation assumptions. If a 90 percent capacity utilization assumption is assumed:

Required Capacity = (Cargo/.90)/Load Factor

The maximum load factor is the percent of DWT capacity (by shiptype) which can be used for cargo. The required capacity computed above is the true DWT capacity needed to carry the allocated cargo at a 90 percent capacity utilization rate.

Step 4

The next step is to calculate the number of voyages needed to carry the allocated cargo. The projected voyage capacity is divided into the forecast to compute voyages. This average capacity per voyage is increased over the forecast period to accommodate the larger ships coming on line. Therefore, for a single route, single year and single shiptype:

Forecasted Voyages = Forecasted Capacity * (1995 Voyages/1995 Capacity)* Percent Increase

Step 5

Once the voyages are forecasted, the number of shipyears required to make those voyages can be calculated. A shipyear can be defined in terms of the cargo a ship can carry in one year. The cargo carriage will vary as a function of speed, time in port, off-hire days and days spent waiting to go through a canal.

Conversely, one can look at the number of shipyears required to carry the specified cargo volumes. Since the WFFS system is a route based model, it looks at the number of shipyears by shiptype on each route as follows:

1. Calculate the number of days of one voyage for each route.

   # days per voyage = .5* time on coast A + 5* Time on coast B + Canal days (if applicable) + (Distance in miles/Average Actual Speed in Miles per Day)

2. Calculate number of shipyears per voyage.

   # shipyears per voyage =# days per voyage/(365 days per year - Off-hire days)

3. Calculate the number of shipyears on each route.

   shipyears - shipyears per voyage *# of voyages

Thus the total shipyears on each route for each shiptype is calculated, which is to say the total number of active ships needed to carry the cargo during the specific years on each route.

At this point, the shipyears, voyages and forecasted capacity are adjusted by multiplying the reallocation factor to compensate for ships loading and unloading in more than one WFFS region on a trip.

Step 6

When looking at ship movements, it is apparent that not all ships are fully loaded. A ship carrying oil from the Arabian gulf to the U.S. may return to the Arabian gulf without any cargo or in ballast to reposition itself for the next load of oil. Similarly, some ships sail on triangular routes or use

random tramping patterns. WFFS does a final "ballast adjustment" to address the different shipping patterns.

It is assumed that the patterns observed in the historical data are representative of what will occur in the future. WFFS compares historical voyages with forecasted voyages by route pairs. Each route pair consists of the inbound and outbound voyages from a specific WFFS region to a specific WFFS region. Therefore, the Northeast Coast of the U.S. outbound to Northern Europe is paired with the Northeast Coast of the U.S. inbound from Northern Europe. This pair match is made for all routes in the WFFS system. The historical ratio of shiptypes on each route pair is maintained by adding shipyears, voyages and capacity to the forecast years to maintain that ratio. For example, if for large tankers the model showed:

Base year	Arabian Gulf to U.S. Gulf Coast as 300 voyages
	U.S. Gulf Coast to Arabian Gulf as 240 voyages
Forecast year	Arabian Gulf to U.S. Gulf Coast as 600 voyages
	U.S. Gulf Coast to Arabian Gulf as 0 voyages

The forecast U.S. Gulf Coast to Arabian Gulf large tankers would be adjusted to 480 to maintain the historical ratio.

The ballast adjustment also checks for shifts in flows and limits the ballast growth in those cases. For example, if for a large container ship the model showed:

Base year	Northern Europe to NICs as 300 voyages
	NICs to Northern Europe as 200 voyages
Forecast year	Northern Europe to NICs as 400 voyages
	NICs to Northern Europe as 600 voyages

If the model merely kept the voyages in the same ratio as 1992, Northern Europe to NICs would be increased to 900 voyages. It is unlikely that this many voyages (and ships) need to be added to the route. Therefore, the model increased now back haul route voyages to equal the new fore haul route voyages.

Non-WFFS Structure

While WFFS covers an immense amount of trade routes, it is not exhaustive. An estimation by shiptype of shipyears, voyages, capacity and cargo carried is made annually based on actual numbers. This yields the total number of ships by shiptype and the estimated cargo carried by shiptype. The Non-WFFS portion is arrived at by subtracting out the WFFS numbers. The shipyears numbers are carried forward, making adjustments to them based on Lloyd's Register. The average cargo per ship is assumed to remain the same. The voyages and capacity for these ships are calculated by taking the average voyage per ship and capacity per ship for the WFFS ships in the base years.

ANNEX C DRI/MCGRAW-HILL GLOBAL ECONOMIC PARAMETER (LONG-TERM) MODEL

ANNEX C
DRI/McGraw Hill Global Economic Parameter (Long-Term) Model (2020 - 2050)

The extension of a global trade model from the standard World Sea Trade Service (WSTS) forecasts will be referred to as the Parameter Model in this annex. The trade forecast model (from which WSTS is derived) ordinarily covers trade and macroeconomic information from 1980 through 2010. This time horizon is typically long enough to understand trends in trade and transportation demand but not sufficiently long to properly address infrastructure issues. To address infrastructure issues, the time horizon is extended more than 50 years, resulting in the need for the long term model. There are two elements that are modeled separately in the DRI parameter approach:

- the changing economic environment including the structural adaptation of economies from those that begin largely driven by goods production to those which are dominated by growing service endeavors;
- a commodity or industry-group specific trade model that takes into account structural parameters and long-term patterns of growth.

Like other DRI trade models, this model reflects the cross-country pattern following a "Stage of Economic Development" model of economic and trade growth. As the rest of the world matures, changing productive abilities and requirements will impact demand. While developed using a large, multi-country sample of trade and economic data, a simplified structural form of the equations is used to capture the "long term" growth:

- National wealth, as measured by per capita personal consumption expenditures
- Market size, as measured by population and share of population that is located in urban, rather than rural areas.
- Industrial structure, as measured by the relative share of manufacturing or services in total output

This model incorporates the full range of the WSTS detail -- the 40 WSTS commodities and the 38 partner regions. The forecast output from this model will cover the period 2020 to 2050 in ten year increments.

Any extension of economic data fifty years ahead is prone to a number of problems -- especially related to the availability of technology. The difference in technology available in 1935 and 1995 is telling. In 1935, in the midst of worldwide depression, unemployment stood at close to 25% throughout the Western world. The production of automobiles in 1935 was roughly 300,000 cars per year equating to about 10 days' worth of production in 1995. The economy in 1935 was concentrated in manufacturing and agriculture with services playing a less important role. The technology was vacuum tubes, computers had not been invented, and communications were slow -- no satellite dishes, no aircraft that could cover the distance across the Atlantic much less the Pacific without refueling several

times. Travel involved slow moving seaplanes and ocean liners. In short, the world was a quite different place than it is today. It was insular where we are international today. The dominant unit of political and economic power was the nation state and the predominant business unit was organized around supporting the nation's objectives, not those of the global economy. Thus, it is not a simple matter to extrapolate the future from even the past trends.

While the WSTS system draws on DRI's macroeconomic forecasts, the parameter model extends the macroeconomic outlook far into the future using a more structural model. As indicated above, very long term economic theory suggests that growth depends on the pace of technological change that impacts labor productivity and the overall growth in the labor force as measured through population growth. This world view ignores short term fluctuations that are caused by budgetary adjustments or external shocks (oil shocks, earthquakes, mistakes of political and economic judgment, wars, famines, droughts, etc.) Growth in technology and embodied learning depend upon the emerging economic structure that is the mix between hard and soft type products (goods and services).

Economic Structure

Economic structure involves individual choices. The American economy, as a case in point, moved from a largely agrarian society in the 18th and early 19th century to an industrial society in the mid-19th to early 20th century. It finally evolved to today's service economy. Even within this service economy, there are changes that are pushing services from the distribution of goods and towards the social welfare of individuals. Where the service economy may have started with the concentration in wholesale and retail trades, it has shifted towards the provision of business and individual services and of late to services that can be considered to be community or health related, i.e., education, medical, and community related (including police, prisons, and the expanding need for courts of law). Each of these "sectors" is associated with a general coefficient of efficiency.

The shifts that occurred in an economy as it moved through this structural change occur because efficiency gains are always being appropriated by the less efficient sectors. This is the iron rule of social and economic change that predates modern economic thinking. Even in the very earliest and most primitive of societies these gains have been taken through commerce. The shift from hunters and gatherers to agricultural communities is the only exception to this general rule. This change was dictated by the inefficiency of the latter and the greater efficiency from the point of both production of food and stability of community provided by the later. After this transition, successive waves of economic structures tended to take value-added from improving efficiencies in the preceding economies. So, less efficient slash and burn gave way to crop rotation and composting, farmers' surplus production could be sold to the emerging class of craftsmen through the auspices of traveling merchants. Efficiency of shopkeepers and crafts were taken by bankers and governments (royalty in the early period and parliamentary governments in

the latter). Each provided something that the other lacked. Bankers created mediums of exchange and stores of value, while governments provided rules and protection from threats. This transition from one type of economic leader to another has continued to this day. Efficiency in agricultural production that forced 90% of the population from earning a livelihood from the land to producing manufactured goods and services in the cities was first taken by manufacturing. Manufacturing efficiency has been appropriated by services. And now, the efficiency of agricultural, manufacturing, and services are being appropriated by social welfare and health expenditures.

To effectively develop a model that extends the economic timeline, models need to be developed that measure how the type of economic structures described in the paragraph above change over time. The resulting macroeconomic model is solved simultaneously yielding economic concepts that can be applied to the individual products traded internationally. Because there is a need to make this system fully endogenous, (i.e., not dependent on any assumptions other than those embodied within the relationships among the variables estimated econometrically but reflective of the broader sweep of historical change in economic growth that occurs), these parameters are based on the cross-country model that reflects the stages of economic growth. No single country's factors are reflected in the model's coefficients, but rather the coefficients reflect the "common" framework through which all countries will pass on their way from poor to rich. Even the rate of population growth can be made endogenous. There is a strong negative relationship between the rate of economic growth and the level of income per capita and the rate of population expansion.

The Long-Term Parameter Model

The long-term forecast depends critically on population growth. Once population growth rates are determined through simultaneous models of output growth, they are used in a parameter version of the trade (WSTS) model which depends upon calculated point elasticities. Growth parameters for each product, both imports and exports, are applied to the trade figures from 2010, the last year of the WSTS forecast and the last year available for the macroeconomic forecasts. Export shares depend on both the reporter countries' growth path and on the growth projected for competitors. Exports, however, are derived from export shares by partner market among the 33 reporters and on the rate of import demand in the buying market.

Mijkt = (1 + (Git x Ejk))**10 x Mijk (t-1), where

I = reporter
j = partner region
k = product
t= time at ten year intervals, starting in 2010
M = imports
G = Vector of Compound Growth Rates

for Macroeconomic Variables (10 year intervals)
E = Vector of elasticities for macroeconomic variables.

The above equation is based on growth elasticities that are raised to the 10th power, which expands the last year's imports to a point that is ten years later. Elasticities are derived from econometric models for individual products and regions. As in the primary trade models, the pooled cross sectional time series structure is applied across all reporters. Unlike the trade models, the data set used is not only the historical period but also the forecast interval. The coefficients reflect the long-term view of the general trade model. The parameters estimated are then used to develop growth estimates.

To insure stability, it is assumed that the import demand of a reporter country from a partner region is the critical determinant of export growth. Export market share, however, varies as countries specialize. Relative export growth rates determine export market shares. Actual levels of exports depend upon a combination of import demand growth for the importing region and the projected export share. As a final step in the process, the rate of growth across all the reporter-partner combinations coming from the import direction and from the export direction are averaged. The net result is a consistent, global forecast for trade for each commodity group.

Worldwide Output in the Very Long Term

The model projects worldwide output to grow at a generally sustained rate of over 3 percent for the next six decades. It is important to note that this comes in the midst of steady decline in the real rate of growth of individual economies over time. What we are observing in this upward growth trend in real output is a shift in the weight attributed to the faster growing, but population rich nations of the "third world" toward "first world" status. So far, this long theorized "narrowing" of the gap between rich and poor has not taken place. However, within the confines of this structural modeling system, it is possible for this to take place. Thus Asia's share of the worldwide output increases dramatically. The general trends embodied in this model are likely to be sustained with the share of Asia and Latin America growing in importance as the more advanced market economies slow their economies' growth toward rates consistent with their population growth.

Driving this growth is a steady shift in the share of output across different industrial and service industries. Looking at the world economy, we can see this in the steady movement from manufacturing into services. In 1990 about 33% of total worldwide output was produced by manufacturing sectors, by 2050 this share is expected to be only about 22%. Simultaneously, the share accounted for by finance, insurance, business services will increase from about 16% to 31% and for community and personal services from 12% to 20%. Transport and communications -- serving different industries -- increases from 6% to 8%, while wholesale and retail trade declines slightly from 15% to 8%

Commodity Trade Patterns

The long term framework model is used to drive more detailed commodity models, developed from the World Sea Trade Model (see Annex A) baseline simulations. These models are generally consistent in form to the models developed for the on going forecasts but are estimated across the entire time period and thus are based on both historical and future patterns of trade as defined by the World Trade model scenario. The rate of growth for imports and exports is thus defined by the elasticities for the factors included in these models. Only price terms are excluded and it is assumed that relative factor prices do not change in the long term. This is a reasonable assumption given uncertainty about future prices charged and future exchange rates.

United States Imports from the World -- Growth Rates

Product Group	1990	2000	2010	2020	2030	2040	2050
Agriculture	2.8	4.2	3	6.2	2.9	3.1	3.3
Raw Materials	3	5	3	3.2	0.8	1.3	1.5
Energy	1.9	4.5	2.2	3.4	3.6	3.6	3.4
Chemicals	10	7.5	3.8	3.9	2.2	3.2	3.3
Intermed. Mfg.	4.4	6.6	3.2	5.2	3.2	3	3
Non-electric Eq.	8.1	6.1	3.2	3.2	3.1	3.5	3.5
Electrical	12.1	6.5	2.1	3.5	1.5	1.4	0.6
Electronics	16.8	10	4	3.6	1.7	2.1	2.4
Autos & Parts	7.6	5.8	3.2	0.5	0.8	2.2	3.1
Other Transport	8.7	7.1	5.5	6.7	3.5	3.8	3.7
Consumer	9.7	7.4	3.1	5.9	3.7	4.6	4.2
Total	7.1	6.7	3.4	4.2	2.8	3.4	3.4

United States Imports from the World -- Market Distribution

Product Group	1990	2000	2010	2020	2030	2040	2050
Agriculture	5.8	4.6	4.5	5.4	5.5	5.3	5.3
Raw Materials	3.9	3.4	3.3	3	2.4	2	1.6
Energy	13.3	10.8	9.7	8.9	9.7	9.9	9.8
Chemicals	3.6	3.9	4.1	4	3.7	3.7	3.7
Intermed. Mfg.	10.1	10.1	9.9	10.8	11.3	10.9	10.5
Non-electric Eq.	6.1	5.8	5.7	5.2	5.4	5.4	5.5
Electrical	2.6	2.6	2.3	2.1	1.9	1.6	1.2
Electronics	12.4	16.8	17.8	16.8	15.2	13.4	12.1
Autos & Parts	14.3	13.1	13	9	7.4	6.7	6.5
Other Transport	4.5	4.7	5.7	7.3	7.8	8.2	8.5
Consumer	20.1	21.5	21	24.7	27	30.4	33
Total	100	100	100	100	100	100	100

United States Exports to the World -- Growth Rates

Product Group	1990	2000	2010	2020	2030	2040	2050
Agriculture	0.9	4.3	4.6	3.9	1.8	2	2.4
Raw Materials	0.6	1.8	4.4	3.3	0.2	1.9	2.7
Energy	3.4	0.5	0	8.2	4.8	5.1	4.6
Chemicals	2.7	5.6	4.6	4.9	3.7	3.9	3.9
Intermed. Mfg.	0	5.4	4.5	4.6	3.9	3.7	3.6
Non-electric Eq.	0.8	4.9	5.3	5.3	4.3	4.3	4
Electrical	7.6	6.2	5.7	3.9	4.2	3.7	3.4
Electronics	8.2	7.8	5.9	4.6	3	3.2	3.6
Autos & Parts	2.4	8.7	6.9	1.3	3.1	3.9	3.6
Other Transport	0.3	3.7	5.8	5.6	3.8	4.5	3.8
Consumer	3.2	8.3	6.4	6.7	4.5	4.4	4.2
Total	2.7	5.7	5.4	4.7	3.5	3.8	3.7

United States Exports to the World -- Market Distribution

Product Group	1990	2000	2010	2020	2030	2040	2050
Agriculture	11.2	9.7	9	8.4	7.1	6	5.3
Raw Materials	7.3	5	4.5	4	2.9	2.4	2.1
Energy	3.2	1.9	1.2	1.6	1.8	2.1	2.2
Chemicals	8.2	8.1	7.5	7.7	7.8	7.9	8
Intermed. Mfg.	7.5	7.3	6.7	6.6	6.8	6.8	6.7
Non-electric Eq.	9.3	8.6	8.5	9	9.8	10.2	10.5
Electrical	2.5	2.6	2.7	2.5	2.7	2.7	2.6
Electronics	16.8	20.4	21.2	21.1	20	18.9	18.6
Autos & Parts	8.5	11.3	13	9.3	9	9.1	9
Other Transport	12	9.9	10.3	11.2	11.6	12.5	12.6
Consumer	9.6	12.3	13.5	16.3	18	19.1	20
Total	100	100	100	100	100	100	100

ANNEX D BALTIMORE MARITIME EXCHANGE PCEXPRESS DATABASE

Annex D
BALTIMORE MARITIME EXCHANGE PCEXPRESS DATABASE

The Baltimore Maritime Exchange (BME) data has been structured into a pcExpress database. This database includes a record and field structure capturing the movement records and includes a number of variables showing record counts, distributions and so on.

Records

There are a total of 18,145 records in the database covering the three-year period from 1991 to 1993. A summary of these records is as follows:

Move Type	Records	Vessels	Vessel/Days	Dup
Inbound	6,869	2,145	6,795	74
Anchorage	4,425	1,053	4,269	156
Outbound	6,851	2,167	6,760	91
Subtotal			17,824	321
Total	18,145	2,843	16,253	

A few notes concerning these summary statistics:

1. The movement records are all unique records read from BME files. Vessel counts include unique spellings and the actual number of vessels is therefore smaller than the 2,843 count.
2. The vessel/day numbers noted above are unique instances of a vessel on a day and these represent the large majority of movement records. There do appear to be a few duplicate records for at least inbound moves. In addition, the anchorage records include some apparent duplicates. Other records noted as duplicates are legitimate. For example, a vessel at anchorage on a specific day but moving to a new anchorage results in two records for that vessel/day combination.
3. Of the 6,795 inbound vessel/day combinations, there are 746 which are also in the 6,760 outbound count. Thus, 11% of inbound vessels leave on the same day.

Vessel Match with LMIS Data

Of the 2,843 vessels, 1,935 are currently identified as having Lloyd's Registry Numbers. This matching is derived primarily from the BME "Cards" file. Some portion of the 908 difference will be identified by further matching of misspelled names. These unidentified vessels account for 9% of inbound moves in 1991, 6% in 1992 and 8% in 1993.

The 1,935 subset includes 1,678 different Lloyd's vessels -- 257 duplicate vessels. Of the 1,678 Lloyd's vessels, there are 427 for which data is not available from current Lloyd's files. These matched vessels for which LMIS data is not available represent 21% of inbound moves in 1991, 7% in 1992 and 10% in 1993. Vessels matched with Lloyd's registry numbers, and which have vessel characteristics identified, represent 70% of inbound movements in 1991, 77% in 1992 and 82% in 1993.

Database Structure

The database includes a single dimension representing all 18,145 records. There are separate variables for each field. This structure naturally allows for the analysis of vessel itineraries by sorting on vessel

name and date. This structure also allows for the analysis of point-to-point summaries by selecting on certain fields and using counts of the results. Individual fields (variables) are as follows:

1. Record type -- inbound, anchorage, outbound
2. Vessel name
3. Date
4. Route (inbound and outbound) This is either Cape Henry or the Chesapeake-Delaware Canal.
5. Draft feet and draft inches are combined in a decimal draft variable. This is filled in for most inbound and outbound records but only rarely in the anchorage records. Anchorage drafts could probably be derived from copying the appropriate inbound data.
6. Inbound anchorage indicates. There are three fields showing if the inbound move is going to anchor. (DOA -- Dock on Arrival) is Y if this is the case. The great majority of inbound records (5,884 of 6,869 or 86%) are DOA. The other two fields are TPO (Take Pilot Off) or ANCHOR, which indicate that the ship is anchoring.
7. Berth. This indicates the ultimate berth for a DOA inbound movement, where the ship will be berthed when cleared for an anchorage record, and where the ship came from for an outbound record. This may be different from the inbound record. Keep in mind that many vessels move around within the port, may come into one berth, unload or load, and then move to another berth, unload and load and then leave. There is no data in the BME data base on such movements other than the inbound or outbound berth.
8. There is a variety of other data in the BME files that is not included in the pcExpress database. This includes tug information, flag of ship, agents, various time fields, comments, etc. This information can be read in with little additional effort.

Description of Data Edits for Baltimore Maritime Exchange

DRI/McGraw-Hill analysts thoroughly studied the data from BME. DRI recognized that, for purposes of cargo analysis, the BME data could be refined to more accurately reflect the movement of goods to and from the Port of Baltimore.

From the perspective of analyzing cargo, DRI is primarily interested in the movements of goods between distinct ports. The BME data, however, accounts for vessel movements within the Port of Baltimore. Between trips into and out of the port, vessels often travel within the port. Although this intra-port travel constitutes vessel movements within the Port of Baltimore, it does not account for the movements of goods between two different ports. Furthermore, the BME data may count vessels that rest at the port overnight twice. This inclusion of intra-port movements and the double counting of overnight vessels would distort the actual goods transportation between ports.

In most cases, duplicate entries were recorded by BME in between a vessel's anchorage and berth, and then during its movement out to sea. To avoid the double-counting of voyages, the DRI project team completed a comprehensive search for duplicate records within the BME data. Records that appeared twice in the BME data were only desired once in DRI's study. DRI located duplicate records by identifying those vessel calls when a vessel name appeared twice on the same date. These records were defined by DRI as repetitious and were subsequently deleted from the database.

DRI edited the Baltimore Maritime Exchange data for its analysis of trade at the Port of Baltimore.

ANNEX E FORECASTS OF VESSEL CALLS BY VESSEL TYPE AND SAILING DRAFT

ANNEX E

FORECASTS OF VESSEL CALLS BY VESSEL TYPE AND SAILING DRAFT

This annex documents all vessel calls, inbound and outbound, by shiptype and by sailing draft. The following tables are arranged by shiptype and show actual calls in 1993 and those forecasted for the years 2000, 2010, 2020, 2030, 2040 and 2050.

Number of Movements by Sailing Draft in Feet for Vessel Type: AA

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	28	37	40	62	83	104	124
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	2	2	3	4	6	7	8
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2	3	3	4	6	7	9	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	2	3	3	4	6	7	9	0	0	0	0	0	0	0
17	2	3	3	4	6	7	9	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	7	10	11	17	22	28	33
19	4	5	6	9	12	15	18	6	7	8	12	17	21	25
20	16	21	23	36	47	59	71	22	30	32	50	66	83	99
21	8	11	11	18	24	30	35	9	12	13	21	28	35	41
22	12	16	17	27	36	45	53	7	10	11	17	22	28	33
23	8	11	11	18	24	30	35	9	12	13	21	28	35	41
24	16	21	23	36	47	59	71	33	44	48	75	99	124	148
25	24	32	34	53	71	89	106	13	17	19	29	39	48	58
26	20	26	29	45	59	74	89	15	20	21	33	44	55	66
27	32	42	46	71	95	119	142	26	34	37	58	77	97	115
28	35	48	51	80	107	134	159	20	27	29	46	61	76	91
29	26	45	57	95	131	162	181	28	48	59	99	137	169	190
30	20	26	29	45	59	74	89	9	12	13	21	28	35	41
31	24	32	34	53	71	89	106	22	30	32	50	66	83	99
32	12	16	17	27	36	45	53	9	12	13	21	28	35	41
33	4	5	6	9	12	15	18	4	5	5	8	11	14	16
34	4	5	6	9	12	15	18	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	268	370	408	643	861	1075	1270	268	370	408	643	861	1075	1270

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AB

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	5	5	4	6	7	7	6
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	2	1	2	2	2	2	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	7	7	5	8	9	9	8
14	4	4	3	4	5	5	4	3	4	3	4	5	5	4
15	2	2	1	2	2	2	2	10	11	8	12	14	14	12
16	11	11	8	12	14	15	13	12	13	9	14	16	17	14
17	12	13	10	14	17	17	15	9	9	7	10	12	12	10
18	5	6	4	6	7	7	6	5	5	4	6	7	7	6
19	7	8	5	8	10	10	9	0	0	0	0	0	0	0
20	4	4	3	4	5	5	4	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	2	2	1	2	2	2	2
22	0	0	0	0	0	0	0	3	4	3	4	5	5	4
23	4	4	3	4	5	5	4	2	2	1	2	2	2	2
24	4	4	3	4	5	5	4	3	4	3	4	5	5	4
25	2	2	1	2	2	2	2	0	0	0	0	0	0	0
26	2	2	1	2	2	2	2	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	2	2	1	2	2	2	2	0	0	0	0	0	0	0
29	2	2	1	2	2	2	2	0	0	0	0	0	0	0
30	2	2	1	2	2	2	2	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	62	66	48	71	84	85	75	62	66	48	71	84	85	75

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A1

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	3	3	5	7	9	11
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	3	5	6	9	13	17	21	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	5	8	10	15	20	27	33
16	6	10	12	19	26	34	42	2	3	3	5	7	9	11
17	3	5	6	9	13	17	21	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	5	8	10	15	20	27	33
19	3	5	6	9	13	17	21	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	2	3	3	5	7	9	11
22	0	0	0	0	0	0	0	5	8	10	15	20	27	33
23	3	5	6	9	13	17	21	2	3	3	5	7	9	11
24	0	43	123	246	402	585	786	3	48	129	256	416	603	808
25	0	0	0	0	0	0	0	2	3	3	5	7	9	11
26	3	5	6	9	13	17	21	2	3	3	5	7	9	11
27	6	10	12	19	26	34	42	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	6	10	12	19	26	34	42	5	8	10	15	20	27	33
30	3	5	6	9	13	17	21	5	8	10	15	20	27	33
31	3	5	6	9	13	17	21	2	3	3	5	7	9	11
32	0	0	0	0	0	0	0	2	3	3	5	7	9	11
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A1

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	41	106	202	367	569	806	1060	41	106	202	367	569	806	1060

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A2

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	41	59	73	107	134	172	215
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	2	3	4	6	7	9	11
17	0	0	0	0	0	0	0	2	3	4	6	7	9	11
18	0	0	0	0	0	0	0	2	3	4	6	7	9	11
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	4	6	8	11	14	18	23
21	3	5	6	8	11	13	17	11	16	19	28	35	45	57
22	16	23	29	42	53	67	84	28	40	50	73	92	117	147
23	13	19	23	34	42	54	67	11	16	19	28	35	45	57
24	60	88	109	159	200	256	320	30	44	54	79	99	126	158
25	67	97	120	176	221	283	354	28	40	50	73	92	117	147
26	38	56	69	101	126	161	202	45	65	81	118	148	190	237
27	51	74	92	134	168	215	270	41	59	73	107	134	172	215
28	67	97	120	176	221	283	354	45	65	81	118	148	190	237
29	57	83	103	151	190	242	303	30	44	54	79	99	126	158
30	38	56	69	101	126	161	202	53	78	96	140	177	226	283
31	22	56	109	204	321	474	657	32	70	126	230	354	516	709
32	29	42	51	75	95	121	152	19	28	35	51	64	81	102
33	19	28	34	50	63	81	101	26	37	46	67	85	108	136
34	16	23	29	42	53	67	84	21	31	38	56	71	90	113
35	13	19	23	34	42	54	67	32	47	58	84	106	135	170
36	6	9	11	17	21	27	34	13	19	23	34	42	54	68
37	0	0	0	0	0	0	0	2	3	4	6	7	9	11
38	3	5	6	8	11	13	17	2	3	4	6	7	9	11
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A2

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	519	779	1001	1511	1964	2574	3286	519	779	1001	1511	1964	2574	3286

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A3

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	8	12	14	25	32	40	48	4	6	7	13	16	20	24
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	2	3	4	6	8	10	12
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	4	6	7	12	16	20	24	2	3	4	6	8	10	12
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	4	6	7	12	16	20	24	0	0	0	0	0	0	0
28	8	12	14	25	32	40	48	2	3	4	6	8	10	12
29	8	12	14	25	32	40	48	0	0	0	0	0	0	0
30	8	12	14	25	32	40	48	6	9	11	19	25	31	37
31	8	12	14	25	32	40	48	14	21	26	45	57	71	86
32	15	23	29	50	64	80	96	12	18	22	38	49	61	73
33	12	17	22	37	48	60	72	25	38	48	83	107	132	159
34	0	0	0	0	0	0	0	6	9	11	19	25	31	37
35	4	61	178	351	565	870	1267	6	64	182	358	573	881	1280
36	8	12	14	25	32	40	48	8	12	15	25	33	41	49
37	4	6	7	12	16	20	24	4	6	7	13	16	20	24
38	4	6	7	12	16	20	24	2	3	4	6	8	10	12
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A3

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	92	194	344	638	935	1329	1819	92	194	344	638	935	1329	1819

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A4

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	3	6	9	14	22
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	2	3	4	8	12	19	30	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	2	3	6	9	14	22
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	1	2	3	6	9	14	22
28	0	0	0	0	0	0	0	1	2	3	6	9	14	22
29	2	3	4	8	12	19	30	1	2	3	6	9	14	22
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	2	3	6	9	14	22
32	3	5	8	16	24	39	60	1	2	3	6	9	14	22
33	7	11	16	31	49	77	121	5	8	12	23	35	56	87
34	8	14	20	39	61	97	151	7	12	18	34	53	84	131
35	15	25	36	70	109	174	271	16	26	38	73	114	181	283
36	3	5	8	16	24	39	60	5	8	12	23	35	56	87
37	2	3	4	8	12	19	30	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	1	2	3	6	9	14	22
39	2	3	4	8	12	19	30	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A4

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	40	182	467	933	1759	3173	0	40	182	467	933	1759	3173
41	0	0	0	0	0	0	0	1	2	3	6	9	14	22
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	43	111	287	671	1249	2261	3956	43	111	287	671	1249	2261	3956

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AE

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	2	3	4	7	9	12	16	16	27	36	53	69	94	127
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	1	2	3	5	6	9	12
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	2	3	5	6	9	12
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	3	4	7	9	12	16	3	5	7	10	13	17	23
22	0	0	0	0	0	0	0	1	2	3	5	6	9	12
23	4	7	9	13	17	23	31	3	5	7	10	13	17	23
24	8	13	18	26	34	46	63	18	29	40	58	76	102	139
25	46	76	103	151	196	266	361	36	58	80	116	151	205	278
26	26	43	58	85	111	150	204	54	88	119	174	227	307	417
27	46	76	103	151	196	266	361	45	73	99	145	189	256	348
28	50	82	112	164	213	289	393	40	66	90	131	170	231	313
29	24	50	90	144	207	298	421	27	54	96	153	218	313	441
30	42	69	94	138	179	243	330	33	53	73	107	139	188	255
31	46	76	103	151	196	266	361	28	46	63	92	120	162	220
32	32	53	72	105	137	185	251	16	27	36	53	69	94	127
33	2	3	4	7	9	12	16	9	15	20	29	38	51	70
34	2	3	4	7	9	12	16	1	2	3	5	6	9	12
35	0	0	0	0	0	0	0	1	2	3	5	6	9	12
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AE

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	335	557	782	1155	1522	2081	2840	335	557	782	1155	1522	2081	2840

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AF

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	3	4	4	6	8	10	10
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	2	3	3	5	6	7	7	1	2	2	3	4	5	5
21	0	0	0	0	0	0	0	1	2	2	3	4	5	5
22	2	3	3	5	6	7	7	1	2	2	3	4	5	5
23	8	12	12	18	24	28	29	3	4	4	6	8	10	10
24	10	15	15	23	30	35	36	7	10	10	16	20	24	25
25	2	3	3	5	6	7	7	10	14	14	22	29	33	34
26	6	9	9	14	18	21	22	4	6	6	9	12	14	15
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AF

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	30	45	44	69	90	105	108	30	45	44	69	90	105	108

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: BA

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	3	9	9	12	15	18
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	3	9	9	12	15	18	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: BA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	3	9	9	12	15	18	1	3	9	9	12	15	18

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DA

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	2	4	6	7	6	5	5	3	5	8	10	9	8	7
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	2	4	5	4	4	3
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	1	2	4	5	4	4	3
18	2	4	6	7	6	5	5	3	5	8	10	9	8	7
19	4	7	12	14	12	11	10	3	5	8	10	9	8	7
20	4	7	12	14	12	11	10	9	15	24	30	26	23	21
21	4	7	12	14	12	11	10	13	22	36	45	39	34	31
22	11	18	29	35	31	27	25	28	47	77	95	82	72	66
23	6	11	17	21	18	16	15	13	22	36	45	39	34	31
24	8	14	23	28	25	22	20	3	5	8	10	9	8	7
25	0	0	0	0	0	0	0	12	20	32	40	35	30	28
26	0	0	0	0	0	0	0	3	5	8	10	9	8	7
27	4	7	12	14	12	11	10	0	0	0	0	0	0	0
28	4	7	12	14	12	11	10	1	2	4	5	4	4	3
29	13	21	35	43	37	32	30	0	0	0	0	0	0	0
30	6	11	17	21	18	16	15	0	0	0	0	0	0	0
31	23	39	63	78	68	60	55	0	0	0	0	0	0	0
32	6	11	17	21	18	16	15	1	2	4	5	4	4	3
33	0	0	0	0	0	0	0	1	2	4	5	4	4	3
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	1	2	4	5	4	4	3
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	99	167	271	333	290	254	233	99	167	271	333	290	254	233

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DB

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	18	22	24	34	41	50	57
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	3	4	4	6	7	9	10
18	0	0	0	0	0	0	0	2	3	3	4	5	6	7
19	5	6	6	9	11	13	15	1	1	1	2	2	3	3
20	3	4	4	6	7	9	10	12	14	16	22	27	33	37
21	11	13	15	21	26	31	35	5	6	7	10	12	15	17
22	13	15	17	24	29	35	40	9	12	13	18	22	27	30
23	11	13	15	21	26	31	35	19	23	25	36	44	53	60
24	30	37	40	57	69	84	95	8	10	11	16	20	24	27
25	13	15	17	24	29	35	40	13	15	17	24	29	36	40
26	11	13	15	21	26	31	35	8	10	11	16	20	24	27
27	8	10	11	15	18	22	25	6	8	8	12	15	18	20
28	2	2	2	3	4	4	5	3	4	4	6	7	9	10
29	3	4	4	6	7	9	10	4	5	6	8	10	12	13
30	6	8	8	12	15	18	20	1	1	1	2	2	3	3
31	5	24	77	122	131	138	148	3	22	75	119	128	134	143
32	14	17	19	27	33	40	45	2	3	3	4	5	6	7
33	9	12	13	18	22	27	30	9	12	13	18	22	27	30
34	3	4	4	6	7	9	10	4	5	6	8	10	12	13
35	3	4	4	6	7	9	10	21	26	28	40	49	59	67
36	9	12	13	18	22	27	30	3	4	4	6	7	9	10
37	2	2	2	3	4	4	5	2	3	3	4	5	6	7
38	0	0	0	0	0	0	0	1	1	1	2	2	3	3
39	0	0	0	0	0	0	0	1	1	1	2	2	3	3

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
[illegible]	0	0	0	0	0	0	0	1	1	1	2	2	3	3
[illegible]	2	2	2	3	4	4	5	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	162	217	288	421	496	581	650	162	217	288	421	496	581	650

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DC

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	3	2	3	3	4	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	2	2	2	2	2	3	3	2	3	2	3	3	4	5
20	2	2	2	2	2	3	3	0	0	0	0	0	0	0
21	6	7	6	9	8	10	13	1	1	1	2	1	2	2
22	5	5	5	6	6	8	9	8	9	8	11	10	13	16
23	2	2	2	2	2	3	3	3	4	4	5	4	6	7
24	3	3	3	4	4	5	6	10	12	11	15	13	17	21
25	3	3	3	4	4	5	6	3	4	4	5	4	6	7
26	2	2	2	2	2	3	3	0	0	0	0	0	0	0
27	5	5	5	6	6	8	9	9	10	10	13	12	15	19
28	5	5	5	6	6	8	9	8	9	8	11	10	13	16
29	3	3	3	4	4	5	6	1	1	1	2	1	2	2
30	2	2	2	2	2	3	3	3	4	4	5	4	6	7
31	3	3	3	4	4	5	6	3	4	4	5	4	6	7
32	3	3	3	4	4	5	6	7	8	7	10	9	11	14
33	3	3	3	4	4	5	6	1	1	1	2	1	2	2
34	9	10	10	13	12	15	19	0	0	0	0	0	0	0
35	3	3	3	4	4	5	6	1	1	1	2	1	2	2
36	6	7	6	9	8	10	13	1	1	1	2	1	2	2
37	0	7	23	46	68	97	131	3	11	27	51	72	103	138
38	0	0	0	0	0	0	0	7	8	7	10	9	11	14
39	0	0	0	0	0	0	0	3	4	4	5	4	6	7

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DC

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
[illegible]	0	0	0	0	0	0	0	6	6	6	8	7	9	12
[illegible]	8	9	8	11	10	13	16	2	3	2	3	3	4	5
[illegible]	17	19	18	24	21	28	35	1	1	1	2	1	2	2
[illegible]	6	7	6	9	8	10	13	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	1	1	1	2	1	2	2
[illegible]	0	0	0	0	0	0	0	2	3	2	3	3	4	5
[illegible]	0	0	0	0	0	0	0	1	1	1	2	1	2	2
[illegible]	0	0	0	0	0	0	0	1	1	1	2	1	2	2
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	94	114	122	180	189	252	326	94	114	122	180	189	252	326

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DD

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	2	2	2	2	2	3
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	2	2	2	2	2	3	1	2	2	2	2	2	3
26	0	0	0	0	0	0	0	1	2	2	2	2	2	3
27	0	0	0	0	0	0	0	3	3	3	4	4	5	6
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	1	2	2	2	2	2	3
30	3	3	3	4	4	5	6	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	2	2	2	2	2	3
32	0	0	0	0	0	0	0	1	2	2	2	2	2	3
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DD

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	2	2	2	2	2	3	0	0	0	0	0	0	0
41	4	5	5	6	5	7	9	0	0	0	0	0	0	0
42	3	10	20	36	46	76	120	0	6	17	32	43	72	114
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	1	2	2	2	2	2	3
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	21	31	51	59	92	141	13	21	31	51	59	92	141

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DE

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	3	3	3	4	4	4	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	2	2	3	3	3	3	2	2	1	2	2	2	2
30	7	7	6	9	9	9	9	0	0	0	0	0	0	0
31	4	4	4	6	6	6	6	2	2	1	2	2	2	2
32	7	7	6	9	9	9	9	2	2	1	2	2	2	2
33	2	2	2	3	3	3	3	0	0	0	0	0	0	0
34	2	2	2	3	3	3	3	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	4	4	4	6	6	6	6	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	2	2	2	3	3	3	3	2	2	1	2	2	2	2
39	4	4	4	6	6	6	6	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DE

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	3	3	3	4	4	4	4
43	2	2	2	3	3	3	3	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	2	2	1	2	2	2	2
45	0	0	0	0	0	0	0	2	2	1	2	2	2	2
46	0	0	0	0	0	0	0	3	3	3	4	4	4	4
47	0	0	0	0	0	0	0	9	10	8	12	13	13	13
48	0	0	0	0	0	0	0	9	10	8	12	13	13	13
49	0	28	113	253	346	670	1259	0	28	113	253	346	670	1259
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	37	67	145	301	399	721	1310	37	67	145	301	399	721	1310

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DF

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	1	2	5	11	21	33	49	1	2	5	11	21	33	49

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DF

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	2	5	11	21	33	49	1	2	5	11	21	33	49

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EA

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EB

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EC

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	2	1	2	2	2	2
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	3	3	3	5	5	5	5	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	3	5	5	5	5	1	2	1	2	2	2	2
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	3	3	3	5	5	5	5	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	3	3	3	5	5	5	5	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	1	2	1	2	2	2	2
39	0	0	0	0	0	0	0	1	2	1	2	2	2	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EC

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
[illegible]	0	0	0	0	0	0	0	4	5	4	6	7	6	7
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	1	2	1	2	2	2	2
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	1	2	1	2	2	2	2
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	14	13	19	20	19	22	11	14	13	19	20	19	22

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: ED

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	1	1	2	2	2	2	0	0	0	0	0	0	0
28	1	1	1	2	2	2	2	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	1	1	2	2	2	2	1	2	2	2	3	3	3
31	1	1	1	2	2	2	2	0	0	0	0	0	0	0
32	1	1	1	2	2	2	2	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	1	2	2	2	3	3	3
38	0	0	0	0	0	0	0	1	2	2	2	3	3	3
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: ED

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	1	1	2	2	2	2	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	1	3	5	7	8	12	0	1	3	5	7	8	12
44	0	0	0	0	0	0	0	1	2	2	2	3	3	3
45	0	0	0	0	0	0	0	1	2	2	2	3	3	3
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	9	11	18	20	22	25	6	9	11	18	20	22	25

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EE

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	1	1	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	2	2	2	2	1	1	1	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	2	2	2	2	1	1	1	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EE

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	2	2	2	2	1	1	1	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	1	1	1	1	1	0	0
47	0	0	0	0	0	0	0	2	2	2	2	1	1	1
48	0	0	1	3	5	8	15	2	2	3	5	6	9	16
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	6	6	9	9	10	17	6	6	6	9	9	10	17

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EF

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EF

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FA

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	4	6	7
22	0	0	0	0	0	0	0	1	1	1	2	4	6	7
23	2	2	2	5	8	12	15	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	2	2	5	8	12	15	2	2	2	5	8	12	15

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FB

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	2	5	14	29	49	70	0	2	5	14	29	49	70
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	2	5	14	29	49	70	0	2	5	14	29	49	70

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FC

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	1	1	3	5	6	8	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	1	1	2	4	5	6
20	0	0	0	0	0	0	0	2	2	2	4	7	10	12
21	0	0	0	0	0	0	0	4	5	5	11	18	25	31
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	2	4	5	6
24	2	3	3	6	9	13	16	3	4	4	9	14	20	25
25	3	4	4	8	14	19	24	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	2	3	3	6	11	15	19
27	1	1	1	3	5	6	8	2	2	2	4	7	10	12
28	1	1	1	3	5	6	8	0	0	0	0	0	0	0
29	1	1	1	3	5	6	8	1	1	1	2	4	5	6
30	2	3	3	6	9	13	16	2	2	2	4	7	10	12
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	2	3	3	6	9	13	16	1	1	1	2	4	5	6
33	2	3	3	7	12	18	26	0	0	0	1	3	6	10
34	2	3	3	6	9	13	16	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FC

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	22	23	49	81	115	146	17	22	23	49	81	115	146

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FD

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	5	6	6	7	6	7	7
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	2	2	2	2	2
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	2	2	2	2	2
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	1	2	2	2	2	2
23	0	0	0	0	0	0	0	2	3	3	3	3	3	4
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	1	2	2	2	2	2	0	0	0	0	0	0	0
27	2	3	3	3	3	3	4	2	3	3	3	3	3	4
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	3	3	3	3	3	4	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	5	6	6	7	6	7	7	0	0	0	0	0	0	0
33	2	3	3	3	3	3	4	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	9	26	56	84	103	110	0	9	26	56	84	103	110
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FD

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	25	43	74	102	121	130	13	25	43	74	102	121	130

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FE

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FE

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	8	26	52	96	176	309	0	8	26	52	96	176	309
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	8	26	52	96	176	309	0	8	26	52	96	176	309

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FF

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FF

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FG

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FG

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: GA

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: GA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: HB

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	4	5	7	10	13	18
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	2	2	4	5	7	9
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	3	4	6	8	11	15	1	2	2	4	5	7	9
22	0	0	0	0	0	0	0	4	7	10	15	19	27	37
23	5	9	12	18	24	33	45	11	18	25	36	48	66	92
24	9	15	20	30	40	55	76	8	13	17	25	34	46	64
25	16	27	37	54	72	98	136	33	54	74	109	145	199	276
26	22	35	49	72	95	131	182	37	61	84	123	164	226	312
27	51	83	114	167	223	306	424	37	61	84	123	164	226	312
28	42	68	94	137	183	251	348	23	38	52	76	101	139	193
29	20	32	45	66	87	120	166	9	14	20	29	39	53	74
30	4	6	8	12	16	22	30	3	5	7	11	14	20	28
31	2	3	4	6	8	11	15	1	2	2	4	5	7	9
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	2	4	5	7	10	13	18
34	2	3	4	6	8	11	15	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: HB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	174	283	392	573	763	1048	1452	174	283	392	573	763	1048	1452

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PA

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	4	4	3	3	4	4	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	1	1	1	1	1
14	0	0	0	0	0	0	0	4	4	3	3	4	4	4
15	2	2	1	2	2	2	2	1	1	1	1	1	1	1
16	2	2	1	2	2	2	2	1	1	1	1	1	1	1
17	2	2	1	2	2	2	2	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	1	1	1	1	1	1
19	0	0	0	0	0	0	0	3	2	2	2	3	3	3
20	2	2	1	2	2	2	2	3	2	2	2	3	3	3
21	4	3	2	3	4	4	4	3	2	2	2	3	3	3
22	0	0	0	0	0	0	0	5	5	3	4	5	5	5
23	2	2	1	2	2	2	2	3	2	2	2	3	3	3
24	4	3	2	3	4	4	4	1	1	1	1	1	1	1
25	10	9	6	8	9	9	10	1	1	1	1	1	1	1
26	6	5	4	5	5	6	6	3	2	2	2	3	3	3
27	0	0	0	0	0	0	0	1	1	1	1	1	1	1
28	2	2	1	2	2	2	2	3	2	2	2	3	3	3
29	4	3	2	3	4	4	4	1	1	1	1	1	1	1
30	4	3	2	3	4	4	4	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	1	1	1	1	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PA

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	42	38	26	35	40	41	42	42	38	26	35	40	41	42

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PB

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	2	3	3	3	4	4
20	0	0	0	0	0	0	0	1	2	3	3	3	4	4
21	2	3	4	5	5	5	6	4	7	9	10	10	11	12
22	2	3	4	5	5	5	6	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2	3	4	5	5	5	6	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	1	2	3	3	3	4	4
29	2	7	17	23	31	40	51	0	4	12	19	26	34	46
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	2	3	4	5	5	5	6	1	2	3	3	3	4	4
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PB

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	9	20	34	43	50	61	74	9	20	34	43	50	61	74

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PC

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	3	4	5	10	16	22	27
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	2	2	4	6	9	11	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	2	4	5	7
24	0	0	0	0	0	0	0	3	3	4	7	12	16	20
25	1	2	2	4	6	9	11	1	1	1	2	4	5	7
26	1	2	2	4	6	9	11	1	1	1	2	4	5	7
27	0	0	0	0	0	0	0	2	2	2	5	8	11	13
28	1	2	2	4	6	9	11	1	1	1	2	4	5	7
29	1	2	2	4	6	9	11	2	2	2	5	8	11	13
30	1	2	2	4	6	9	11	1	1	1	2	4	5	7
31	3	4	4	8	13	18	22	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	1	1	1	2	4	5	7
33	3	5	8	14	21	29	38	1	2	5	8	12	17	22
34	3	4	4	8	13	18	22	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	1	1	1	2	4	5	7
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PC

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	1	1	1	2	4	5	7
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	23	29	54	86	119	150	17	23	29	54	86	119	150

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PD

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	2	3	4	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	1	1	1	2	3	4	5
26	0	0	0	0	0	0	0	1	1	1	2	3	4	5
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	1	1	1	2	3	4	5
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	2	2	3	5	6	8	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	1	1	2	3	4	5
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	1	2	2	3	5	6	8	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	2	5	12	23	38	56	0	2	5	12	23	38	56
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PD

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	1	2	2	3	5	6	8	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4	6	11	21	37	57	79	4	6	11	21	37	57	79

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PD

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	1	2	2	3	5	6	8	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4	6	11	21	37	57	79	4	6	11	21	37	57	79

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PE

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PE

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	2	1	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	1	3	10	23	48	89	0	1	3	10	23	48	89
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	3	10	23	48	89	2	1	4	10	23	48	89

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: XX

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	8	11	13	19	24	31	40
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	8	11	13	19	24	31	40
22	8	11	14	20	26	33	43	0	0	0	0	0	0	0
23	8	11	14	20	26	33	43	0	0	0	0	0	0	0
24	8	11	14	20	26	33	43	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	8	11	13	19	24	31	40
26	25	34	42	61	77	100	129	8	11	13	19	24	31	40
27	17	23	28	40	51	66	86	24	32	39	56	72	92	120
28	8	11	14	20	26	33	43	16	21	26	38	48	62	80
29	17	23	28	40	51	66	86	8	11	13	19	24	31	40
30	17	23	28	40	51	66	86	24	32	39	56	72	92	120
31	0	0	0	0	0	0	0	8	11	13	19	24	31	40
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: XX

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	110	149	181	263	334	432	561	110	149	181	263	334	432	561

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: TOTAL

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	13	20	26	41	51	63	77	150	208	250	366	465	591	732
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	3	5	6	9	13	17	21	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	2	2	3	4	6	7	8
12	2	2	1	2	2	2	2	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	11	13	12	16	17	16	15
14	6	6	6	8	11	12	13	8	7	5	7	9	9	8
15	5	6	7	11	16	24	34	17	20	18	27	35	42	47
16	21	25	24	37	48	58	66	17	20	17	25	31	36	38
17	19	22	20	29	37	43	47	17	21	22	31	37	42	47
18	7	9	10	13	13	13	11	27	37	43	63	80	99	120
19	25	32	37	52	59	68	75	19	26	31	44	51	62	73
20	32	42	47	68	82	95	107	55	75	90	128	152	179	205
21	44	60	76	104	123	151	180	69	99	124	175	207	248	294
22	68	95	117	164	191	227	268	104	149	192	263	294	341	398
23	76	107	127	185	230	286	347	86	121	150	212	252	306	369
24	164	274	400	647	900	1207	1546	131	227	339	569	817	1117	1448
25	195	280	343	509	654	851	1090	163	244	314	455	572	737	947
26	163	234	286	421	543	707	908	184	277	356	523	676	892	1168
27	228	341	435	639	822	1079	1407	198	291	365	538	694	919	1208
28	230	345	438	654	852	1124	1465	165	246	312	466	609	811	1066
29	193	308	424	642	839	1096	1408	119	198	281	439	599	802	1045
30	169	243	299	442	559	715	908	142	209	260	387	496	646	831
31	144	259	424	668	866	1127	1448	120	215	352	579	781	1041	1356
32	132	191	236	353	443	566	719	74	107	132	201	255	329	419
33	68	97	120	191	255	342	447	85	127	162	255	331	433	559
34	54	75	89	143	191	264	359	40	59	76	122	164	225	305
35	38	112	244	465	727	1112	1622	77	166	310	562	850	1267	1814
36	37	49	57	90	113	148	191	31	45	56	92	123	167	223
37	7	26	63	125	184	244	301	13	32	69	131	187	244	294
38	11	16	21	38	54	75	100	17	23	28	48	65	92	126
39	7	10	13	24	39	58	85	7	9	11	20	30	44	62
40	2	43	185	471	937	1763	3178	12	53	194	484	950	1777	3196
41	15	17	16	22	20	25	30	5	7	9	14	16	21	30

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: TOTAL

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
42	21	30	39	63	72	110	162	4	11	20	37	48	78	121
43	8	11	14	26	41	70	117	0	2	6	15	30	57	101
44	0	8	26	52	96	176	309	5	14	32	60	105	184	319
45	0	0	0	0	0	0	0	5	6	5	8	8	9	9
46	0	0	0	0	0	0	0	5	5	5	7	7	7	7
47	0	0	0	0	0	0	0	16	17	15	22	24	25	28
48	0	0	1	3	5	8	15	11	12	11	17	19	21	29
49	0	28	113	253	346	670	1259	0	28	113	253	346	670	1259
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2208	3429	4793	7667	10435	14595	20323	2210	3430	4793	7667	10435	14595	20323

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

ANNEX F VESSEL ACTIVITY – TERMINAL USAGE

ANNEX F

VESSEL ACTIVITY -- TERMINAL USAGE

The following tables detail vessel movements in and out of the five major terminals. [1] The numbers are based on shares of aggregate Baltimore Harbor Channel use by vessel class and direction based on historical BME berth use data (i.e., these factors were applied to the total vessel calls shown in Annex E). Inbound and outbound shares are presented on pages 2 and 3 of this annex. The six sets of tables following the share tables apply these factors to the vessel call/vessel type information in Annex E. This produces activity distribution by terminal of total port activity and results in actual calls in 1993 and forecasted calls for the years 2000, 2010, 2020, 2030, 2040 and 2050. This Annex is divided into seven sections, as follows:

Part I:	Calls in and out of North Locust Point Marine Terminal
Part II:	Calls in and out of Dundalk Marine Terminal
Part III:	Calls in and out of South Locust Point Marine Terminal
Part IV:	Calls in and out of Sparrows Point Ore Terminal
Part V:	Calls in and out of Seagirt Marine Terminal
Part VI:	Calls in and out of all other terminals
Part VII:	Grand total, by shiptype and forecast year, of all movements

It should be noted that the totals in Parts I through VII may not match the totals in Annex E due to rounding of numbers.

[1] All statistics are based on historical Baltimore Maritime Exchange (BME) data, (see Annex D).

SHARES OF AGGREGATE BALTIMORE HARBOR CHANNEL USE BY VESSEL CLASS AND DIRECTION UNDER WITHOUT PROJECT CONDITIONS [2]

DIRECTION: ***Inbound***

Shiptype	North Locust Point Marine Terminal	Dundalk Marine Terminal	South Locust Point Marine Terminal	Sparrows Point Ore Terminal	Seagirt Marine Terminal	All Other Terminals	Total Shares
AA	**0.101**	**0.272**	**0.216**	**0.004**	**0.004**	**0.403**	1.00
AB	**0.182**	**0.273**	0.000	**0.018**	0.000	**0.527**	1.00
A1	0.000	**0.262**	**0.286**	0.000	**0.167**	**0.286**	1.00
A2	0.000	**0.327**	**0.216**	0.000	**0.182**	**0.275**	1.00
A3	0.000	**0.141**	0.000	0.000	**0.577**	**0.282**	1.00
A4	0.000	**0.507**	0.000	0.000	0.000	**0.493**	1.00
AE	**0.003**	**0.474**	**0.102**	0.000	**0.003**	**0.418**	1.00
AF	0.000	**0.478**	0.000	0.000	0.000	**0.522**	1.00
BA	0.000	0.000	**0.500**	0.000	0.000	**0.500**	1.00
DA	**0.079**	**0.044**	**0.158**	**0.018**	**0.140**	**0.561**	1.00
DB	**0.113**	**0.232**	**0.071**	**0.083**	0.000	**0.500**	1.00
DC	**0.038**	0.000	0.000	**0.637**	0.000	**0.325**	1.00
DD	0.000	0.000	0.000	**0.929**	0.000	**0.071**	1.00
DE	0.000	0.000	0.000	**0.059**	0.000	**0.941**	1.00
DF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EA	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EB	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EC	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
ED	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FA	**1.000**	0.000	0.000	0.000	0.000	0.000	1.00
FB	0.000	0.000	**0.600**	0.000	0.000	**0.400**	1.00
FC	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FD	**0.063**	0.000	0.000	**0.063**	0.000	**0.875**	1.00
FE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FG	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
GA	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
HB	**0.006**	**0.410**	**0.006**	0.000	**0.058**	**0.520**	1.00
PA	**0.205**	**0.045**	**0.114**	**0.023**	0.000	**0.614**	1.00
PB	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
PC	**0.481**	**0.037**	0.000	0.000	0.000	**0.481**	1.00
PD	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
PE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
XX	**0.014**	**0.338**	**0.183**	**0.028**	**0.014**	**0.423**	1.00

[2] Baltimore Maritime Exchange data. Shares are held constant throughout the planning horizon.

SHARES OF AGGREGATE BALTIMORE HARBOR CHANNEL USE BY VESSEL CLASS AND DIRECTION UNDER WITHOUT PROJECT CONDITIONS[3]

DIRECTION: ***Outbound***

Shiptype	North Locust Point Marine Terminal	Dundalk Marine Terminal	South Locust Point Marine Terminal	Sparrows Point Ore Terminal	Seagirt Marine Terminal	All Other Terminals	Total Shares
AA	**0.019**	**0.228**	**0.201**	0.000	**0.004**	**0.549**	1.00
AB	0.000	**0.200**	**0.018**	0.000	0.000	**0.782**	1.00
A1	0.000	**0.310**	**0.238**	0.000	**0.071**	**0.381**	1.00
A2	**0.002**	**0.287**	**0.194**	**0.002**	**0.140**	**0.373**	1.00
A3	0.000	**0.077**	0.000	0.000	**0.526**	**0.397**	1.00
A4	0.000	**0.549**	0.000	0.000	0.000	**0.451**	1.00
AE	0.000	**0.371**	**0.102**	0.000	**0.003**	**0.524**	1.00
AF	0.000	**0.478**	**0.022**	0.000	0.000	**0.500**	1.00
BA	**0.500**	0.000	0.000	0.000	0.000	**0.500**	1.00
DA	**0.018**	0.000	**0.132**	0.000	**0.009**	**0.842**	1.00
DB	**0.054**	**0.083**	**0.077**	**0.012**	0.000	**0.774**	1.00
DC	**0.050**	0.000	0.000	**0.025**	0.000	**0.925**	1.00
DD	0.000	0.000	0.000	**0.071**	0.000	**0.929**	1.00
DE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
DF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EA	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EB	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EC	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
ED	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
EF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FA	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FB	0.000	0.000	**0.400**	0.000	0.000	**0.600**	1.00
FC	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FD	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FF	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
FG	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
GA	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
HB	0.000	**0.133**	0.000	0.000	**0.058**	**0.809**	1.00
PA	0.000	0.000	**0.045**	0.000	0.000	**0.955**	1.00
PB	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
PC	**0.037**	0.000	0.000	0.000	0.000	**0.963**	1.00
PD	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
PE	0.000	0.000	0.000	0.000	0.000	**1.000**	1.00
XX	0.000	**0.254**	**0.113**	0.000	0.000	**0.634**	1.00

[3] Id.

PART I: CALLS IN AND OUT OF NORTH LOCUST POINT MARINE TERMINAL

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at North Locust Point Marine Terminal

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	1	2	2	2
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	1	1	1	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	1	1	1	0	0	0	0	0	0	0
17	0	0	0	0	1	1	1	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	1	1
19	0	1	1	1	1	2	2	0	0	0	0	0	0	0
20	2	2	2	4	5	6	7	0	1	1	1	1	2	2
21	1	1	1	2	2	3	4	0	0	0	0	1	1	1
22	1	2	2	3	4	5	5	0	0	0	0	0	1	1
23	1	1	1	2	2	3	4	0	0	0	0	1	1	1
24	2	2	2	4	5	6	7	1	1	1	1	2	2	3
25	2	3	3	5	7	9	11	0	0	0	1	1	1	1
26	2	3	3	5	6	7	9	0	0	0	1	1	1	1
27	3	4	5	7	10	12	14	0	1	1	1	1	2	2
28	4	5	5	8	11	14	16	0	1	1	1	1	1	2
29	3	5	6	10	13	16	18	1	1	1	2	3	3	4
30	2	3	3	5	6	7	9	0	0	0	0	1	1	1
31	2	3	3	5	7	9	11	0	1	1	1	1	2	2
32	1	2	2	3	4	5	5	0	0	0	0	1	1	1
33	0	1	1	1	1	2	2	0	0	0	0	0	0	0
34	0	1	1	1	1	2	2	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	26	39	41	66	88	111	129	3	7	7	10	17	22	25

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at North Locust Point Marine Terminal

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	1	1	1	1	1	1	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	2	2	1	2	3	3	2	0	0	0	0	0	0	0
17	2	2	2	3	3	3	3	0	0	0	0	0	0	0
18	1	1	1	1	1	1	1	0	0	0	0	0	0	0
19	1	1	1	1	2	2	2	0	0	0	0	0	0	0
20	1	1	1	1	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	1	1	1	1	1	1	0	0	0	0	0	0	0
24	1	1	1	1	1	1	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	10	9	11	13	13	12	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at North Locust Point Marine Terminal

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at North Locust Point Marine Terminal

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	1
31	0	0	0	0	0	0	0	0	0	0	0	1	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	1	1	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at North Locust Point Marine Terminal

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at North Locust Point Marine Terminal

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at North Locust Point Marine Terminal

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	1	1	1	0	0	0	0	0	0	0
26	0	0	0	0	0	0	1	0	0	0	0	0	0	0
27	0	0	0	0	1	1	1	0	0	0	0	0	0	0
28	0	0	0	0	1	1	1	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	1	1	1	0	0	0	0	0	0	0
32	0	0	0	0	0	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	6	7	8	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at North Locust Point Marine Terminal

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at North Locust Point Marine Terminal

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	5	5	6	8	9
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	1	2	5	5	6	8	9

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at North Locust Point Marine Terminal

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	1	0	0	0	0	0	0	0	0	0	0
19	0	1	1	1	1	1	1	0	0	0	0	0	0	0
20	0	1	1	1	1	1	1	0	0	0	1	0	0	0
21	0	1	1	1	1	1	1	0	0	1	1	1	1	1
22	1	1	2	3	2	2	2	1	1	1	2	1	1	1
23	0	1	1	2	1	1	1	0	0	1	1	1	1	1
24	1	1	2	2	2	2	2	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	1	1	1	1	1
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	1	1	1	1	1	1	0	0	0	0	0	0	0
28	0	1	1	1	1	1	1	0	0	0	0	0	0	0
29	1	2	3	3	3	3	2	0	0	0	0	0	0	0
30	0	1	1	2	1	1	1	0	0	0	0	0	0	0
31	2	3	5	6	5	5	4	0	0	0	0	0	0	0
32	0	1	1	2	1	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	15	20	27	20	20	18	1	1	4	6	4	4	4

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at North Locust Point Marine Terminal

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	2	2	3	3
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	1	1	1	1	1	2	0	0	0	0	0	0	0
20	0	0	0	1	1	1	1	1	1	1	1	1	2	2
21	1	1	2	2	3	4	4	0	0	0	1	1	1	1
22	1	2	2	3	3	4	5	0	1	1	1	1	1	2
23	1	1	2	2	3	4	4	1	1	1	2	2	3	3
24	3	4	5	6	8	9	11	0	1	1	1	1	1	1
25	1	2	2	3	3	4	5	1	1	1	1	2	2	2
26	1	1	2	2	3	4	4	0	1	1	1	1	1	1
27	1	1	1	2	2	2	3	0	0	0	1	1	1	1
28	0	0	0	0	0	0	1	0	0	0	0	0	0	1
29	0	0	0	1	1	1	1	0	0	0	0	1	1	1
30	1	1	1	1	2	2	2	0	0	0	0	0	0	0
31	1	3	9	14	15	16	17	0	1	4	6	7	7	8
32	2	2	2	3	4	5	5	0	0	0	0	0	0	0
33	1	1	1	2	2	3	3	0	1	1	1	1	1	2
34	0	0	0	1	1	1	1	0	0	0	0	1	1	1
35	0	0	0	1	1	1	1	1	1	2	2	3	3	4
36	1	1	1	2	2	3	3	0	0	0	0	0	0	1
37	0	0	0	0	0	0	1	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	1	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	16	21	31	47	55	65	75	5	10	14	20	25	28	35

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at North Locust Point Marine Terminal

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	1	1	1	1
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	1	1	1	1	1	1	1
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	1	1	1	1	1	1
28	0	0	0	0	0	0	0	0	0	0	1	1	1	1
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	1	0	1	1
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	1	1	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	1	2	3	4	5	0	1	1	3	4	5	7
38	0	0	0	0	0	0	0	0	0	0	1	0	1	1
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	1
41	0	0	0	0	0	0	1	0	0	0	0	0	0	0
42	1	1	1	1	1	1	1	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	1	2	3	4	6	8	1	3	3	9	8	11	14

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at North Locust Point Marine Terminal

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at North Locust Point Marine Terminal

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at North Locust Point Marine Terminal

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at North Locust Point Marine Terminal

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at North Locust Point Marine Terminal

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at North Locust Point Marine Terminal

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at North Locust Point Marine Terminal

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at North Locust Point Marine Terminal

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at North Locust Point Marine Terminal

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at North Locust Point Marine Terminal

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	2	2	2	5	8	12	15	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	2	2	5	8	12	15	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at North Locust Point Marine Terminal

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at North Locust Point Marine Terminal

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at North Locust Point Marine Terminal

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	1	2	4	5	6	7	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	2	4	5	6	7	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at North Locust Point Marine Terminal

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at North Locust Point Marine Terminal

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at North Locust Point Marine Terminal

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at North Locust Point Marine Terminal

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at North Locust Point Marine Terminal

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	1	1	0	0	0	0	0	0	0
26	0	0	0	0	1	1	1	0	0	0	0	0	0	0
27	0	0	1	1	1	2	3	0	0	0	0	0	0	0
28	0	0	1	1	1	2	2	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	2	2	4	7	8	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at North Locust Point Marine Terminal

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	1	0	1	1	1	1	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	1	0	1	1	1	1	0	0	0	0	0	0	0
25	2	2	1	2	2	2	2	0	0	0	0	0	0	0
26	1	1	1	1	1	1	1	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	1	1	0	1	1	1	1	0	0	0	0	0	0	0
30	1	1	0	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	7	7	2	7	7	7	7	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at North Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at North Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	1	1	2	3	4	5	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	1	1
25	0	1	1	2	3	4	5	0	0	0	0	0	0	0
26	0	1	1	2	3	4	5	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	1	1	2	3	4	5	0	0	0	0	0	0	0
29	0	1	1	2	3	4	5	0	0	0	0	0	0	0
30	0	1	1	2	3	4	5	0	0	0	0	0	0	0
31	1	2	2	4	6	9	11	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	1	2	4	7	10	14	18	0	0	0	0	0	1	1
34	1	2	2	4	6	9	11	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	12	14	27	40	56	70	0	0	0	0	1	3	3

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at North Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at North Locust Point Marine Terminal

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at North Locust Point Marine Terminal

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	1	0	0	0	0	0	0	0
23	0	0	0	0	0	0	1	0	0	0	0	0	0	0
24	0	0	0	0	0	0	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	1	1	1	1	2	0	0	0	0	0	0	0
27	0	0	0	1	1	1	1	0	0	0	0	0	0	0
28	0	0	0	0	0	0	1	0	0	0	0	0	0	0
29	0	0	0	1	1	1	1	0	0	0	0	0	0	0
30	0	0	0	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	4	4	4	9	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	1	0	0	0	3	4	7	8	11	14	15
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	1	1	1	2	2	2	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	2	2	1	2	4	4	3	0	0	0	0	0	0	0
17	2	2	2	3	4	4	4	0	0	0	0	0	0	1
18	1	1	1	2	1	1	1	0	0	0	0	0	1	1
19	2	4	4	4	5	6	7	0	0	0	0	0	0	0
20	3	4	4	7	8	9	10	1	2	2	3	2	4	4
21	3	5	5	8	10	13	15	0	0	1	2	3	3	3
22	3	5	6	9	9	11	13	1	2	2	4	3	4	5
23	5	6	7	12	15	21	26	1	1	2	3	4	5	5
24	8	9	10	14	17	19	23	2	3	3	3	4	5	6
25	5	8	7	12	16	21	25	1	1	2	3	4	4	4
26	4	6	8	11	15	18	23	0	1	1	2	2	2	2
27	4	6	8	12	16	19	23	0	2	2	3	3	4	4
28	4	7	8	12	17	22	27	0	1	1	2	2	2	4
29	5	9	10	18	24	28	30	1	1	1	2	4	4	5
30	4	7	6	12	15	17	20	0	0	0	0	1	1	2
31	6	11	19	29	34	40	44	0	2	5	7	9	10	11
32	3	5	5	8	9	12	12	0	0	0	1	1	2	2
33	2	4	6	10	13	19	23	0	1	1	1	1	2	3
34	1	3	3	6	8	13	15	0	0	0	0	1	1	1
35	0	0	0	1	1	1	1	1	1	2	2	3	3	4
36	1	1	1	2	2	3	3	0	0	0	0	0	0	1
37	0	1	3	6	8	10	13	0	1	1	3	4	5	7
38	0	0	0	0	0	0	0	0	0	0	1	0	1	1
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at North Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
41	0	0	0	0	0	0	2	0	0	0	0	0	0	0
42	1	1	1	1	1	1	1	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	70	108	126	203	254	314	366	11	23	33	50	62	77	92

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART II: CALLS IN AND OUT OF DUNDALK MARINE TERMINAL

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at Dundalk Marine Terminal

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	6	8	9	14	19	24	28
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	1	1	1	2	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	1	1	1	2	2	2	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	1	1	1	2	2	2	0	0	0	0	0	0	0
17	1	1	1	1	2	2	2	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	2	2	3	4	5	6	8
19	1	1	2	2	3	4	5	1	2	2	3	4	5	6
20	4	6	6	10	13	16	19	5	7	7	11	15	19	23
21	2	3	3	5	7	8	10	2	3	3	5	6	8	9
22	3	4	5	7	10	12	14	2	2	3	4	5	6	8
23	2	3	3	5	7	8	10	2	3	3	5	6	8	9
24	4	6	6	10	13	16	19	8	10	11	17	23	28	34
25	7	9	9	14	19	24	29	3	4	4	7	9	11	13
26	5	7	8	12	16	20	24	3	5	5	8	10	13	15
27	9	11	13	19	26	32	39	6	8	8	13	18	22	26
28	10	13	14	22	29	36	43	5	6	7	10	14	17	21
29	7	12	16	26	36	44	49	6	11	13	23	31	39	43
30	5	7	8	12	16	20	24	2	3	3	5	6	8	9
31	7	9	9	14	19	24	29	5	7	7	11	15	19	23
32	3	4	5	7	10	12	14	2	3	3	5	6	8	9
33	1	1	2	2	3	4	5	1	1	1	2	3	3	4
34	1	1	2	2	3	4	5	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	74	100	114	172	236	290	344	61	85	93	148	196	246	290

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at Dundalk Marine Terminal

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	1	0	1	1	1	1	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	1	2	2	2	2
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	0	1	1	1	1	2	2	2	2	3	3	2
16	3	3	2	3	4	4	4	2	3	2	3	3	3	3
17	3	4	3	4	5	5	4	2	2	1	2	2	2	2
18	1	2	1	2	2	2	2	1	1	1	1	1	1	1
19	2	2	1	2	3	3	2	0	0	0	0	0	0	0
20	1	1	1	1	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	0	0	0	0	0	0	0
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	0	1	1	1	1	0	0	0	0	0	0	0
26	1	1	0	1	1	1	1	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	1	1	0	1	1	1	1	0	0	0	0	0	0	0
29	1	1	0	1	1	1	1	0	0	0	0	0	0	0
30	1	1	0	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	20	22	11	22	25	25	23	12	13	11	14	15	15	14

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at Dundalk Marine Terminal

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	2	2	3	3
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	2	3	4	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	2	2	3	5	6	8	10
16	2	3	3	5	7	9	11	1	1	1	2	2	3	3
17	1	1	2	2	3	4	6	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	2	2	3	5	6	8	10
19	1	1	2	2	3	4	6	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	2	3	3
22	0	0	0	0	0	0	0	2	2	3	5	6	8	10
23	1	1	2	2	3	4	6	1	1	1	2	2	3	3
24	0	11	32	64	105	153	206	1	15	40	79	129	187	250
25	0	0	0	0	0	0	0	1	1	1	2	2	3	3
26	1	1	2	2	3	4	6	1	1	1	2	2	3	3
27	2	3	3	5	7	9	11	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	3	3	5	7	9	11	2	2	3	5	6	8	10
30	1	1	2	2	3	4	6	2	2	3	5	6	8	10
31	1	1	2	2	3	4	6	1	1	1	2	2	3	3
32	0	0	0	0	0	0	0	1	1	1	2	2	3	3
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	27	55	93	147	208	281	19	33	63	120	175	251	324

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at Dundalk Marine Terminal

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	12	17	21	31	38	49	62
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	1	1	1	2	2	3	3
17	0	0	0	0	0	0	0	1	1	1	2	2	3	3
18	0	0	0	0	0	0	0	1	1	1	2	2	3	3
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	2	2	3	4	5	7
21	1	2	2	3	4	4	6	3	5	5	8	10	13	16
22	5	8	9	14	17	22	27	8	11	14	21	26	34	42
23	4	6	8	11	14	18	22	3	5	5	8	10	13	16
24	20	29	36	52	65	84	105	9	13	15	23	28	36	45
25	22	32	39	58	72	93	116	8	11	14	21	26	34	42
26	12	18	23	33	41	53	66	13	19	23	34	42	55	68
27	17	24	30	44	55	70	88	12	17	21	31	38	49	62
28	22	32	39	58	72	93	116	13	19	23	34	42	55	68
29	19	27	34	49	62	79	99	9	13	15	23	28	36	45
30	12	18	23	33	41	53	66	15	22	28	40	51	65	81
31	7	18	36	67	105	155	215	9	20	36	66	102	148	203
32	9	14	17	25	31	40	50	5	8	10	15	18	23	29
33	6	9	11	16	21	26	33	7	11	13	19	24	31	39
34	5	8	9	14	17	22	27	6	9	11	16	20	26	32
35	4	6	8	11	14	18	22	9	13	17	24	30	39	49
36	2	3	4	6	7	9	11	4	5	7	10	12	15	20
37	0	0	0	0	0	0	0	1	1	1	2	2	3	3
38	1	2	2	3	4	4	6	1	1	1	2	2	3	3
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	168	256	330	497	642	843	1075	151	225	285	437	559	741	941

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at Dundalk Marine Terminal

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	2	2	4	5	6	7	0	0	1	1	1	2	2
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	1	1	1
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	1	1	2	2	3	3	0	0	0	0	1	1	1
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	1	1	2	2	3	3	0	0	0	0	0	0	0
28	1	2	2	4	5	6	7	0	0	0	0	1	1	1
29	1	2	2	4	5	6	7	0	0	0	0	0	0	0
30	1	2	2	4	5	6	7	0	1	1	1	2	2	3
31	1	2	2	4	5	6	7	1	2	2	3	4	5	7
32	2	3	4	7	9	11	14	1	1	2	3	4	5	6
33	2	2	3	5	7	8	10	2	3	4	6	8	10	12
34	0	0	0	0	0	0	0	0	1	1	1	2	2	3
35	1	9	25	49	80	123	179	0	5	14	28	44	68	99
36	1	2	2	4	5	6	7	1	1	1	2	3	3	4
37	1	1	1	2	2	3	3	0	0	1	1	1	2	2
38	1	1	1	2	2	3	3	0	0	0	0	1	1	1
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	15	30	48	93	134	190	257	5	14	27	46	73	103	142

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at Dundalk Marine Terminal

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	2	3	5	8	12
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	2	2	4	6	10	15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	1	2	3	5	8	12
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	1	1	2	3	5	8	12
28	0	0	0	0	0	0	0	1	1	2	3	5	8	12
29	1	2	2	4	6	10	15	1	1	2	3	5	8	12
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	1	2	3	5	8	12
32	2	3	4	8	12	20	30	1	1	2	3	5	8	12
33	4	6	8	16	25	39	61	3	4	7	13	19	31	48
34	4	7	10	20	31	49	77	4	7	10	19	29	46	72
35	8	13	18	35	55	88	137	9	14	21	40	63	99	155
36	2	3	4	8	12	20	30	3	4	7	13	19	31	48
37	1	2	2	4	6	10	15	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	1	1	2	3	5	8	12
39	1	2	2	4	6	10	15	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	20	92	237	473	892	1609	0	22	100	256	512	966	1742
41	0	0	0	0	0	0	0	1	1	2	3	5	8	12
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	24	60	144	340	632	1148	2004	28	60	163	368	687	1245	2173

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at Dundalk Marine Terminal

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	1	2	3	4	6	8	6	10	13	20	26	35	47
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	1	1	2	2	3	4
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	1	1	2	2	3	4
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	1	2	3	4	6	8	1	2	3	4	5	6	9
22	0	0	0	0	0	0	0	0	1	1	2	2	3	4
23	2	3	4	6	8	11	15	1	2	3	4	5	6	9
24	4	6	9	12	16	22	30	7	11	15	22	28	38	52
25	22	36	49	72	93	126	171	13	22	30	43	56	76	103
26	12	20	27	40	53	71	97	20	33	44	65	84	114	155
27	22	36	49	72	93	126	171	17	27	37	54	70	95	129
28	24	39	53	78	101	137	186	15	24	33	49	63	86	116
29	11	24	43	68	98	141	200	10	20	36	57	81	116	164
30	20	33	45	65	85	115	156	12	20	27	40	52	70	95
31	22	36	49	72	93	126	171	10	17	23	34	45	60	82
32	15	25	34	50	65	88	119	6	10	13	20	26	35	47
33	1	1	2	3	4	6	8	3	6	7	11	14	19	26
34	1	1	2	3	4	6	8	0	1	1	2	2	3	4
35	0	0	0	0	0	0	0	0	1	1	2	2	3	4
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	158	262	370	547	721	987	1348	121	209	289	433	565	771	1054

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at Dundalk Marine Terminal

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	2	3	4	5	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	1	1	2	3	3	3	0	1	1	1	2	2	2
21	0	0	0	0	0	0	0	0	1	1	1	2	2	2
22	1	1	1	2	3	3	3	0	1	1	1	2	2	2
23	4	6	6	9	11	13	14	1	2	2	3	4	5	5
24	5	7	7	11	14	17	17	3	5	5	8	10	11	12
25	1	1	1	2	3	3	3	5	7	7	11	14	16	16
26	3	4	4	7	9	10	11	2	3	3	4	6	7	7
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	15	20	20	33	43	49	51	12	22	22	32	44	50	51

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at Dundalk Marine Terminal

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at Dundalk Marine Terminal

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	1	1	1	0	0	0	0	0	0	0	0	0
20	0	0	1	1	1	0	0	0	0	0	0	0	0	0
21	0	0	1	1	1	0	0	0	0	0	0	0	0	0
22	0	1	1	2	1	1	1	0	0	0	0	0	0	0
23	0	0	1	1	1	1	1	0	0	0	0	0	0	0
24	0	1	1	1	1	1	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	1	1	1	0	0	0	0	0	0	0	0	0
28	0	0	1	1	1	0	0	0	0	0	0	0	0	0
29	1	1	2	2	2	1	1	0	0	0	0	0	0	0
30	0	0	1	1	1	1	1	0	0	0	0	0	0	0
31	1	2	3	3	3	3	2	0	0	0	0	0	0	0
32	0	0	1	1	1	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	5	15	16	15	9	8	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at Dundalk Marine Terminal

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	2	3	3	4	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	1	1	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	1	1	1	2	3	3	3	0	0	0	0	0	0	0
20	1	1	1	1	2	2	2	1	1	1	2	2	3	3
21	3	3	3	5	6	7	8	0	0	1	1	1	1	1
22	3	3	4	6	7	8	9	1	1	1	1	2	2	2
23	3	3	3	5	6	7	8	2	2	2	3	4	4	5
24	7	9	9	13	16	19	22	1	1	1	1	2	2	2
25	3	3	4	6	7	8	9	1	1	1	2	2	3	3
26	3	3	3	5	6	7	8	1	1	1	1	2	2	2
27	2	2	3	3	4	5	6	0	1	1	1	1	1	2
28	0	0	0	1	1	1	1	0	0	0	0	1	1	1
29	1	1	1	1	2	2	2	0	0	0	1	1	1	1
30	1	2	2	3	3	4	5	0	0	0	0	0	0	0
31	1	6	18	28	30	32	34	0	2	6	10	11	11	12
32	3	4	4	6	8	9	10	0	0	0	0	0	0	1
33	2	3	3	4	5	6	7	1	1	1	1	2	2	2
34	1	1	1	1	2	2	2	0	0	0	1	1	1	1
35	1	1	1	1	2	2	2	2	2	2	3	4	5	6
36	2	3	3	4	5	6	7	0	0	0	0	1	1	1
37	0	0	0	1	1	1	1	0	0	0	0	0	0	1
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	1	1	1	1	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	38	49	64	97	117	132	147	11	15	20	31	41	45	53

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at Dundalk Marine Terminal

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at Dundalk Marine Terminal

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at Dundalk Marine Terminal

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at Dundalk Marine Terminal

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at Dundalk Marine Terminal

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at Dundalk Marine Terminal

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at Dundalk Marine Terminal

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at Dundalk Marine Terminal

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at Dundalk Marine Terminal

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at Dundalk Marine Terminal

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at Dundalk Marine Terminal

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at Dundalk Marine Terminal

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at Dundalk Marine Terminal

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at Dundalk Marine Terminal

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at Dundalk Marine Terminal

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at Dundalk Marine Terminal

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at Dundalk Marine Terminal

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at Dundalk Marine Terminal

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at Dundalk Marine Terminal

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	1	2	2	3	5	6	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	0	0	0	0	0	0
23	2	4	5	7	10	14	18	1	0	0	0	0	0	0
24	4	6	8	12	16	23	31	1	0	0	0	0	0	0
25	7	11	15	22	30	40	56	4	0	0	0	0	0	0
26	9	14	20	30	39	54	75	5	0	0	0	0	0	0
27	21	34	47	68	91	125	174	5	0	0	0	0	0	0
28	17	28	39	56	75	103	143	3	0	0	0	0	0	0
29	8	13	18	27	36	49	68	1	0	0	0	0	0	0
30	2	2	3	5	7	9	12	0	0	0	0	0	0	0
31	1	1	2	2	3	5	6	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	1	1	2	2	3	5	6	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	73	115	161	233	313	432	595	21	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at Dundalk Marine Terminal

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at Dundalk Marine Terminal

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at Dundalk Marine Terminal

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	1	1	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	1	1	1	1	0	0	0	0	0	0	0
34	0	0	0	0	0	1	1	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	1	1	3	3	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at Dundalk Marine Terminal

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at Dundalk Marine Terminal

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at Dundalk Marine Terminal

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	3	3	5	6	8	10
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	2	3	3	5	6	8	10
22	3	4	5	7	9	11	15	0	0	0	0	0	0	0
23	3	4	5	7	9	11	15	0	0	0	0	0	0	0
24	3	4	5	7	9	11	15	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	2	3	3	5	6	8	10
26	8	11	14	21	26	34	44	2	3	3	5	6	8	10
27	6	8	9	14	17	22	29	6	8	10	14	18	23	30
28	3	4	5	7	9	11	15	4	5	7	10	12	16	20
29	6	8	9	14	17	22	29	2	3	3	5	6	8	10
30	6	8	9	14	17	22	29	6	8	10	14	18	23	30
31	0	0	0	0	0	0	0	2	3	3	5	6	8	10
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	38	51	61	91	113	144	191	28	39	45	68	84	110	140

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	2	3	4	7	9	12	15	31	45	55	83	105	139	175
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	2	3	4	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	1	1	1	2	2
12	1	1	0	1	1	1	1	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	1	2	2	2	2
14	2	2	2	2	3	3	3	1	1	1	1	1	1	1
15	2	3	2	5	7	11	16	4	4	5	7	9	11	12
16	6	7	6	9	13	15	17	4	5	4	7	7	9	9
17	5	6	6	7	10	11	12	3	4	3	6	7	9	10
18	1	2	1	2	2	2	2	7	7	10	15	19	26	35
19	5	5	7	9	13	14	16	1	3	3	5	6	8	10
20	7	9	10	15	20	22	25	7	11	11	17	23	29	35
21	8	10	13	19	25	30	38	9	15	17	26	32	41	50
22	15	21	25	38	47	57	69	15	19	24	35	44	56	69
23	22	31	38	54	70	88	110	11	15	16	25	32	40	48
24	48	80	114	183	256	347	447	31	56	88	151	221	303	396
25	64	94	118	177	227	298	388	37	49	60	91	116	152	191
26	54	79	101	151	194	254	332	47	65	80	119	152	202	260
27	80	119	156	228	296	392	521	47	62	79	116	150	198	261
28	78	119	153	228	294	388	512	41	55	72	106	138	184	239
29	58	94	130	201	272	364	482	31	50	72	117	158	216	285
30	49	74	95	140	179	235	307	37	56	72	105	135	176	228
31	41	75	121	192	261	356	471	29	53	80	134	190	262	352
32	34	53	69	104	136	181	238	16	24	31	48	61	82	107
33	16	22	29	47	66	90	125	17	26	33	52	70	96	131
34	13	19	26	42	60	89	126	10	18	23	39	54	78	112
35	14	29	52	96	151	231	340	20	35	55	97	143	214	313
36	7	11	13	22	29	41	55	8	10	15	25	35	50	73
37	2	3	3	7	9	14	19	1	1	2	3	3	5	6
38	2	3	3	5	6	7	9	2	2	3	5	8	12	16
39	1	2	2	4	6	10	15	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at Dundalk Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	20	92	237	473	892	1609	0	22	100	256	512	966	1742
41	0	0	0	1	1	1	1	1	1	2	3	5	8	12
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	638	997	1393	2235	3139	4460	6327	469	715	1018	1697	2439	3577	5182

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART III: CALLS IN AND OUT OF SOUTH LOCUST POINT MARINE TERMINAL

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at South Locust Point Marine Terminal

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	6	7	8	12	17	21	25
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	1	1	1	1	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	1	1	1	1	2	2	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	1	1	1	1	2	2	0	0	0	0	0	0	0
17	0	1	1	1	1	2	2	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	2	2	3	4	6	7
19	1	1	1	2	3	3	4	1	1	2	2	3	4	5
20	3	5	5	8	10	13	15	4	6	6	10	13	17	20
21	2	2	2	4	5	6	8	2	2	3	4	6	7	8
22	3	3	4	6	8	10	11	1	2	2	3	4	6	7
23	2	2	2	4	5	6	8	2	2	3	4	6	7	8
24	3	5	5	8	10	13	15	7	9	10	15	20	25	30
25	5	7	7	11	15	19	23	3	3	4	6	8	10	12
26	4	6	6	10	13	16	19	3	4	4	7	9	11	13
27	7	9	10	15	21	26	31	5	7	7	12	15	19	23
28	8	10	11	17	23	29	34	4	5	6	9	12	15	18
29	6	10	12	21	28	35	39	6	10	12	20	28	34	38
30	4	6	6	10	13	16	19	2	2	3	4	6	7	8
31	5	7	7	11	15	19	23	4	6	6	10	13	17	20
32	3	3	4	6	8	10	11	2	2	3	4	6	7	8
33	1	1	1	2	3	3	4	1	1	1	2	2	3	3
34	1	1	1	2	3	3	4	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	58	81	87	140	186	233	274	54	71	83	128	173	217	255

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at South Locust Point Marine Terminal

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at South Locust Point Marine Terminal

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	1	1	1	2	2	3
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	3	4	5	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	2	2	4	5	6	8
16	2	3	3	5	7	10	12	0	1	1	1	2	2	3
17	1	1	2	3	4	5	6	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	2	2	4	5	6	8
19	1	1	2	3	4	5	6	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	1	1	1	2	2	3
22	0	0	0	0	0	0	0	1	2	2	4	5	6	8
23	1	1	2	3	4	5	6	0	1	1	1	2	2	3
24	0	12	35	70	115	167	225	1	11	31	61	99	144	192
25	0	0	0	0	0	0	0	0	1	1	1	2	2	3
26	1	1	2	3	4	5	6	0	1	1	1	2	2	3
27	2	3	3	5	7	10	12	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	3	3	5	7	10	12	1	2	2	4	5	6	8
30	1	1	2	3	4	5	6	1	2	2	4	5	6	8
31	1	1	2	3	4	5	6	0	1	1	1	2	2	3
32	0	0	0	0	0	0	0	0	1	1	1	2	2	3
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	28	58	106	164	232	303	6	29	49	89	140	190	256

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at South Locust Point Marine Terminal

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	8	11	14	21	26	33	42
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	1	1	1	1	2	2
17	0	0	0	0	0	0	0	0	1	1	1	1	2	2
18	0	0	0	0	0	0	0	0	1	1	1	1	2	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	2	2	3	3	4
21	1	1	1	2	2	3	4	2	3	4	5	7	9	11
22	3	5	6	9	11	14	18	5	8	10	14	18	23	29
23	3	4	5	7	9	12	14	2	3	4	5	7	9	11
24	13	19	24	34	43	55	69	6	9	10	15	19	24	31
25	14	21	26	38	48	61	76	5	8	10	14	18	23	29
26	8	12	15	22	27	35	44	9	13	16	23	29	37	46
27	11	16	20	29	36	46	58	8	11	14	21	26	33	42
28	14	21	26	38	48	61	76	9	13	16	23	29	37	46
29	12	18	22	33	41	52	65	6	9	10	15	19	24	31
30	8	12	15	22	27	35	44	10	15	19	27	34	44	55
31	5	12	24	44	69	102	142	6	14	24	45	69	100	138
32	6	9	11	16	21	26	33	4	5	7	10	12	16	20
33	4	6	7	11	14	17	22	5	7	9	13	16	21	26
34	3	5	6	9	11	14	18	4	6	7	11	14	17	22
35	3	4	5	7	9	12	14	6	9	11	16	21	26	33
36	1	2	2	4	5	6	7	3	4	4	7	8	10	13
37	0	0	0	0	0	0	0	0	1	1	1	1	2	2
38	1	1	1	2	2	3	4	0	1	1	1	1	2	2
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	110	168	216	327	423	554	708	99	154	196	292	380	499	639

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at South Locust Point Marine Terminal

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at South Locust Point Marine Terminal

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at South Locust Point Marine Terminal

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	1	1	1	2	2	3	4	5	7	10	13
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	1	1	1	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	1	1	1	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	1	1	1	2	0	1	1	1	1	2	2
22	0	0	0	0	0	0	0	0	0	0	1	1	1	1
23	0	1	1	1	2	2	3	0	1	1	1	1	2	2
24	1	1	2	3	3	5	6	2	3	4	6	8	10	14
25	5	8	11	15	20	27	37	4	6	8	12	15	21	28
26	3	4	6	9	11	15	21	6	9	12	18	23	31	43
27	5	8	11	15	20	27	37	5	7	10	15	19	26	35
28	5	8	11	17	22	29	40	4	7	9	13	17	24	32
29	2	5	9	15	21	30	43	3	6	10	16	22	32	45
30	4	7	10	14	18	25	34	3	5	7	11	14	19	26
31	5	8	11	15	20	27	37	3	5	6	9	12	17	22
32	3	5	7	11	14	19	26	2	3	4	5	7	10	13
33	0	0	0	1	1	1	2	1	2	2	3	4	5	7
34	0	0	0	1	1	1	2	0	0	0	1	1	1	1
35	0	0	0	0	0	0	0	0	0	0	1	1	1	1
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	33	55	79	119	155	210	292	35	58	78	120	155	214	287

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at South Locust Point Marine Terminal

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	1	1
25	0	0	0	0	0	0	0	0	0	0	0	1	1	1
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	1	2	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at South Locust Point Marine Terminal

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	2	5	5	6	8	9	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	2	5	5	6	8	9	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at South Locust Point Marine Terminal

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	1	1	1	1	1	1	0	1	1	1	1	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	1	1	1	1	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	1	1	1	1	0
18	0	1	1	1	1	1	1	0	1	1	1	1	1	1
19	1	1	2	2	2	2	2	0	1	1	1	1	1	1
20	1	1	2	2	2	2	2	1	2	3	4	3	3	3
21	1	1	2	2	2	2	2	2	3	5	6	5	4	4
22	2	3	5	6	5	4	4	4	6	10	13	11	10	9
23	1	2	3	3	3	3	2	2	3	5	6	5	4	4
24	1	2	4	4	4	3	3	0	1	1	1	1	1	1
25	0	0	0	0	0	0	0	2	3	4	5	5	4	4
26	0	0	0	0	0	0	0	0	1	1	1	1	1	1
27	1	1	2	2	2	2	2	0	0	0	0	0	0	0
28	1	1	2	2	2	2	2	0	0	1	1	1	1	0
29	2	3	6	7	6	5	5	0	0	0	0	0	0	0
30	1	2	3	3	3	3	2	0	0	0	0	0	0	0
31	4	6	10	12	11	9	9	0	0	0	0	0	0	0
32	1	2	3	3	3	3	2	0	0	1	1	1	1	0
33	0	0	0	0	0	0	0	0	0	1	1	1	1	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	1	1	1	1	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	27	46	50	47	42	39	11	22	38	45	40	36	29

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at South Locust Point Marine Terminal

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	2	3	3	4	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	1	1	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	0	0	0	1	1	1	1	0	0	0	0	0	0	0
20	0	0	0	0	0	1	1	1	1	1	2	2	3	3
21	1	1	1	1	2	2	2	0	0	1	1	1	1	1
22	1	1	1	2	2	2	3	1	1	1	1	2	2	2
23	1	1	1	1	2	2	2	1	2	2	3	3	4	5
24	2	3	3	4	5	6	7	1	1	1	1	2	2	2
25	1	1	1	2	2	2	3	1	1	1	2	2	3	3
26	1	1	1	1	2	2	2	1	1	1	1	2	2	2
27	1	1	1	1	1	2	2	0	1	1	1	1	1	2
28	0	0	0	0	0	0	0	0	0	0	0	1	1	1
29	0	0	0	0	0	1	1	0	0	0	1	1	1	1
30	0	1	1	1	1	1	1	0	0	0	0	0	0	0
31	0	2	5	9	9	10	11	0	2	6	9	10	10	11
32	1	1	1	2	2	3	3	0	0	0	0	0	0	1
33	1	1	1	1	2	2	2	1	1	1	1	2	2	2
34	0	0	0	0	0	1	1	0	0	0	1	1	1	1
35	0	0	0	0	0	1	1	2	2	2	3	4	5	5
36	1	1	1	1	2	2	2	0	0	0	0	1	1	1
37	0	0	0	0	0	0	0	0	0	0	0	0	0	1
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	15	18	27	33	41	45	10	15	20	30	39	44	50

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at South Locust Point Marine Terminal

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at South Locust Point Marine Terminal

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at South Locust Point Marine Terminal

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at South Locust Point Marine Terminal

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at South Locust Point Marine Terminal

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at South Locust Point Marine Terminal

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at South Locust Point Marine Terminal

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at South Locust Point Marine Terminal

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at South Locust Point Marine Terminal

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at South Locust Point Marine Terminal

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at South Locust Point Marine Terminal

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at South Locust Point Marine Terminal

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	1	3	8	17	29	42	0	1	2	6	12	20	28
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	3	8	17	29	42	0	1	2	6	12	20	28

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at South Locust Point Marine Terminal

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at South Locust Point Marine Terminal

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at South Locust Point Marine Terminal

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at South Locust Point Marine Terminal

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at South Locust Point Marine Terminal

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at South Locust Point Marine Terminal

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at South Locust Point Marine Terminal

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	1	1	0	0	0	0	0	0	0
26	0	0	0	0	1	1	1	0	0	0	0	0	0	0
27	0	0	1	1	1	2	3	0	0	0	0	0	0	0
28	0	0	1	1	1	2	2	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	2	2	4	7	8	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at South Locust Point Marine Terminal

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	1	1	1	1	1	1	0	0	0	0	0	0	0
26	1	1	0	1	1	1	1	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	2	1	2	2	2	2	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at South Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at South Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at South Locust Point Marine Terminal

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at South Locust Point Marine Terminal

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at South Locust Point Marine Terminal

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	2	3	4	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	3	4	5
22	1	2	3	4	5	6	8	0	0	0	0	0	0	0
23	1	2	3	4	5	6	8	0	0	0	0	0	0	0
24	1	2	3	4	5	6	8	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	1	1	1	2	3	4	5
26	5	6	8	11	14	18	24	1	1	1	2	3	4	5
27	3	4	5	7	9	12	16	3	4	4	6	8	10	14
28	1	2	3	4	5	6	8	2	2	3	4	5	7	9
29	3	4	5	7	9	12	16	1	1	1	2	3	4	5
30	3	4	5	7	9	12	16	3	4	4	6	8	10	14
31	0	0	0	0	0	0	0	1	1	1	2	3	4	5
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	18	26	35	48	61	78	104	14	16	17	28	39	51	67

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	1	1	2	2	2	3	18	26	31	45	59	75	93
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	3	4	5	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	1	1	1	1	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	1	1	1	1	0
14	0	1	1	1	1	2	2	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	2	2	4	5	6	8
16	2	4	4	6	8	12	14	0	2	2	2	3	4	5
17	1	2	3	4	5	7	8	0	1	2	3	4	5	4
18	0	1	1	1	1	1	1	2	6	6	9	11	15	19
19	3	3	5	8	10	11	13	1	2	3	4	5	6	7
20	4	6	7	10	12	16	18	7	10	12	18	21	26	30
21	6	7	11	15	18	22	27	7	11	16	20	25	29	34
22	10	14	19	27	31	36	44	12	19	25	36	41	48	56
23	9	13	17	23	30	36	43	7	12	16	20	24	28	33
24	21	44	76	127	185	255	333	17	34	57	99	149	207	271
25	26	38	46	67	86	111	141	16	23	29	42	54	68	85
26	23	31	38	57	73	93	118	20	30	36	53	69	88	113
27	30	42	53	75	97	127	161	21	30	36	55	69	89	116
28	29	43	57	87	118	158	204	19	28	37	56	77	105	134
29	27	43	57	88	113	146	182	17	28	35	58	78	101	128
30	21	33	42	60	75	97	122	19	28	35	52	67	86	111
31	20	36	59	94	128	172	228	14	29	44	76	109	150	199
32	14	20	26	38	48	61	75	8	11	16	21	28	36	45
33	6	8	9	15	20	23	30	8	11	14	20	25	32	38
34	4	6	7	12	15	19	25	4	6	7	13	16	19	24
35	3	4	5	7	9	13	15	8	11	13	20	26	32	39
36	2	3	3	5	7	8	9	3	4	4	7	9	11	14
37	0	0	0	0	0	0	0	0	1	1	1	1	2	3
38	1	1	1	2	2	3	4	0	1	1	1	1	2	2
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at South Locust Point Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	1	1	1	1	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	263	405	550	834	1098	1436	1826	229	366	483	738	979	1273	1613

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART IV: CALLS IN AND OUT OF SPARROWS POINT ORE TERMINAL

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at Sparrows Point Ore Terminal

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	1	0	0	0	0	0	0	0
28	0	0	0	0	0	1	1	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	1	2	3	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at Sparrows Point Ore Terminal

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at Sparrows Point Ore Terminal

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at Sparrows Point Ore Terminal

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	1
31	0	0	0	0	0	0	0	0	0	0	0	1	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	1	1	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at Sparrows Point Ore Terminal

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at Sparrows Point Ore Terminal

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at Sparrows Point Ore Terminal

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at Sparrows Point Ore Terminal

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at Sparrows Point Ore Terminal

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	1	1	1	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	1	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	1	1	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	1	1	1	1	1	1	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	3	4	3	2	2	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	1	1	1	1	0	0	0	0	0	0	0
20	0	0	0	0	1	1	1	0	0	0	0	0	0	0
21	1	1	1	2	2	3	3	0	0	0	0	0	0	0
22	1	1	1	2	2	3	3	0	0	0	0	0	0	0
23	1	1	1	2	2	3	3	0	0	0	0	1	1	1
24	2	3	3	5	6	7	8	0	0	0	0	0	0	0
25	1	1	1	2	2	3	3	0	0	0	0	0	0	0
26	1	1	1	2	2	3	3	0	0	0	0	0	0	0
27	1	1	1	1	1	2	2	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	0	0	0
30	0	1	1	1	1	1	2	0	0	0	0	0	0	0
31	0	2	6	10	11	11	12	0	0	1	1	2	2	2
32	1	1	2	2	3	3	4	0	0	0	0	0	0	0
33	1	1	1	1	2	2	2	0	0	0	0	0	0	0
34	0	0	0	0	1	1	1	0	0	0	0	0	0	0
35	0	0	0	0	1	1	1	0	0	0	0	1	1	1
36	1	1	1	1	2	2	2	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	15	20	32	41	48	52	0	0	1	1	4	5	5

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	1	1	1	1	2	2	0	0	0	0	0	0	0
20	1	1	1	1	1	2	2	0	0	0	0	0	0	0
21	4	4	4	6	5	6	8	0	0	0	0	0	0	0
22	3	3	3	4	4	5	6	0	0	0	0	0	0	0
23	1	1	1	1	1	2	2	0	0	0	0	0	0	0
24	2	2	2	3	3	3	4	0	0	0	0	0	0	1
25	2	2	2	3	3	3	4	0	0	0	0	0	0	0
26	1	1	1	1	1	2	2	0	0	0	0	0	0	0
27	3	3	3	4	4	5	6	0	0	0	0	0	0	0
28	3	3	3	4	4	5	6	0	0	0	0	0	0	0
29	2	2	2	3	3	3	4	0	0	0	0	0	0	0
30	1	1	1	1	1	2	2	0	0	0	0	0	0	0
31	2	2	2	3	3	3	4	0	0	0	0	0	0	0
32	2	2	2	3	3	3	4	0	0	0	0	0	0	0
33	2	2	2	3	3	3	4	0	0	0	0	0	0	0
34	6	6	6	8	8	10	12	0	0	0	0	0	0	0
35	2	2	2	3	3	3	4	0	0	0	0	0	0	0
36	4	4	4	6	5	6	8	0	0	0	0	0	0	0
37	0	4	15	29	43	62	83	0	0	1	1	2	3	3
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	5	6	5	7	6	8	10	0	0	0	0	0	0	0
42	11	12	11	15	13	18	22	0	0	0	0	0	0	0
43	4	4	4	6	5	6	8	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	62	68	77	115	123	162	207	0	0	1	1	2	3	4

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	2	2	2	2	2	3	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	3	4	4	5	6	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	2	2	2	2	2	3	0	0	0	0	0	0	0
41	4	5	5	6	5	7	8	0	0	0	0	0	0	0
42	3	9	19	33	43	71	111	0	0	1	2	3	5	8
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	12	21	31	47	56	87	131	0	0	1	2	3	5	8

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	1	1	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	2	7	15	20	40	74	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	2	7	17	22	42	76	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at Sparrows Point Ore Terminal

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at Sparrows Point Ore Terminal

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at Sparrows Point Ore Terminal

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at Sparrows Point Ore Terminal

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at Sparrows Point Ore Terminal

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at Sparrows Point Ore Terminal

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at Sparrows Point Ore Terminal

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
37	0	1	2	4	5	6	7	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	2	4	5	6	7	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at Sparrows Point Ore Terminal

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at Sparrows Point Ore Terminal

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at Sparrows Point Ore Terminal

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at Sparrows Point Ore Terminal

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at Sparrows Point Ore Terminal

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at Sparrows Point Ore Terminal

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at Sparrows Point Ore Terminal

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at Sparrows Point Ore Terminal

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at Sparrows Point Ore Terminal

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	1	1	1	1	0	0	0	0	0	0	0
23	0	0	0	1	1	1	1	0	0	0	0	0	0	0
24	0	0	0	1	1	1	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	1	1	2	2	3	4	0	0	0	0	0	0	0
27	0	1	1	1	1	2	2	0	0	0	0	0	0	0
28	0	0	0	1	1	1	1	0	0	0	0	0	0	0
29	0	1	1	1	1	2	2	0	0	0	0	0	0	0
30	0	1	1	1	1	2	2	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	4	4	9	9	13	14	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	1	1	2	2	3	3	0	0	0	0	0	0	0
20	1	1	1	1	2	3	3	0	0	0	0	0	0	0
21	5	5	5	8	7	9	11	0	0	0	0	0	0	0
22	4	4	5	8	8	9	10	0	0	0	0	0	0	0
23	2	2	2	4	4	6	6	0	0	0	0	1	1	1
24	4	5	5	10	10	11	13	0	0	0	0	0	0	1
25	4	5	5	7	7	8	10	0	0	0	0	0	0	0
26	3	3	3	5	5	8	9	0	0	0	0	0	0	0
27	4	5	5	6	6	9	11	0	0	0	0	0	0	0
28	3	3	3	5	5	7	8	0	0	0	0	0	0	0
29	2	3	4	5	7	8	9	0	0	0	0	0	0	0
30	4	6	6	8	8	11	13	0	0	0	0	0	0	1
31	2	5	9	14	15	15	17	0	0	1	1	3	3	3
32	3	3	4	6	7	7	9	0	0	0	0	0	0	0
33	3	3	3	4	5	5	6	0	0	0	0	0	0	0
34	6	6	6	8	9	11	13	0	0	0	0	0	0	0
35	2	2	2	3	4	4	5	0	0	0	0	1	1	1
36	5	5	5	7	7	8	10	0	0	0	0	0	0	0
37	0	5	17	33	48	68	90	0	0	1	1	2	3	3
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at Sparrows Point Ore Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	2	2	2	2	2	3	0	0	0	0	0	0	0
41	9	11	10	13	11	15	18	0	0	0	0	0	0	0
42	14	21	30	48	56	89	133	0	0	1	2	3	5	8
43	4	4	4	6	5	6	8	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	2	7	15	20	40	74	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	86	112	144	228	260	362	492	0	0	3	4	10	14	19

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART V: CALLS IN AND OUT OF SEAGIRT MARINE TERMINAL

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: AA at Seagirt Marine Terminal

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	1	0	0	0	0	0	0	0
28	0	0	0	0	0	1	1	0	0	0	0	0	0	0
29	0	0	0	0	1	1	1	0	0	0	0	1	1	1
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: AA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	1	2	3	0	0	0	0	1	1	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: AB at Seagirt Marine Terminal

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: A1 at Seagirt Marine Terminal

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	1	2	2	3	4	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	1	1	1	1	2	2
16	1	2	2	3	4	6	7	0	0	0	0	0	1	1
17	1	1	1	2	2	3	4	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	1	1	1	1	2	2
19	1	1	1	2	2	3	4	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	1	1
22	0	0	0	0	0	0	0	0	1	1	1	1	2	2
23	1	1	1	2	2	3	4	0	0	0	0	0	1	1
24	0	7	21	41	67	98	131	0	3	9	18	30	43	57
25	0	0	0	0	0	0	0	0	0	0	0	0	1	1
26	1	1	1	2	2	3	4	0	0	0	0	0	1	1
27	1	2	2	3	4	6	7	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	1	2	2	3	4	6	7	0	1	1	1	1	2	2
30	1	1	1	2	2	3	4	0	1	1	1	1	2	2
31	1	1	1	2	2	3	4	0	0	0	0	0	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	1	1
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A1 at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	20	34	64	93	137	180	0	8	14	23	35	61	75

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: A2 at Seagirt Marine Terminal

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	6	8	10	15	19	24	30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	1	1	1	1	2
17	0	0	0	0	0	0	0	0	0	1	1	1	1	2
18	0	0	0	0	0	0	0	0	0	1	1	1	1	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	1	2	2	3	3
21	1	1	1	1	2	2	3	2	2	3	4	5	6	8
22	3	4	5	8	10	12	15	4	6	7	10	13	16	21
23	2	3	4	6	8	10	12	2	2	3	4	5	6	8
24	11	16	20	29	36	47	58	4	6	8	11	14	18	22
25	12	18	22	32	40	52	64	4	6	7	10	13	16	21
26	7	10	13	18	23	29	37	6	9	11	17	21	27	33
27	9	13	17	24	31	39	49	6	8	10	15	19	24	30
28	12	18	22	32	40	52	64	6	9	11	17	21	27	33
29	10	15	19	27	35	44	55	4	6	8	11	14	18	22
30	7	10	13	18	23	29	37	7	11	13	20	25	32	40
31	4	10	20	37	58	86	120	4	10	18	32	50	72	99
32	5	8	9	14	17	22	28	3	4	5	7	9	11	14
33	3	5	6	9	11	15	18	4	5	6	9	12	15	19
34	3	4	5	8	10	12	15	3	4	5	8	10	13	16
35	2	3	4	6	8	10	12	4	7	8	12	15	19	24
36	1	2	2	3	4	5	6	2	3	3	5	6	8	10
37	0	0	0	0	0	0	0	0	0	1	1	1	1	2
38	1	1	1	1	2	2	3	0	0	1	1	1	1	2
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A2 at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	93	141	183	273	358	468	596	72	107	142	214	278	360	463

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: A3 at Seagirt Marine Terminal

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	5	7	8	14	18	23	28	2	3	4	7	8	11	13
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	2	2	3	4	5	6
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2	3	4	7	9	12	14	1	2	2	3	4	5	6
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	2	3	4	7	9	12	14	0	0	0	0	0	0	0
28	5	7	8	14	18	23	28	1	2	2	3	4	5	6
29	5	7	8	14	18	23	28	0	0	0	0	0	0	0
30	5	7	8	14	18	23	28	3	5	6	10	13	16	19
31	5	7	8	14	18	23	28	7	11	14	24	30	37	45
32	9	13	17	29	37	46	55	6	9	12	20	26	32	38
33	7	10	13	21	28	35	42	13	20	25	44	56	69	84
34	0	0	0	0	0	0	0	3	5	6	10	13	16	19
35	2	35	103	203	326	502	731	3	34	96	188	301	463	673
36	5	7	8	14	18	23	28	4	6	8	13	17	22	26
37	2	3	4	7	9	12	14	2	3	4	7	8	11	13
38	2	3	4	7	9	12	14	1	2	2	3	4	5	6
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A3 at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	56	112	197	365	535	769	1052	47	104	183	335	488	697	954

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: A4 at Seagirt Marine Terminal

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: A4 at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AE at Seagirt Marine Terminal

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	1	1	1	0	0	0	0	0	1	1
26	0	0	0	0	0	0	1	0	0	0	1	1	1	1
27	0	0	0	0	1	1	1	0	0	0	0	1	1	1
28	0	0	0	0	1	1	1	0	0	0	0	1	1	1
29	0	0	0	0	1	1	1	0	0	0	0	1	1	1
30	0	0	0	0	1	1	1	0	0	0	0	0	1	1
31	0	0	0	0	1	1	1	0	0	0	0	0	0	1
32	0	0	0	0	0	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: AE at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	6	7	8	0	0	0	1	4	6	7

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: AF at Seagirt Marine Terminal

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: AF at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: BA at Seagirt Marine Terminal

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: BA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DA at Seagirt Marine Terminal

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	1	1	1	1	1	1	0	0	0	0	0	0	0
19	1	1	2	2	2	2	1	0	0	0	0	0	0	0
20	1	1	2	2	2	2	1	0	0	0	0	0	0	0
21	1	1	2	2	2	2	1	0	0	0	0	0	0	0
22	2	3	4	5	4	4	4	0	0	1	1	1	1	1
23	1	2	2	3	3	2	2	0	0	0	0	0	0	0
24	1	2	3	4	4	3	3	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	1	2	2	2	2	1	0	0	0	0	0	0	0
28	1	1	2	2	2	2	1	0	0	0	0	0	0	0
29	2	3	5	6	5	4	4	0	0	0	0	0	0	0
30	1	2	2	3	3	2	2	0	0	0	0	0	0	0
31	3	5	9	11	10	8	8	0	0	0	0	0	0	0
32	1	2	2	3	3	2	2	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	16	26	39	47	44	37	32	0	0	1	1	1	1	1

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DB at Seagirt Marine Terminal

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DC at Seagirt Marine Terminal

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DC at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DD at Seagirt Marine Terminal

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DD at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DE at Seagirt Marine Terminal

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DE at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: DF at Seagirt Marine Terminal

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: DF at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EA at Seagirt Marine Terminal

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EB at Seagirt Marine Terminal

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EC at Seagirt Marine Terminal

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EC at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: ED at Seagirt Marine Terminal

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: ED at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EE at Seagirt Marine Terminal

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: EE at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EF at Seagirt Marine Terminal

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: EF at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FA at Seagirt Marine Terminal

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FB at Seagirt Marine Terminal

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FC at Seagirt Marine Terminal

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FC at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FD at Seagirt Marine Terminal

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FD at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FE at Seagirt Marine Terminal

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FE at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: FF at Seagirt Marine Terminal

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FF at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FG at Seagirt Marine Terminal

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: FG at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: GA at Seagirt Marine Terminal

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: GA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: HB at Seagirt Marine Terminal

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	1	1	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	1	1	1	2	2
23	0	1	1	1	1	2	3	1	1	1	2	3	4	5
24	1	1	1	2	2	3	4	0	1	1	1	2	3	4
25	1	2	2	3	4	6	8	2	3	4	6	8	12	16
26	1	2	3	4	6	8	11	2	4	5	7	10	13	18
27	3	5	7	10	13	18	25	2	4	5	7	10	13	18
28	2	4	5	8	11	15	20	1	2	3	4	6	8	11
29	1	2	3	4	5	7	10	1	1	1	2	2	3	4
30	0	0	0	1	1	1	2	0	0	0	1	1	1	2
31	0	0	0	0	0	1	1	0	0	0	0	0	0	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	1	1	1
34	0	0	0	0	0	1	1	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: HB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	9	17	22	33	43	63	86	9	16	21	31	45	61	85

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PA at Seagirt Marine Terminal

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PA at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PB at Seagirt Marine Terminal

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: PB at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PC at Seagirt Marine Terminal

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PC at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PD at Seagirt Marine Terminal

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PD at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PE at Seagirt Marine Terminal

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: PE at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet for Vessel Type: XX at Seagirt Marine Terminal

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	1	0	0	0	0	0	0	0
23	0	0	0	0	0	0	1	0	0	0	0	0	0	0
24	0	0	0	0	0	0	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	1	1	1	1	2	0	0	0	0	0	0	0
27	0	0	0	1	1	1	1	0	0	0	0	0	0	0
28	0	0	0	0	0	0	1	0	0	0	0	0	0	0
29	0	0	0	1	1	1	1	0	0	0	0	0	0	0
30	0	0	0	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Number of Movements by Sailing Draft in Feet for Vessel Type: XX at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	4	4	4	9	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Total Number of Movements by Sailing Draft in Feet for Vessel Type: TOTAL at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	5	8	9	15	19	24	29	8	11	14	22	28	37	45
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	1	2	2	3	4	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	1	1	1	1	2	2
16	1	2	2	3	4	6	7	0	0	1	1	1	2	3
17	1	1	1	2	2	3	4	0	0	1	1	1	1	2
18	0	1	1	1	1	1	1	0	1	2	2	2	3	4
19	2	2	3	4	4	5	5	0	0	0	0	0	0	1
20	1	1	2	2	2	2	1	1	1	1	2	2	3	3
21	2	2	3	3	4	5	5	2	2	3	4	5	7	10
22	5	7	9	13	14	16	20	4	7	10	13	16	21	26
23	4	7	8	12	14	17	22	4	5	6	9	12	16	20
24	13	26	45	76	109	151	197	4	10	18	30	46	64	84
25	15	23	28	42	54	71	87	7	11	13	19	25	35	45
26	9	13	18	25	32	41	55	8	13	16	25	32	42	53
27	16	24	32	47	61	79	99	8	12	15	22	30	38	49
28	20	30	37	56	72	94	116	8	13	16	24	32	41	51
29	19	29	37	55	70	87	107	5	8	10	14	19	25	30
30	14	20	24	39	49	60	75	10	17	20	32	40	52	64
31	13	23	38	64	89	122	162	11	21	32	56	80	110	147
32	15	23	28	46	57	71	86	9	13	17	27	35	44	53
33	10	15	19	30	39	50	60	17	25	31	53	69	85	104
34	3	4	5	8	10	13	16	6	9	11	18	23	29	35
35	4	38	107	209	334	512	743	7	41	104	200	316	482	697
36	6	9	10	17	22	28	34	6	9	11	18	23	30	36
37	2	3	4	7	9	12	14	2	3	5	8	9	12	15
38	3	4	5	8	11	14	17	1	2	3	4	5	6	8
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

DRI/McGraw-Hill 1995 Q1 Forecast for
Baltimore Anchorages and Channels Study

Total Number of Movements by Sailing Draft in Feet for Vessel Type: TOTAL at Seagirt Marine Terminal

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	184	316	476	786	1084	1487	1966	128	235	361	605	852	1187	1587

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART VI: CALLS IN AND OUT OF ALL OTHER TERMINALS

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at All Other Terminals

Definition of Shiptype: General Cargo > 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	15	20	22	34	46	57	68
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	1	1	2	2	3	4	4
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	1	1	2	2	3	4	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	1	1	2	2	3	4	0	0	0	0	0	0	0
17	1	1	1	2	2	3	4	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	4	5	6	9	12	15	18
19	2	2	2	4	5	6	7	3	4	4	7	9	12	14
20	6	8	9	15	19	24	29	12	16	18	27	36	46	54
21	3	4	4	7	10	12	14	5	7	7	12	15	19	23
22	5	6	7	11	15	18	21	4	5	6	9	12	15	18
23	3	4	4	7	10	12	14	5	7	7	12	15	19	23
24	6	8	9	15	19	24	29	18	24	26	41	54	68	81
25	10	13	14	21	29	36	43	7	9	10	16	21	26	32
26	8	10	12	18	24	30	36	8	11	12	18	24	30	36
27	13	17	19	29	38	48	57	14	19	20	32	42	53	63
28	14	19	21	32	43	54	64	11	15	16	25	33	42	50
29	10	18	23	38	53	65	73	15	26	32	54	75	93	104
30	8	10	12	18	24	30	36	5	7	7	12	15	19	23
31	10	13	14	21	29	36	43	12	16	18	27	36	46	54
32	5	6	7	11	15	18	21	5	7	7	12	15	19	23
33	2	2	2	4	5	6	7	2	3	3	4	6	8	9
34	2	2	2	4	5	6	7	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	110	145	164	261	349	434	513	146	202	223	353	469	591	697

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at All Other Terminals

Definition of Shiptype: General Cargo < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	4	4	3	5	5	5	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	1	1	1	1	1	1	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	5	5	4	6	7	7	6
14	2	1	1	1	1	1	1	2	3	2	3	4	4	3
15	1	1	1	1	1	1	1	8	9	6	9	11	11	9
16	6	2	1	1	1	1	1	9	10	7	11	13	13	11
17	6	2	1	1	1	1	1	7	7	5	8	9	9	8
18	3	1	1	1	1	1	1	4	4	3	5	5	5	5
19	4	1	1	1	1	1	1	0	0	0	0	0	0	0
20	2	1	1	1	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	2	2	1	2	2	2	2
22	0	0	0	0	0	0	0	2	3	2	3	4	4	3
23	2	1	1	1	1	1	1	2	2	1	2	2	2	2
24	2	1	1	1	1	1	1	2	3	2	3	4	4	3
25	1	1	1	1	1	1	1	0	0	0	0	0	0	0
26	1	1	1	1	1	1	1	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	1	1	1	1	1	1	1	0	0	0	0	0	0	0
29	1	1	1	1	1	1	1	0	0	0	0	0	0	0
30	1	1	1	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	34	17	15	15	15	15	15	47	52	36	57	66	66	57

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at All Other Terminals

Definition of Shiptype: Cellular < 1000 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	2	3	3	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	3	4	5	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	2	3	4	6	8	10	13
16	2	3	3	5	7	10	12	1	1	1	2	3	3	4
17	1	1	2	3	4	5	6	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	2	3	4	6	8	10	13
19	1	1	2	3	4	5	6	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	3	3	4
22	0	0	0	0	0	0	0	2	3	4	6	8	10	13
23	1	1	2	3	4	5	6	1	1	1	2	3	3	4
24	0	12	35	70	115	167	225	1	18	49	98	158	230	308
25	0	0	0	0	0	0	0	1	1	1	2	3	3	4
26	1	1	2	3	4	5	6	1	1	1	2	3	3	4
27	2	3	3	5	7	10	12	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	3	3	5	7	10	12	2	3	4	6	8	10	13
30	1	1	2	3	4	5	6	2	3	4	6	8	10	13
31	1	1	2	3	4	5	6	1	1	1	2	3	3	4
32	0	0	0	0	0	0	0	1	1	1	2	3	3	4
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A1 at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	28	58	106	164	232	303	19	41	77	144	222	304	405

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at All Other Terminals

Definition of Shiptype: Cellular 1000-2499 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	15	22	27	40	50	64	80
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	1	1	1	2	3	3	4
17	0	0	0	0	0	0	0	1	1	1	2	3	3	4
18	0	0	0	0	0	0	0	1	1	1	2	3	3	4
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	2	3	4	5	7	9
21	1	1	2	2	3	4	5	4	6	7	10	13	17	21
22	4	6	8	12	15	18	23	10	15	19	27	34	44	55
23	4	5	6	9	12	15	18	4	6	7	10	13	17	21
24	17	24	30	44	55	70	88	11	16	20	29	37	47	59
25	18	27	33	48	61	78	97	10	15	19	27	34	44	55
26	10	15	19	28	35	44	56	17	24	30	44	55	71	88
27	14	20	25	37	46	59	74	15	22	27	40	50	64	80
28	18	27	33	48	61	78	97	17	24	30	44	55	71	88
29	16	23	28	42	52	67	83	11	16	20	29	37	47	59
30	10	15	19	28	35	44	56	20	29	36	52	66	84	106
31	6	15	30	56	88	130	181	12	26	47	86	132	192	264
32	8	12	14	21	26	33	42	7	10	13	19	24	30	38
33	5	8	9	14	17	22	28	10	14	17	25	32	40	51
34	4	6	8	12	15	18	23	8	12	14	21	26	34	42
35	4	5	6	9	12	15	18	12	18	22	31	40	50	63
36	2	2	3	5	6	7	9	5	7	9	13	16	20	25
37	0	0	0	0	0	0	0	1	1	1	2	3	3	4
38	1	1	2	2	3	4	5	1	1	1	2	3	3	4
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A2 at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	142	212	275	417	542	706	903	194	289	372	561	734	958	1224

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at All Other Terminals

Definition of Shiptype: Cellular 2500-3999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	2	3	4	7	9	11	14	2	2	3	5	6	8	10
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	2	2	3	4	5
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	2	2	3	5	6	7	1	1	2	2	3	4	5
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	2	2	3	5	6	7	0	0	0	0	0	0	0
28	2	3	4	7	9	11	14	1	1	2	2	3	4	5
29	2	3	4	7	9	11	14	0	0	0	0	0	0	0
30	2	3	4	7	9	11	14	2	4	4	8	10	12	15
31	2	3	4	7	9	11	14	6	8	10	18	23	28	34
32	4	6	8	14	18	23	27	5	7	9	15	19	24	29
33	3	5	6	10	14	17	20	10	15	19	33	42	52	63
34	0	0	0	0	0	0	0	2	4	4	8	10	12	15
35	1	17	50	99	159	245	357	2	25	72	142	227	350	508
36	2	3	4	7	9	11	14	3	5	6	10	13	16	19
37	1	2	2	3	5	6	7	2	2	3	5	6	8	10
38	1	2	2	3	5	6	7	1	1	2	2	3	4	5
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A3 at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	24	54	96	177	265	375	516	38	76	138	252	368	526	723

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at All Other Terminals

Definition of Shiptype: Cellular 4000-5999 TEU

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	1	1	3	4	6	10
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	1	2	4	6	9	15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	1	1	3	4	6	10
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	1	1	3	4	6	10
28	0	0	0	0	0	0	0	0	1	1	3	4	6	10
29	1	1	2	4	6	9	15	0	1	1	3	4	6	10
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	1	1	3	4	6	10
32	1	2	4	8	12	19	30	0	1	1	3	4	6	10
33	3	5	8	15	24	38	60	2	4	5	10	16	25	39
34	4	7	10	19	30	48	74	3	5	8	15	24	38	59
35	7	12	18	35	54	86	134	7	12	17	33	51	82	128
36	1	2	4	8	12	19	30	2	4	5	10	16	25	39
37	1	1	2	4	6	9	15	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	1	1	3	4	6	10
39	1	1	2	4	6	9	15	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: A4 at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	20	90	230	460	867	1564	0	18	82	211	421	793	1431
41	0	0	0	0	0	0	0	0	1	1	3	4	6	10
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	20	52	142	331	616	1113	1952	14	52	126	306	564	1017	1786

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at All Other Terminals

Definition of Shiptype: Roll On/Roll Off > 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	1	2	3	4	5	7	8	14	19	28	36	49	67
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	1	1	2	3	3	5	6
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	1	2	3	3	5	6
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	1	2	3	4	5	7	2	3	4	5	7	9	12
22	0	0	0	0	0	0	0	1	1	2	3	3	5	6
23	2	3	4	5	7	10	13	2	3	4	5	7	9	12
24	3	5	8	11	14	19	26	9	15	21	30	40	53	73
25	19	32	43	63	82	111	151	19	30	42	61	79	107	146
26	11	18	24	36	46	63	85	28	46	62	91	119	161	219
27	19	32	43	63	82	111	151	24	38	52	76	99	134	182
28	21	34	47	69	89	121	164	21	35	47	69	89	121	164
29	10	21	38	60	87	125	176	14	28	50	80	114	164	231
30	18	29	39	58	75	102	138	17	28	38	56	73	99	134
31	19	32	43	63	82	111	151	15	24	33	48	63	85	115
32	13	22	30	44	57	77	105	8	14	19	28	36	49	67
33	1	1	2	3	4	5	7	5	8	10	15	20	27	37
34	1	1	2	3	4	5	7	1	1	2	3	3	5	6
35	0	0	0	0	0	0	0	1	1	2	3	3	5	6
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AE at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	139	232	327	484	637	870	1188	177	291	411	607	797	1092	1489

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at All Other Terminals

Definition of Shiptype: Roll On/Roll Off < 10K

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	2	2	3	4	5	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	2	2	3	3	4	4	1	1	1	2	2	3	3
21	0	0	0	0	0	0	0	1	1	1	2	2	3	3
22	1	2	2	3	3	4	4	1	1	1	2	2	3	3
23	4	6	6	9	13	15	15	2	2	2	3	4	5	5
24	5	8	8	12	16	18	19	4	5	5	8	10	12	13
25	1	2	2	3	3	4	4	5	7	7	11	15	17	17
26	3	5	5	7	9	11	11	2	3	3	5	6	7	8
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: AF at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	15	25	25	37	47	56	57	18	22	22	36	45	55	57

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at All Other Terminals

Definition of Shiptype: Reefer

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	2	5	5	6	8	9
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	2	5	5	6	8	9	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: BA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	2	5	5	6	8	9	1	2	5	5	6	8	9

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at All Other Terminals

Definition of Shiptype: Bulk < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	2	3	4	3	3	3	3	4	7	8	8	7	6
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	2	3	4	3	3	3
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	1	2	3	4	3	3	3
18	1	2	3	4	3	3	3	3	4	7	8	8	7	6
19	2	4	7	8	7	6	6	3	4	7	8	8	7	6
20	2	4	7	8	7	6	6	8	13	20	25	22	19	18
21	2	4	7	8	7	6	6	11	19	30	38	33	29	26
22	6	10	16	20	17	15	14	24	40	65	80	69	61	56
23	3	6	10	12	10	9	8	11	19	30	38	33	29	26
24	4	8	13	16	14	12	11	3	4	7	8	8	7	6
25	0	0	0	0	0	0	0	10	17	27	34	29	25	24
26	0	0	0	0	0	0	0	3	4	7	8	8	7	6
27	2	4	7	8	7	6	6	0	0	0	0	0	0	0
28	2	4	7	8	7	6	6	1	2	3	4	3	3	3
29	7	12	20	24	21	18	17	0	0	0	0	0	0	0
30	3	6	10	12	10	9	8	0	0	0	0	0	0	0
31	13	22	35	44	38	34	31	0	0	0	0	0	0	0
32	3	6	10	12	10	9	8	1	2	3	4	3	3	3
33	0	0	0	0	0	0	0	1	2	3	4	3	3	3
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	1	2	3	4	3	3	3
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	51	94	155	188	161	142	133	85	140	225	279	244	216	198

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at All Other Terminals

Definition of Shiptype: Bulk 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	14	17	19	26	32	39	44
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	2	3	3	5	5	7	8
18	0	0	0	0	0	0	0	2	2	2	3	4	5	5
19	3	3	3	5	6	7	8	1	1	1	2	2	2	2
20	2	2	2	3	4	5	5	9	11	12	17	21	26	29
21	6	7	8	11	13	16	18	4	5	5	8	9	12	13
22	7	8	9	12	15	18	20	7	9	10	14	17	21	23
23	6	7	8	11	13	16	18	15	18	19	28	34	41	46
24	15	19	20	29	35	42	48	6	8	9	12	15	19	21
25	7	8	9	12	15	18	20	10	12	13	19	22	28	31
26	6	7	8	11	13	16	18	6	8	9	12	15	19	21
27	4	5	6	8	9	11	13	5	6	6	9	12	14	15
28	1	1	1	2	2	2	3	2	3	3	5	5	7	8
29	2	2	2	3	4	5	5	3	4	5	6	8	9	10
30	3	4	4	6	8	9	10	1	1	1	2	2	2	2
31	3	12	39	61	66	69	74	2	17	58	92	99	104	111
32	7	9	10	14	17	20	23	2	2	2	3	4	5	5
33	5	6	7	9	11	14	15	7	9	10	14	17	21	23
34	2	2	2	3	4	5	5	3	4	5	6	8	9	10
35	2	2	2	3	4	5	5	16	20	22	31	38	46	52
36	5	6	7	9	11	14	15	2	3	3	5	5	7	8
37	1	1	1	2	2	2	3	2	2	2	3	4	5	5
38	0	0	0	0	0	0	0	1	1	1	2	2	2	2
39	0	0	0	0	0	0	0	1	1	1	2	2	2	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	1	1	1	2	2	2	2
41	1	1	1	2	2	2	3	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	88	112	149	216	254	296	329	124	168	222	328	384	454	498

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at All Other Terminals

Definition of Shiptype: Bulk 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	3	2	3	3	4	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	1	1	1	1	1	1	2	3	2	3	3	4	5
20	1	1	1	1	1	1	1	0	0	0	0	0	0	0
21	2	2	2	3	3	3	4	1	1	1	2	1	2	2
22	2	2	2	2	2	3	3	7	8	7	10	9	12	15
23	1	1	1	1	1	1	1	3	4	4	5	4	6	6
24	1	1	1	1	1	2	2	9	11	10	14	12	16	19
25	1	1	1	1	1	2	2	3	4	4	5	4	6	6
26	1	1	1	1	1	1	1	0	0	0	0	0	0	0
27	2	2	2	2	2	3	3	8	9	9	12	11	14	18
28	2	2	2	2	2	3	3	7	8	7	10	9	12	15
29	1	1	1	1	1	2	2	1	1	1	2	1	2	2
30	1	1	1	1	1	1	1	3	4	4	5	4	6	6
31	1	1	1	1	1	2	2	3	4	4	5	4	6	6
32	1	1	1	1	1	2	2	6	7	6	9	8	10	13
33	1	1	1	1	1	2	2	1	1	1	2	1	2	2
34	3	3	3	4	4	5	6	0	0	0	0	0	0	0
35	1	1	1	1	1	2	2	1	1	1	2	1	2	2
36	2	2	2	3	3	3	4	1	1	1	2	1	2	2
37	0	2	7	15	22	32	43	3	10	25	47	67	95	128
38	0	0	0	0	0	0	0	6	7	6	9	8	10	13
39	0	0	0	0	0	0	0	3	4	4	5	4	6	6

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DC at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	6	6	6	7	6	8	11
41	3	3	3	4	3	4	5	2	3	2	3	3	4	5
42	6	6	6	8	7	9	11	1	1	1	2	1	2	2
43	2	2	2	3	3	3	4	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	1	1	1	2	1	2	2
45	0	0	0	0	0	0	0	2	3	2	3	3	4	5
46	0	0	0	0	0	0	0	1	1	1	2	1	2	2
47	0	0	0	0	0	0	0	1	1	1	2	1	2	2
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	36	38	43	58	63	87	105	84	107	113	173	171	241	300

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at All Other Terminals

Definition of Shiptype: Bulk 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	2	2	2	2	2	3
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	1	2	2	2	2	2	3
26	0	0	0	0	0	0	0	1	2	2	2	2	2	3
27	0	0	0	0	0	0	0	3	3	3	4	4	5	6
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	1	2	2	2	2	2	3
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	2	2	2	2	2	3
32	0	0	0	0	0	0	0	1	2	2	2	2	2	3
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DD at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	1	0	0	0	0	0	0	0
42	0	1	1	3	3	5	9	0	6	16	30	40	67	106
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	1	2	2	2	2	2	3
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	1	3	3	5	10	10	23	33	48	58	86	133

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at All Other Terminals

Definition of Shiptype: Bulk 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	3	3	3	4	4	4	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	2	2	3	3	3	3	2	2	1	2	2	2	2
30	7	7	6	8	8	8	8	0	0	0	0	0	0	0
31	4	4	4	6	6	6	6	2	2	1	2	2	2	2
32	7	7	6	8	8	8	8	2	2	1	2	2	2	2
33	2	2	2	3	3	3	3	0	0	0	0	0	0	0
34	2	2	2	3	3	3	3	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	4	4	4	6	6	6	6	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	2	2	2	3	3	3	3	2	2	1	2	2	2	2
39	4	4	4	6	6	6	6	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DE at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	3	3	3	4	4	4	4
43	2	2	2	3	3	3	3	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	2	2	1	2	2	2	2
45	0	0	0	0	0	0	0	2	2	1	2	2	2	2
46	0	0	0	0	0	0	0	3	3	3	4	4	4	4
47	0	0	0	0	0	0	0	9	10	8	12	13	13	13
48	0	0	0	0	0	0	0	9	10	8	12	13	13	13
49	0	26	106	238	326	630	1185	0	28	113	253	346	670	1259
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	36	62	140	287	375	679	1234	39	69	144	301	396	720	1309

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at All Other Terminals

Definition of Shiptype: Bulk > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	1	2	5	11	21	33	49	1	2	5	11	21	33	49

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: DF at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	2	5	11	21	33	49	1	2	5	11	21	33	49

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at All Other Terminals

Definition of Shiptype: Combination < 20K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at All Other Terminals

Definition of Shiptype: Combination 20-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at All Other Terminals

Definition of Shiptype: Combination 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	2	1	2	2	2	2
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	3	3	3	5	5	5	5	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	3	5	5	5	5	1	2	1	2	2	2	2
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	3	3	3	5	5	5	5	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	3	3	3	5	5	5	5	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	1	2	1	2	2	2	2
39	0	0	0	0	0	0	0	1	2	1	2	2	2	2

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EC at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	4	5	4	6	7	6	7
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	1	2	1	2	2	2	2
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	1	2	1	2	2	2	2
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	12	12	12	20	20	20	20	10	17	10	18	19	18	19

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at All Other Terminals

Definition of Shiptype: Combination 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	1	1	2	2	2	2	0	0	0	0	0	0	0
28	1	1	1	2	2	2	2	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	1	1	2	2	2	2	1	2	2	2	3	3	3
31	1	1	1	2	2	2	2	0	0	0	0	0	0	0
32	1	1	1	2	2	2	2	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	1	2	2	2	3	3	3
38	0	0	0	0	0	0	0	1	2	2	2	3	3	3
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: ED at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	1	1	2	2	2	2	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	1	3	5	7	8	12	0	1	3	5	7	8	12
44	0	0	0	0	0	0	0	1	2	2	2	3	3	3
45	0	0	0	0	0	0	0	1	2	2	2	3	3	3
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	7	9	17	19	20	24	5	11	13	15	22	23	27

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at All Other Terminals

Definition of Shiptype: Combination 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	1	1	1	1	1	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	2	2	2	2	1	1	1	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	2	2	2	2	1	1	1	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EE at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	2	2	2	2	1	1	1	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	1	1	1	1	1	0	0
47	0	0	0	0	0	0	0	2	2	2	2	1	1	1
48	0	0	1	3	5	8	15	2	2	3	5	6	9	16
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	6	7	9	8	11	18	6	6	7	9	9	10	17

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at All Other Terminals

Definition of Shiptype: Combination > 175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: EF at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at All Other Terminals

Definition of Shiptype: Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	4	6	7
22	0	0	0	0	0	0	0	1	1	1	2	4	6	7
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	2	2	2	4	8	12	14

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at All Other Terminals

Definition of Shiptype: Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	1	2	6	12	20	28	0	1	3	8	17	29	42
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	2	6	12	20	28	0	1	3	8	17	29	42

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at All Other Terminals

Definition of Shiptype: Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	1	1	1	3	5	6	8	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	1	1	2	4	5	6
20	0	0	0	0	0	0	0	2	2	2	4	7	10	12
21	0	0	0	0	0	0	0	4	5	5	11	18	25	31
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	2	4	5	6
24	2	3	3	6	9	13	16	3	4	4	9	14	20	25
25	3	4	4	8	14	19	24	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	2	3	3	6	11	15	19
27	1	1	1	3	5	6	8	2	2	2	4	7	10	12
28	1	1	1	3	5	6	8	0	0	0	0	0	0	0
29	1	1	1	3	5	6	8	1	1	1	2	4	5	6
30	2	3	3	6	9	13	16	2	2	2	4	7	10	12
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	2	3	3	6	9	13	16	1	1	1	2	4	5	6
33	2	3	3	7	12	18	26	0	0	0	1	3	6	10
34	2	3	3	6	9	13	16	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FC at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	23	23	51	82	113	146	19	22	22	47	83	116	145

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at All Other Terminals

Definition of Shiptype: Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	5	6	6	7	6	7	7
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	2	2	2	2	2
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	2	2	2	2	2
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	1	2	2	2	2	2
23	0	0	0	0	0	0	0	2	3	3	3	3	3	4
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	1	2	2	2	2	2	0	0	0	0	0	0	0
27	2	3	3	3	3	3	4	2	3	3	3	3	3	4
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	2	3	3	3	3	3	4	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	4	5	5	6	5	6	6	0	0	0	0	0	0	0
33	2	3	3	3	3	3	4	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FD at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
37	0	8	23	49	74	90	96	0	9	26	56	84	103	110
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	23	39	66	90	107	116	12	24	44	75	102	122	131

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at All Other Terminals

Definition of Shiptype: Tanker 100-175K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FE at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at All Other Terminals

Definition of Shiptype: Tanker 175-250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FF at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at All Other Terminals

Definition of Shiptype: Tanker > 250K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: FG at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at All Other Terminals

Definition of Shiptype: Gas Tanker

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: GA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at All Other Terminals

Definition of Shiptype: Vehicle Carrier

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	2	3	4	6	8	11	15
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	2	2	3	4	6	7
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	2	2	3	4	6	8	1	2	2	3	4	6	7
22	0	0	0	0	0	0	0	3	6	8	12	15	22	30
23	3	5	6	9	12	17	23	9	15	20	29	39	53	74
24	5	8	10	16	21	29	40	6	11	14	20	28	37	52
25	8	14	19	28	37	51	71	27	44	60	88	117	161	223
26	11	18	25	37	49	68	95	30	49	68	100	133	183	252
27	27	43	59	87	116	159	220	30	49	68	100	133	183	252
28	22	35	49	71	95	131	181	19	31	42	61	82	112	156
29	10	17	23	34	45	62	86	7	11	16	23	32	43	60
30	2	3	4	6	8	11	16	2	4	6	9	11	16	23
31	1	2	2	3	4	6	8	1	2	2	3	4	6	7
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	2	3	4	6	8	11	15
34	1	2	2	3	4	6	8	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: HB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	91	149	201	297	395	546	756	140	232	316	463	618	850	1173

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at All Other Terminals

Definition of Shiptype: Product Tanker < 10K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	4	4	3	3	4	4	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	1	1	1	1	1	1	1
14	0	0	0	0	0	0	0	4	4	3	3	4	4	4
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	1	1	1	1	1	1
19	0	0	0	0	0	0	0	3	2	2	2	3	3	3
20	1	1	1	1	1	1	1	3	2	2	2	3	3	3
21	2	2	1	2	2	2	2	3	2	2	2	3	3	3
22	0	0	0	0	0	0	0	5	5	3	4	5	5	5
23	1	1	1	1	1	1	1	3	2	2	2	3	3	3
24	2	2	1	2	2	2	2	1	1	1	1	1	1	1
25	6	6	4	5	6	6	6	1	1	1	1	1	1	1
26	4	3	2	3	3	4	4	3	2	2	2	3	3	3
27	0	0	0	0	0	0	0	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1	3	2	2	2	3	3	3
29	2	2	1	2	2	2	2	1	1	1	1	1	1	1
30	2	2	1	2	2	2	2	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	1	1	1	1	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PA at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	24	23	16	22	23	24	24	40	34	30	31	40	40	40

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at All Other Terminals

Definition of Shiptype: Product Tanker 10-40K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	2	3	3	3	4	4
20	0	0	0	0	0	0	0	1	2	3	3	3	4	4
21	2	3	4	5	5	5	6	4	7	9	10	10	11	12
22	2	3	4	5	5	5	6	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2	3	4	5	5	5	6	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	1	2	3	3	3	4	4
29	2	7	17	23	31	40	51	0	4	12	19	26	34	46
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	2	3	4	5	5	5	6	1	2	3	3	3	4	4
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PB at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	19	33	43	51	60	75	8	19	33	41	48	61	74

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at All Other Terminals

Definition of Shiptype: Product Tanker 40-80K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	3	4	5	10	15	21	26
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	1	1	2	3	4	5	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	2	4	5	7
24	0	0	0	0	0	0	0	3	3	4	7	12	15	19
25	0	1	1	2	3	4	5	1	1	1	2	4	5	7
26	0	1	1	2	3	4	5	1	1	1	2	4	5	7
27	0	0	0	0	0	0	0	2	2	2	5	8	11	13
28	0	1	1	2	3	4	5	1	1	1	2	4	5	7
29	0	1	1	2	3	4	5	2	2	2	5	8	11	13
30	0	1	1	2	3	4	5	1	1	1	2	4	5	7
31	1	2	2	4	6	9	11	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	1	1	1	2	4	5	7
33	1	2	4	7	10	14	18	1	2	5	8	12	16	21
34	1	2	2	4	6	9	11	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	1	1	1	2	4	5	7
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PC at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	1	1	1	2	4	5	7
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	12	14	27	40	56	70	19	21	26	51	87	114	148

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at All Other Terminals

Definition of Shiptype: Product Tanker 80-100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	1	1	1	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	1	1	2	4	6	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PD at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	1	1	1	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	1	5	7	9	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at All Other Terminals

Definition of Shiptype: Product Tanker > 100K DWT

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: PE at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	2	1	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	1	3	10	23	48	89	0	1	3	10	23	48	89
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	3	10	23	48	89	2	2	3	10	23	48	89

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at All Other Terminals

Definition of Shiptype: OTHER

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	0	0	0	0	0	0	0	5	7	8	12	15	20	25
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	5	7	8	12	15	20	25
22	3	5	6	8	11	14	18	0	0	0	0	0	0	0
23	3	5	6	8	11	14	18	0	0	0	0	0	0	0
24	3	5	6	8	11	14	18	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	5	7	8	12	15	20	25
26	11	14	18	26	33	42	55	5	7	8	12	15	20	25
27	7	10	12	17	22	28	36	15	20	25	36	46	58	76
28	3	5	6	8	11	14	18	10	13	16	24	30	39	51
29	7	10	12	17	22	28	36	5	7	8	12	15	20	25
30	7	10	12	17	22	28	36	15	20	25	36	46	58	76
31	0	0	0	0	0	0	0	5	7	8	12	15	20	25
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Number of Movements by Sailing Draft in Feet by Vessel Type: XX at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	44	64	78	109	143	182	235	70	95	114	168	212	275	353

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	5	7	10	17	21	25	32	90	120	141	205	256	322	394
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	1	2	3	4	5	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	1	1	2	2	3	4	4
12	1	1	1	1	1	1	1	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	8	9	10	13	13	13	12
14	3	2	2	3	3	4	5	6	7	5	6	8	8	7
15	3	3	4	6	8	11	17	11	13	11	16	20	22	23
16	10	7	6	9	11	15	18	12	13	10	16	20	20	20
17	9	5	5	7	8	10	12	12	14	14	22	23	27	29
18	4	3	4	5	4	4	4	17	21	25	37	45	52	62
19	13	12	16	22	24	26	29	16	20	24	33	39	48	53
20	15	19	23	32	36	42	47	38	50	63	86	101	120	134
21	21	29	38	51	60	71	84	50	71	85	123	141	169	193
22	30	42	54	73	83	95	109	68	98	130	174	184	210	236
23	33	45	55	76	95	116	136	63	87	106	147	173	206	247
24	67	107	149	236	318	418	531	76	123	172	280	393	529	680
25	78	114	136	200	262	341	436	101	151	197	282	349	449	579
26	68	95	120	175	223	291	375	107	161	208	304	398	526	691
27	95	143	183	267	344	452	593	121	175	219	325	420	556	732
28	91	138	179	264	344	455	596	94	139	176	262	340	458	606
29	78	128	182	272	355	461	593	65	109	156	246	337	449	585
30	71	100	123	182	227	286	361	72	107	131	196	251	326	422
31	62	108	177	271	335	421	529	61	111	186	301	388	501	636
32	59	83	102	152	185	235	295	40	57	66	103	128	163	210
33	29	41	51	81	110	148	197	42	63	80	125	163	215	277
34	25	33	39	66	89	123	165	17	26	33	53	71	98	132
35	15	37	77	147	230	353	516	39	77	136	242	360	535	759
36	16	19	24	38	47	60	78	14	21	25	42	55	75	100
37	3	14	35	73	109	139	164	9	26	59	115	167	217	260
38	6	7	9	11	14	18	22	13	17	15	24	27	32	41
39	6	7	11	21	33	48	70	6	9	11	20	29	43	59

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at All Other Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	1	21	91	232	462	869	1566	13	31	93	226	436	809	1451
41	6	6	6	8	6	7	10	3	6	6	10	10	13	18
42	6	7	7	11	11	15	21	4	10	20	36	45	73	112
43	4	6	10	21	36	62	108	0	2	6	15	30	56	101
44	0	0	0	0	0	0	0	5	7	5	8	8	9	9
45	0	0	0	0	0	0	0	5	7	5	7	8	9	10
46	0	0	0	0	0	0	0	5	5	5	7	6	6	6
47	0	0	0	0	0	0	0	15	18	15	22	23	25	28
48	0	0	1	3	5	8	15	11	12	11	17	19	22	29
49	0	26	106	238	326	630	1185	0	28	113	253	346	670	1259
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	934	1416	2038	3274	4429	6265	8926	1330	2022	2775	4401	5833	8085	11206

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

PART VII: GRAND TOTAL, BY SHIPTYPE AND FORECAST YEAR, OF ALL MOVEMENTS

Total Number of Movements by Sailing Draft in Feet by Vessel Type at All Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
0	12	19	24	42	51	63	79	150	206	248	363	459	588	723
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	4	4	7	10	13	17	22	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	1	1	4	4	5	7	8
12	2	2	1	2	2	2	2	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	9	10	12	16	16	16	14
14	6	6	6	7	9	11	12	7	8	6	7	9	9	8
15	5	6	6	11	15	22	33	16	20	19	28	35	41	45
16	21	22	19	29	40	52	59	16	20	17	26	31	35	37
17	18	16	17	23	29	35	40	15	19	20	32	35	42	46
18	6	8	8	11	9	9	9	26	35	43	63	77	97	121
19	26	27	36	49	58	65	73	18	25	30	42	50	62	71
20	31	40	47	67	80	94	104	54	74	89	126	149	182	206
21	45	58	75	104	124	150	180	68	99	122	175	206	249	290
22	67	93	118	168	192	224	265	100	145	191	262	288	339	392
23	75	104	127	181	228	284	343	86	120	146	204	246	296	354
24	161	271	399	646	895	1201	1544	130	226	338	563	813	1108	1438
25	192	282	340	505	652	850	1087	162	235	301	437	548	708	904
26	161	227	288	424	542	705	912	182	270	341	503	653	860	1119
27	229	339	437	635	820	1078	1408	197	281	351	521	672	885	1162
28	225	340	437	652	850	1124	1463	162	236	302	450	589	790	1034
29	189	306	420	639	841	1094	1403	119	196	274	437	596	795	1033
30	163	240	296	441	553	706	898	138	208	258	385	494	641	828
31	144	258	423	664	862	1126	1451	115	216	348	575	779	1036	1348
32	128	187	234	354	442	567	715	73	105	130	200	253	327	417
33	66	93	117	187	253	335	441	84	126	159	251	328	430	553
34	52	71	86	142	191	268	360	37	59	74	123	165	225	304
35	38	110	243	463	729	1114	1620	75	165	310	561	849	1267	1813
36	37	48	56	91	114	148	189	31	44	55	92	122	166	224
37	7	26	62	126	183	243	300	12	32	69	131	186	244	294
38	12	15	18	26	33	42	52	16	22	22	35	41	53	68
39	7	9	13	25	39	58	85	6	9	11	20	29	43	59

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

Total Number of Movements by Sailing Draft in Feet by Vessel Type at All Terminals

	INBOUND							OUTBOUND						
DRAFT	1993	2000	2010	2020	2030	2040	2050	1993	2000	2010	2020	2030	2040	2050
40	2	43	185	471	937	1763	3178	13	53	193	482	948	1775	3194
41	15	17	16	22	18	23	31	4	7	9	14	16	22	30
42	21	29	38	60	68	105	155	4	10	21	38	48	78	120
43	8	10	14	27	41	68	116	0	2	6	15	30	56	101
44	0	0	0	0	0	0	0	5	7	5	8	8	9	9
45	0	0	0	0	0	0	0	5	7	5	7	8	9	10
46	0	0	0	0	0	0	0	5	5	5	7	6	6	6
47	0	0	0	0	0	0	0	15	18	15	22	23	25	28
48	0	0	1	3	5	8	15	11	12	11	17	19	22	29
49	0	28	113	253	346	670	1259	0	28	113	253	346	670	1259
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2175	3354	4727	7560	10264	14324	19903	2167	3361	4673	7495	10175	14213	19699

Note: numbers in zero sailing draft were reported in historical BME data at an undetermined sailing draft. Consistent growth rates were maintained over the forecast period.

ANNEX G LANDSIDE INFRASTRUCTURE AT THE PORT OF BALTIMORE

ANNEX G
LANDSIDE INFRASTRUCTURE AT THE PORT OF BALTIMORE

Port infrastructure plays a critical role in the ability to realize forecast commodity flows. During the Baltimore Anchorages and Channels Feasibility Study, several meetings were held with the public and private terminal operators to discuss several items including short-term and long-term facility expansions. The simulation analysis accounted for known expansion plans and their implementation over the forecast period. Furthermore, based on the known expansion plans' interaction with forecast vessel flows, the simulation analysis identified constraints or "bottlenecks" that may occur in the 2030 to 2050 time frame -- if: a) additional facilities (currently unknown) are not provided; or b) landside productivity rates do not change from those represented in the simulation; or c) additional facilities and improved productivity rates are not provided. For this reason, forecast growth beyond 2030 was not considered in the study. To better address the landside capacity of the port, this annex provides information on facility development and expansion including loading/unloading capability, storage warehousing capability and transportation throughput capability. The Port of Baltimore and the greater Baltimore business community continue to expand and improve the varied infrastructure elements necessary to support continual growth.

Table 1. General Cargo Terminals: Automobiles

Terminal	Operator	Berths/Piers	Draft	Open storage	Access
Atlantic Terminal	Hobelmann Port Services	1 berth	30 ft.	64 acres	Served by CSX Transportation; road access to highways including I-95, I-695 & I-895
Chesapeake Terminal	Hobelmann Port Services	1 berth	30 ft.+	41 acres	Served by CSX Transportation; road access to highways including I-95, I-695 & I-895
Dundalk Marine Terminal	Maryland Port Administration	2 automobile berths at berths #1 & #7	34 ft.	91 acres	Served by Conrail; access to highways I-95, I-695 & I-895 via Broening Hwy.
Toyota Auto Terminal	Toyota Motor Sales, USA, Inc.	1 berth	33 ft.	51 acres	Served by CSX Transportation; access to I-895, I-695 & I-95

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration and "The Port of Baltimore", June/July 1991.

Table 2. General Cargo Terminals: Break Bulk

Terminal	Operator	Berths/Piers	Draft	Cranes	Covered storage	Open storage	Access
Belts Wharf Warehouses, Inc.	Belts Wharf Warehouses, Inc.	2 general cargo berths	12-20 ft.	---	---	---	Road access to I-895 & I-95
Cambridge Marine Terminal	Maryland Port Administration	1 500 foot berth	24.5 ft.	---	16,800 square ft. transit shed	9 acres	Road access
Clinton St. Marine Terminal	Maryland Port Administration	1 general cargo pier; 3 general cargo berths	32 ft.	One 15-ton & one 18-ton semi-portal gantry mounted electric with 50 ft. reach; both on south apron; operate full length of pier	342,600 sq. ft	None	Served by Conrail; connects with CSX Transpiration; access via Clinton St. to I-95, I-695

Table 2 (cont'd). General Cargo Terminals: Break Bulk

Terminal	Operator	Berths/Piers	Draft	Cranes	Covered storage	Open storage	Access
Dundalk Marine Terminal	Maryland Port Administration	6 breakbulk cargo berths; 7 container cargo berths available for breakbulk cargo use	34 ft.	Ten 45-ton gantry mounted diesel electric container with cargo hooks; Two 50-ton gantry mounted whirley diesel electric; Two 60-ton gantry mounted whirley diesel electric	521,000 sq. ft. plus two 65,000 & one 62,5000 sq. ft. consolidation sheds	Approx. 513 acres; rail holding yards for 250 cars	Connects with CSX Transportation & Conrail; roads via Broening Hwy. to I-695, I-95 & I-895
Lazaretto Point Terminal	Rukert Terminals Corp.	2 general/bulk cargo	36 ft. & 34 ft.	Mobile shore crane as needed	500,000 sq. ft	20 acres	One surface rail track; access to I-95 & I-895
North Locust Point Marine Terminal	Pier 3: Terminal Corp. Firestone & Goodyear Latex; Piers 4-5; Ceres Corp. Guthrie Latex Pier 6: Storage only; MPA overflow; Pier 7: Indiana Grain Pier 8: Storage only; MPA overflow; Pier 10: Ennar Latex, Cargill, Inc.	3 general cargo piers; 7 general cargo berths	30-34 ft.	Two 75-ton gantry mounted whirly diesel electric serving Pier 4	375,960 sq. ft	30 acres; rail holding yards for 2,700 cars	Served by CSX Transportation with connections to Conrail; road access to I-95 & I-695 via Fort Ave.
Pennwood Shipping Wharf	Bethlehem Steel Corporation	1 pier	32 ft.	Two 25-ton electric bridge cranes	---	---	Road access to I-695
South Locust Point Marine Terminal	I.T.O. Corp of Baltimore, Maryland Port Admin	4 general cargo berths	3 berths: 36 ft.; 1 berth: 28 ft.	One 100-ton revolving crane	120,000 sq. ft.	80 acres paved & lighted	Connects with CSX Transportation & Conrail; roads to I-95, McComas St. & Key Hwy.
Tydings, Lynch & Lorenz	Tydings, Lynch & Lorenz	---	5 ft.	One 65-ton diesel mobile crane with 80 ft. boom	---	---	Road access to I-95 & I-895.

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration and "The Port of Baltimore", June/July 1991.

Table 3. General Cargo Terminals: Containers

Terminal	Operator	Berths/Piers	Draft	Cranes	Covered storage	Open storage	Access
Dundalk Marine Terminal	Maryland Port Administration	6 general berths available for container cargo use; 7 berths used primarily for container cargo	Berths 1-10: 34 ft.; Berths 11-13: 38 ft.	Ten 40-ton gantry mounted diesel electric container; Two 50-ton gantry mounted whirly diesel electric; Two 60-ton gantry mounted whirly diesel electric	521,000 sq. ft. plus two 65,000 & one 62,500 sq. ft. consolidation sheds.	Approx. 570 acres; Over 200 paved acres heavy duty for container storage/ marshaling; rail holding yards for 250 cars	Connects with CSX Transportation & Conrail; roads via Broening Hwy. to I-695, I-95 & I-895
North Locust Point Marine Terminal	Maryland Port Administration	3 general cargo piers; 7 general cargo berths	30-34 ft.	Two 75-ton gantry mounted whirly diesel electric cranes serving Pier 4	375,960 sq. ft.	30 acres	Served by CSX Transportation with connections to Conrail; roads I-95 & I-695 via Fort Ave. & McComas St.
Sea-Land Terminal	Sea-Land Service, Inc.	1 container berth 1 container pier	32 ft.	One 28.5-ton gantry mounted electric container crane	One 50,000 sq. ft. consolidation shed with offices	28 acres	Connects with CSX Transportation and Conrail; roads to I-95, I-695 & I-895 via Newkirk St. & Newgate Ave.
South Locust Point Marine Terminal	I.T.O. Corp. of Baltimore	4 general container cargo berths	3 berths: 36 ft.; 1 berth: 28 ft.	Two 40-ton container cranes; One 100-ton electric, traveling revolving full portal gantry crane with 130 ft. boom; Additional 40-ton container crane available as of 12/87	120,000 sq. ft.	80 acres heavy duty container paving; lighted	Connects with CSX Transportation & Conrail; roads to I-95, I-695 & I-895 via McComas St. & Key Hwy.
Seagirt Marine	Maryland Port Administration	2 container berths	1 berth: 42 ft.; 1 berth: 32 ft.	Four single hoist and three dual hoist 50 ton cranes; one 27.5 long ton crane at barge berth; 2 transtainer cranes		100 acres	ICTF used solely by CSX Intermodal; roads to I-95 I-695 & I-895

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 4. Dry Bulk Facilities: Coal

Pier	Owner	Loading Equipment	Loading capacity	Berths	Draft	Access
"A" Yard Dock	Bethlehem Steel Corporation	6 acres of ground storage available; One bridge crane w/ clam shell buckets from 7.5-17 cubic yd. capacity; spans area 280 ft. x 1,740 ft.; One mode 20 Clyde floating crane w/ 15-ton capacity	7,500 metric tons/day loading capacity; 5,000 metric tons/day unloading capacity	1	30 ft.	Served by CSX Transportation and Conrail; access via plant roads to Sparrows Point Rd. and I-695
CCSC	Consolidation Coal Sales Co. (CCSC)	1 electronically operated shiploader; crane travels 1,050 ft. along pier	7,000 tons per hour	2	42.6 ft. (WS) 27 ft. (ES)	Served by CSX Transportation & Conrail; access to I-95 & I-895
Curtis Bay Coal Pier	CSX Transportation	Single and double electric rotary car dumper capable of handling 120-ton cars; One traveling electric ship loader; Conveyor system with main belts 72 in & 84 in. wide arranged for blending coals; Two 7 car capacity thawing sheds and 8 electric car pushes to advance cars	6,000 tons /hour (SS) 4,000 tons/ hour (NS)	2	42 ft. (SS) 30 ft. (NS)	Served by CSX Transportation; access to I-695 & I 895
Curtis Bay Company/ Bayside Coal Pier	Curtis Bay Company	One traveling coal loader conveyor system with 84-inch wide belt; rotary dumper with pit	6,000 tons per hour	1	42 ft.	& Conrail; access to I-95 & I-695

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 5. Dry Bulk Facilities: Ore

Pier	Operator	Mechanical equipment	Berths	Draft	Remarks	Access
Bethlehem Steel Ore Pier	Bethlehem Steel Corporation	Single deck finger pier with surface track	2	45 ft.	Receipt of bulk and pelletized ore	Access via plant roads to Sparrows Point Rd. and I-695
Curtis Bay Ore Pier	CSX Transportation & Ramsay Scarlet & Co. Inc.	Two 22-ton electrically operated traveling bridge cranes with hinged booms projecting 61 ft. beyond face of dock connected with conveyor belt having elevated 600-ton weighing and carloading bins spanning two loading tracks; One 50-ton capacity hopper loading bin; truck access provided	1	42 ft.	35 acres of open storage; covered storage available; loading also available; 24-hour operation	Served by CSX Transportation with connections to other railroads; two surface tracks, two loaded-car tracks and four storage tracks; road access via Patapsco Ave. to I-695 & I-895
Rukert Pier 5	Rukert Terminals Corp.	Two surface tracks served by bridge crane; 60 ft. air draft; 80 ft. reach; electronic scale; truck access			16 acres open storage; 14 warehouses equipped to handle up to 100,000 tons of bulk commodities and 50,000 tons of alloys	Conrail; access to highways I-95 & I-895 via Clinton St.
Port Covington	CSX Transportation	1 electric traveling straight line gantry crane, 15-ton capacity, automatic weighing and car loading devices, discharges to open or covered hopper cars	3	25-40 ft.	---	4 surface tracks; truck access via I-95 & I-695

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 6. Dry Bulk Facilities: Gravel, Cement & Asphalt

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
"A" Yard Dock	Chesapeake Bulk Stevedores, Inc.	6 acres of ground storage available; 5,000 metric tons/ day unloading capacity; 7,500 metric tons/day loading capacity	One bridge crane w/ clam shell buckets from 7.5-17 cubic yd. capacity; spans area 280 ft. x 1,740 ft.; one model 20 Clyde floating crane w/15-ton capacity	1	30 ft. 45 ft. air draft	Receipt of cement clinker, sand and gravel
Amoco Oil	Amoco Oil Co.	T-head single deck pier with truck access	One 2-ton pneumatic hoist	1	30 ft.	Receipt of asphalt by barge.
Arundel Corp.	The Arundel Corp.	---	Steel loading tower equipped w/20 ft. articulated boom & loading spout; served by an electric conveyor belt; capacity is 400 tons/hour	2	12-15 ft.	Receipt and shipment of stone and sand by barge
Blue Circle Atlantic, Inc.	Blue Circle Atlantic, Inc.	4 steel pile, concrete decked mooring platforms	(4) 12" discharge lines at dock-side connect with (4) 10" pipelines that serve storage silos on site	1	28 ft.	Receipt of bulk cement
Pennwood Loading Dock	Blue Circle Atlantic, Inc.	Seel pile, concrete decked, offshore wharf	Loading tower w/ conveyor boom and two retractable loading spouts	1	30 ft.	Shipment of slag cement by barge
Chevron, USA	Chevron USA, Inc.	Metal beam, timber deck offshore platform	---	1	17 ft.	Receipt and shipment of asphalt

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 7. Dry Bulk Facilities: Fertilizers, Chemicals & Minerals

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
"A" Yard Dock	Chesapeake Bulk Stevedores, Inc.	6 acres of ground storage available; 5,000 metric tons/ day unloading capacity; 7,500 metric tons/day loading capacity	One bridge crane w/ clam shell buckets from 7.5-17 cubic yd. capacity; spans area 280 ft. x 1,740 ft.; one model 20 Clyde floating crane w/15-ton capacity	1	30 ft. 45 ft. air draft	Receipt of fluorspar & gypsum
Agrico Chemical Company	Agrico Chemical Company	Single deck finger pier	---	1	28 ft.	Dry bulk fertilizer
Curtis Bay Ore Pier	CSX Transportation & Ramsey, Scarlett & Co., Inc.	35 acres open storage; covered storage available; loading also available; 24 hour operation; 2 surface tracks; 2 loaded-car tracks and 4 storage tracks; road access via Patapsco Ave. to I-695 & I-895. Served by CSX Transpiration w/ connections to other railroads	Two 22-ton electrically operated traveling bridge cranes with hinged booms projecting 61 ft. beyond face of dock connected with conveyor belt having elevated 600-ton weighing and carloading bins spanning two loading tracks; One 50-ton capacity hopper loading bin; truck access provided; 2,000 tons per hour; buckets from 7.5-15 tons; some with rubber lips	1	42 ft.	Fertilizers, chemicals & minerals
Gold Bond Building Products	Gold Bond Building Products	Single deck pier w/ truck access;	Apron feeder unloading system &	1	33 ft.	Gypsum rock
Hawkins Point Terminal	Eastalco Aluminum Company	4 surface rail tracks served by CSX Transportation; truck access to pier	One bulk crane with 15 cubic yard bucket	1	36 ft.	Receipt of aluminum ore
Lebanon Chemical Co.	Lebanon Chemical Co.	Single deck pier with surface rail track and truck access	---	1	13 ft.	Dry bulk fertilizer
Rukert Pier 5	Rukert Terminals Corporation	2 surface rail tracks served by Conrail	1 rapid discharge bulk unloader bridge crane; 60 ft. air draft; 80 ft. reach; electronic scale; truck access	1	40 ft.	Ores, alloys, fertilizers, dry bulk chemicals
US Gypsum Co.	US Gypsum Co.	Single deck w/ 42 inch conveyor belt	---	1	30 ft.	Gypsum rock and aragonite

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
Amstar Sugar Corp.	Amstar Corp.	Single deck pier	(2) 12 ton bucket colby cranes; 40 inch conveyer belt	1	27-32 ft.	Raw sugar

Table 9. Dry Bulk Facilities: Grain

Pier	Operator	Loading equipment	Loading capacity	Berths	Draft	Access
Central Soya Co. Grain Elevator	Central Soya Co.	Shipping gallery with 9 loading spouts; on east side, 2 electric traveling loaders with 1 spout each; on west side, 4 surface rail tracks for hopper car unloading	3,957,800 bushels; 80,000 bushels/hour	2	28 ft. (WS) 39 ft. (ES)	Roads to I-95 & I-895 via Newgate Ave.
Locust Point Pier 7	Indiana Grain	Shipping gallery with 4 shuttle booms, 3 loading spouts & 1 airveyor	3,200,000 bushels 75,000 bushels/hour	1	38 ft.	Served by CSX Transportation with connections to Conrail; access to I095
Port Covington Pier 2	Louis Dreyfus Canada Ltd.	Shipping gallery with 36 inch conveyor belts; 6 loading spouts; 1 fixed pneumatic suction unloader with capacity of 5,000 bushels per hour; portable grain trimmers; truck dumper facilities; a dust control system throughout elevator	5,000,000 bushels 70,000 bushels/hour	1	37 ft.	Connections to CSX Transp. and Conrail; roads to I-95 via McComas St. and Key Highway

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 10. Liquid Bulk Facilities: Fertilizers & Chemicals

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
Agrico Chemical Company	Agrico Chemical Company	Single deck finger pier	---	1	28 ft.	Liquid fertilizer
Arcadian Baltimore Terminal Dock	Arcadian Chemical Corporation	T-shaped wooden pier	One hand-operated steel mast-and-boom derrick with 30 ft. boom	1	19 ft.	Receipt & shipment of liquid bulk fertilizer
Bethlehem Steel Corp. Low Pier	Bethlehem Steel Corp.	Single deck finger pier with surface track	---	2	15 ft.	Receipt of sulfuric acid & crude tar
Davison Chemical Co. Rock Pier	W.R. Grace & Co.	Double deck finger pier with surface rail track	1 gantry crane	1	28 ft.	Receipt of sulfuric acid and caustic soda by barge
Glidden Co.	Glidden Pigments Group/SCM Corp.	Steel sheet pile offshore wharf with concrete surface solid fill	---	1	12 ft.	Receipt of sulfuric acid by barge
Hawkins Point Terminal	Various operators	4 railroad spurs	Conveyor belt is positioned in the center of pier; PACECO bulk unloading crane	1	36 ft.	Liquid fertilizer
Lebanon Chemical Co.	Lebanon Chemical Co.	Single deck pier with surface rail track and truck access	---	1	13 ft.	Liquid fertilizer, sulfuric acid
Proctor & Gamble Mfg. Co.	Proctor & Gamble Mfg. Co.	Single deck open pier	---	1	33 ft.	Crude & refined glycerin

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 11. Liquid Bulk Facilities: Food Products

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
S.T. Services	Support Terminal Services, Inc.	Single deck finger pier capable of accommodating 1 ship & 2 barges simultaneously; 42 storage tanks from 1,000-80,000 barrels	Hose handling framed mast & boom hose handling cranes	3	1 berth: 33 ft.; 2 berths: 9-20 ft.	Receipt of corn syrups, liquid cane sugar, molasses, vegetable oils & spirits

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

Table 12. Liquid Bulk Facilities: Petroleum Piers

Terminal	Operator	Physical features	Mechanical equipment	Berths/Piers	Draft	Remarks
Apex Oil Co.	Apex Oil Co.	Single deck pier with offshore wharf	---	1	38 ft.	Receipt and shipment of fuel oil by ship
Apex Oil Co.	Apex Oil Co.	Single deck pier	---	1	29 ft.	Receipt of fuel oil by barge
Bethlehem Steel Corp. High Pier	Bethlehem Steel Corp.	Single deck pier w/ truck access	---	2	30 ft.	Receipt of fuel oil
BP- Texaco	BP Refining Co., Texaco Refining & Mktg., Inc.	Single deck pier w/ truck access up to pier	1 fixed steel frame with manual winches	1 1	33 ft. 12-18 ft.	Petroleum products
Conoco	Continental Oil Co.	Single deck finger pier & marginal dock	1 hose handling frame with winch system	2 1	22 ft. 34 ft.	Petroleum products
Exxon Pier 1	Exxon Co. USA	Single deck finger pier with transit shed	---	2	37-39 ft.	Bulk petroleum products and bunkering service
Exxon Pier 3	Exxon Co. USA	Single deck finger pier	---	4	27-30 ft.	Petroleum products and bunkering service
Hess Oil Co.	Amerada Hess Corp.	Single deck finger	---	1	37 ft.	Barge berth
Shell Oil Co.	Shell Oil Co.	Single deck finger pier	Mast & boom hose handling cranes	1	22 ft. (NS)	Petroleum products
S.T. Services	Support Terminal Services, Inc.	Single deck finger pier capable of accommodating 1 ship & 2 barges simultaneously; 42 storage tanks from 1,000-80,000 barrels	Hose handling framed mast & boom hose handling cranes	3	1 berth: 33 ft.; 2 berths: 9-20 ft.	Receipt of petroleum products including light oils, solvents, asphalt & fuel oils

Source: Port of Baltimore Portfolio, 1987-88, Maryland Port Administration.

BALTIMORE HARBOR ANCHORAGES

AND CHANNELS, MARYLAND

EXPERT REVIEW

OF

SIMULATION MODEL

DEVELOPMENT

AND APPLICATION

BACKGROUND

Because of the important role simulation occupied in the Baltimore Harbor Anchorages and Channels Feasibility Study, independent review and evaluation of the simulation model was conducted. This independent review, critique, and evaluation was conducted by experts proficient in deep-draft navigation, systems analysis, and simulation modeling. To assist in this review, each reviewer was provided a copy of the 1995 Baltimore District draft report, simulation technical reports prepared by Professor Michael Racer, source code listings, and simulation, executable, and cross reference program files.

The technical reviews were conducted by:

Dr. Jan A. Berg-Andreassen;
Dr. Paul Schonfeld;
Dr. Michael S. Bronzini; and
Dr. Ambrose Goicoechea.

Reviews were completed in 1996 and are contained herein. The reviewers point to the potential for continued use of this model in the Port of Baltimore as well as the applicability of similar modeling in other Corps of Engineers port and harbor studies. The sections following the technical reviews discuss the simulation model itself and were prepared subsequent to the completion of the technical reviews.

The sections contained in the Simulation portion of the Economcis Appendix are:

Expert Review of Simulation Model Development and Application;

Simulation Analysis of Anchorages and Channels Modifications;

Baltimore Harbor Channel Simulation User's Manual;

Example Benefit Determinations and Channel and Anchorage Alternatives.

Dr. Jan A. Berg-Andreassen. Dr. Jan A. Berg-Andreassen is an economist specializing in maritime transportation and economics. Dr. Berg-Andreassen is the Vice President of HydroLogic International, Incorporated. He was previously a professor of economics at the Texas A&M University-Mitchell Campus. Since 1978, Dr. Berg-Andreassen has been working in ship brokerage and economic consulting on internation shipping matters. Dr. Berg-Andreassen has a B.S. in economics/statistics and a M. S. in economics from the University of Oslo, Norway. He has an M.B.A. and an M. A. in energy economics/econometrics from the University of Houston, Texas, where he was awarded a Ph.D. in economics for his study "The Port System and the National Economy. A Multi-Sectoral Study of Economic Interactions". Dr. Berg-Andreassen has published several articles on the shipping markets in international shipping journals concerning shipping economics, risk assessment, the tanker industry and maritime law. He has lectured on shipping economics, charter markets and port economics at various seminars and conferences. Dr. Berg-Andreassen worked as a consultant to various national and international organizations, including the Government of Argentina, U.S. Feed Grains Council, the World Bank, and the Port of Seattle, Washington. Furthermore, he has been a research professor at the Louisiana State University, Ports and Waterways Institute. At this institute he was involved in management studies for a wide range of national and international clients dealing with port access, problems surrounding increased intermodalism in the U.S. and other pending maritime issues. Dr. Berg-Andreassen has also served as a consultant to Marsoft, Inc., a software house specializing in maritime decision support systems. He resides at 6841 Fawn Ridge Drive, Corpus Christi, Texas, 78413. Phone: 512-993-1976; Fax: 512-993-4160.

Dr. Paul Schonfeld. Dr. Paul Schonfeld is a Professor at the University of Maryland at College Park, where he directs the Transportation Group in the Civil Engineering Department. He has B.S. and M.S. degrees from MIT and a Ph.D. from the University of California at Berkeley. Dr. Schonfeld has directed 57 sponsored research projects and has over 140 publications on waterways, ports, public transportation systems, traffic engineering, transportation planning and transportation economics. Address: Civil Engineering Department, University of Maryland, College Park, MD 20742. Phone: 301-405-1954; Fax: 301-405-2585.

Dr. Michael S. Bronzini. Dr. Michael S. Bronzini is the Director of the Center for Transportation Analysis at the Oak Ridge National Laboratory. Dr. Bronzini has been conducting research on transportation systems since 1970. His current research interests include waterways, transportation cost and performance models, network analysis, and hazardous materials transportation. He has produced more than 100 papers, reports, and presentations about his research. The center conducts research in defense transportation systems, Highway and intermodel planning and policy, and transportation energy policy.

From 1986 to 1990, Dr. Bronzini was Professor and Head of Civil Engineering at Pennsylvania State University. Dr. Bronzini went to Pennsylvania State University from

the University of Tennessee, where he was Director of the Transportation Center and Professor of Civil Engineering. Prior to that he was the manager of the Transportation Analysis Group at CACI, Inc., a management consulting firm inarlington, Virginia. Earlier positions were Assistant Professor of Engineering at the Georgia Institute of Technology, and Research Assistant at the Pennsylvania State University.

Dr. Bronzini holds M.S. and Ph.D. degrees from Penn State and a B.S. degree from Stanford University, all in Civil Engineering. He is a registered professional engineer and is a member of the Transportation Research Board, American Society of Civil Engineers, Institute of Transportation Engineers, and several other societies. In 1982 he was the national president of the Transportation Research Forum. Address: Center for Transportation Analysis, Oak Ridge National Laboratory, P. O. Box 2008, 4500N, MS-6207, Oak Ridge, TN 37831-6207. Phone: 423-574-8267; Fax: 423-574-3895.

Dr. Ambrose Goicoechea. Dr. Ambrose Goicoechea joined the GTN organization on April 7, 1997, as a Principal Engineer in the Systems Design Group (Mark Bonatucci's group). B.S. in Aeronautical Engineering, California State. M.S., Mechanical Engineering, California State University at Los Angeles, California, 1970. Ph.D. in Systems and Industrial Engineering, minors in Operations Research and Software Engineering, University of Arizona, Tucson, Arizona 1976. Fifteen years of experience in the design, development and implementation of decision support systems (DSS), modeling in transportation, software system and implementation in C, PASCAL, Object-Oriented Programming in C++, database design (entity relationships, normalization, and distributed database design and protocols), systems engineering application to systems design and project management, and engineering economic analysis.

He has contributed as a systems engineer and modeler to clients in the U.S. Army Corps of Engineers, Naval Research Laboratory (NRL), the Jet Propulsion Laboratory (JPL), the Turner-Fairbank Highway Research Center, the Taiwan Air Force, and other organizations. An Adjunct Professor and Lecturer in the Department of Engineering Management, and Department of Operations Research, of George Washington University, Department of Computer Sciences at Strayer College. A member of the Association of Mechanical Engineers, Operations Research Society of America, American Geophysical Union, Decision Support Systems Society, and the International Society for Multiple Criteria Decision Making (MCDM). He has published two books on methods and systems for decision analysis in engineering, and over 30 papers in scientific journals. Dr. Goicoechea resides at 7631 Bland Drive, Manassas, Virginia, 22110. Phone: 703-361-7740.

04/07/97 - Present: Systems Engineer, Global Transportation Network (GTN), C2 Integration Systems, Lockheed Martin Corporation, Manassas, Virginia.

1990 - Present: Adjunct Professor and Lecturer, Department of Engineering Management and Department of Operations Research, George Washington University, Washington, D.C.

1994 to 1997: Systems Engineer, Integrated Technologies and Research (ITR) Inc., Manassas, Virginia. Design of Decision Support Systems, CASE tools application for U.S. Army Corps of Engineers.

1990 to 1994: Engineer, Technical Director, STATCOM, Inc., design and development of decision support systems; multiple-sensor information fusion; user-system interface design for the U.S. Army Research Institute for the Social and Behavioral Sciences (ARI). Assessment of new and emerging technologies in the Federal Highway Administration, U.S. Department of Transportation.

1983-1990: Associate Professor, Department of Information Systems and Systems Engineering, George Mason University; analytical methods for multiple criteria decision making; experimental evaluation of computer-based decision support systems and expert systems (ES).

1988 and 1989 Summers: NAVY-ASEE Research Fellow, Naval Research Laboratory, Washington, D.C. Contributed to the development and testing of BART (Bayesian Reasoning Tool), a knowledge-based expert system; the CDU (Contact Discriminator Unit), a rule-based expert system; as well as the formulation and solution of new algorithms for radar-reentry vehicle assignments in the Strategic Defense Initiative (SDI) Program.

1985 and 1986 Summers: NASA-ASEE Research Fellow at the Goddard Space Flight Center, in Greenbelt, Maryland. Design of computer-based decision support systems for NASA managers to assist with systems engineering and configuration functions of space projects; also, member of and participant in the Man-Machine Interface Design Group.

1980-1983: Research Associate Professor, George Washington University, Department of Civil, Mechanical, and Environmental Engineering. Decision Support Systems, Environmental Technology and Administration, and Management Sciences. On 50 percent assignment to U.S. Army Corps of Engineers, Fort Belvoir, Virginia, Transportation modeling for commodity flow through inland waterways. This project called for the mathematical modeling of the physical characteristics of a set of locks and dams along major inland waterways in the U.S. Queueing theory was applied to simulate the flow of barges carrying various commodities in an origin-destination network, and mathematical optimization (mixed integer programming) was required to obtain an optimal flow of commodities, e.g., maximum aggregated barge travel time savings.

1979 Summer: NASA-ASEE Research Fellow, Jet Propulsion Laboratory, of the California Institute of Technology (Cal-Tech), Pasadena, California. Dr. Goicoechea was invited to work with a team of scientists of the Jet Propulsion Laboratory (JPL) of the California Institute of Technology in the application of multiple-criteria techniques to R & D projects evaluation and selection. Problems addressed included siting of solar-thermo power plants, underground nuclear plants, urban mass transportation systems, and photo-voltaic R & D program management.

1977-1980: Assistant Professor, School of Industrial Engineering and Management, Oklahoma State University (OSU), Stillwater, Oklahoma. Taught courses in Systems Theory, Computer Sciences, and Bayesian Decision Theory.

Dr. Michael J. Racer. Dr. Michael J. Racer is a Professor in the Industrial and Systems Engineering program at the University of Memphis. His main research interests have been in transportation and logistics problems. His thesis research studied a vehicle routing problem involving backhauls and common carriers. Dr. Racer has worked on the Houston Ship Channel project with the Galveston District, Corps of Engineers. He has also performed a simulation for the New Orleans District, Corps of Engineers to analyze lock operations on the Mississippi River. He is currently involved with the Ground Water Institute, primarily in the area of modeling and analysis. Dr. Racer received his Ph.D. and his M.S. from the University of California at Berkeley, both in Operations Research, and his B.A. in Mathematical Sciences from Rice University. Dr. Racer's address is: Department of Civil Engineering, Industrial and Systems Engineering, University of Memphis, Memphis, TN 38152. Phone: 901-678-3285; Fax: 901-678-3026.

Jan A. Berg-Andreassen, Ph.D.
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April 30, 1996
Mr. Clifford Kidd,
Planning Division
CENAB-PL-RE,
P.O. Box 1715
Baltimore, MD 21203-1715

Dear Clifford:

Re.: Baltimore Harbor Anchorages and Channel, Maryland

Please find enclosed two copies of my analysis of the Baltimore Anchorage Study. I apologize for the delays, which was, as you know, partly due to my insistence on getting an executable version of the mode. I finally got a copy and have had the opportunity to run and rerun the model many times. I am impressed with the details and the quest for realism shown by Dr. Racer's work and the model will serve you and the decision makers well. There are, however, certain aspects of the model that need further scrutiny and embellishment. I think I have covered these points fairly well in my review.

Let me take this opportunity to express my appreciation for the very professional way that you have handled the various stumbling blocks along the way. It surely has been a pleasure working with you and I would very much welcome any future opportunities that may come along.

With the best wishes for a nice summer, I remain

Yours truly

Jan A. Berg-Andreassen

Encls

Baltimore Harbor Anchorages and Channels, Maryland

Draft Feasibility Report and Environmental Impact Statement

A review

by

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April 1996

Preamble

In order to secure that the Port of Baltimore, is well prepared, navigationally and operationally, for the dynamic changes that will take place in the coming years, the US Army Corps of Engineers, Baltimore District (USACE), has undertaken a study of the port, its access channels and anchorages to evaluate needed structural and nonstructural investments and changes.

Hence, this study serves as a support document for both federal decisions as well as non-federal involvement by the Maryland Port Authority.

In the following , a review of the Integrated Feasibility and Environmental Impact Statement, as well as the Simulation Model developed by INSE at the University of Memphis, is performed.

Section I - The Simulation Model

I.1 Introduction

Initially, the choice of models available to the USACE were

1) Econometric/Timeseries models
2) Q.T. Models
3) Simulation Models

The USACE chose to utilize a simulation model previously applied to problems experienced on the Houston/Galveston ship channel.

The choice of model is well founded. Correct and realistic modeling of the operating environment through simulation models can provide quick and relevant solutions to a variety of operational and navigational problems experienced by the port access system. A major strength of this type of model is the ability of the analyst to perform sensitivity analysis on any given baseline. Thus, the model can be run as many times as needed each time enhancing the analyst's understanding of the problem complex confronting the shorebased and shipbased decision makers.

An important element of the use of the simulation model is, as mentioned, the enhancement of the understanding on the part of the operating and decision making port management staff. Hence, an evaluation of the model should include a "userfriendliness" angle in addition to the straightforward technical analysis.

I.2 Theory and Applicability

The functional theories embedded in the simulation model are non-complex and relatively straight forward, although the number of simultaneous activities is large. The main theoretical weakness, which is not necessarily inconsistent, is the "vessel pull" approach utilized.

Here the arrivals to the system is according to standard QT practices. From then on, however, the system is in control of the ship and hence service times and departures are deterministic.

The demurrage/dispatch feature of the model, although relatively minor, should possibly be reconsidered.

Assuming that the "disp-per" means allowable laytime, 72 hours for all vessel sizes seems too general. More time should be allowed for larger than for smaller ships. Normally the charter party (voyage charter) stipulates the laytime in the "both ends" fashion, i.e., a laytime is set for both the loading port and the discharging port. Time not used for loading can be used for unloading. Laytime is never stipulated for a specific port. A brief

telephone survey of some New York charter brokers would no doubt yield more realistic laytimes. One should also notice, contrary to the Racer model, that in reality departure rates are linked to the ships rather than to ports or berths as done in the model.

A small but confusing typographical error was found when trying to understand the technical aspect of the simulation model as described in the "Channel Simulation" A User's Manual, January 1994. On page 23: **port_dist**(integer) should read **port_dist**(real). This caused some problems when trying to identify the parameters of the Seasonal File.

Another feature mentioned in the User's Manual is collisions and ship wreckages. In the current version, collisions are ignored. In the future, however, with the expected increased traffic, collisions will take place. Thus, in order to provide more realism to the analytical frame work, collisions and navigational mishaps must be taken into account.

I.3 The User Interfaces

As indicated above, an important aspect of simulation modeling is that it allows decision markers to educate themselves on the workings of the system within which they must make difficult decisions.

In order to be readily and easily available to a broader usergroup than the expert programmers, the current model needs to be given a user shell that allows for easy modifications of the two parameter files, i.e., the Existing Structure file, and the Seasonal file. Additionally, modifications should be allowed for one parameter "ceteris paribus" type of changes.

Hence, the model should be compiled and integrated into a DOS or a Windows shell that allows changes in the fashion users have become familiar with in Windows and DOS environments. In the current version, the program can only be utilized by individuals familiar with first or second generation programming.

I.4 Conclusions

The program as it was provided to this reviewer, gives a fairly good picture of the totality of activities in the Port of Baltimore Access System. It is, however, recommended that the model is modified to include

1) more realistic laytime allowances and consequently more realistic departure procedures leveled to the size and specification of the ship rather than the terminal.

2) change demurrage/dispatch calculations to reflect trade practices rather than some average laytime for all ships.

3) it is strongly suggested that the simulation model be given a more userfriendly interface, which would greatly improve the potential benefits to the port decision makers.

Section II - The Harbor Study

II.1 Introduction

This section of the review is concerned with the Draft Report of the Baltimore Harbor Anchorage and Channels, Maryland, Integrated Feasibility Statement and Environmental Impact Statement including Appendices A-I., the written reports.

The overall impression of the study is that is professionally done. In many instances, however, the analyses tend to be too general and not focused enough to delineate the more crucial elements for sound decision making. This review concentrates on these instances.

II.2 Some observations on the Theoretical Framework

Section 2 - Existing Conditions and Affected Environments, 2.15 Vessel Types and Tonnages. Here, a more powerful analysis could have been provided through a slightly different tonnage distribution. It is important for the Port Management and for the infrastructural decisions that need to be made, that the analysis distinguishes between

1) General Cargo ships, i.e., conventional, container and Ro-Ro ships

2) Bulk Carriers, i.e., dry and wet bulk.

The requirements and the decision making process is quite different between these two categories. Whereas the General Cargo ships are mostly liner ships, which are wholly controlled by the shipowners. It is the shipowners, the liner companies, that make the decisions whether or not to use the Port of Baltimore at all. Under the intermodal transportation process, the one-bill-of-lading system (ref. Motorcarrier Act of 1980, Staggers Railroad Act of 1980 and the Maritime Shipping Act of 1984), the liner companies have the ultimate say in which port they use. Long waiting time and other obstacles to modern efficient liner operations, will very quickly result in a movement of service to other ports where port time is kept to an absolute minimum. Thus, the port should have policies in place to handle this segment of the traffic in a commercially optimal fashion.

The bulk carrier segment, on the other hand, is under the complete control of the cargo owners. The charter parties contain stipulations on laytime and safe ports/berths, but otherwise leave all commercial decisions in the hands of the cargo owner or charterer.

The study does not fully reflect this reality, neither in this section nor in any other analytical sections. Although there is a brief outline and mention of the different types of ships in the text it is not sufficient for a good understanding of the fleet sizes, structure and commercial requirements. If the Port of Baltimore is to achieve a broader "load center" status it must take the asymmetry between bulk and liner shipping into consideration in its planning and investment decisions.

Section 3 - Problem Identification. In this section there is one notable statement that should be removed. On page 3-10, last paragraph contains the following sentence: "Vessels are often delayed at berth while waiting for a letter of credit and at sea ...".

Vessels are frequently delayed at berth but never due to letters of credits for cargo or otherwise. In the case of bulk carriers, L/C's for the cargo are arranged long before the ship is chartered and liner companies never wait for any particular container. This phenomenon might, however, be a peculiarity to the Port of Baltimore. Under any circumstances, the statement should be verified or removed.

In Section 4.6.2.e Modification of Vessels - the possibilities of modifying vessels for the anchorages is evaluated. This is, of course, a theoretical possibility, but an absolute impossibility considering the commercial implications of this suggestion. Neither the port nor the shipping community would ever contemplate such possibilities. Ship owners build to Panama Canal specifications as the traffic and general market flexibility demands it, but building ships for Baltimore specifications is quite another thing. Removal of this section would greatly improve the overall impression of the analysis.

Section 4.8.1 Stuctural Measures - discusses the possibility of Fixed Berths. This idea is rejected outright. Such berths are, however, used around the world for various purposes. I think a closer analysis of this possibility would be in order. The advantage of such a solution, if feasible, is unquestionable particularly from a space saving point of view.

In the write-up of the Simulation Analysis (Section 4.10.1), it does not come clearly through that the dollar amounts are real 1995 dollars. This should be emphasized more clearly.

In Section 5.1.1 Without Condition Plan - the annual ship calls should also be displayed as ship calls per hour in order to create a better understanding for the magnitudes (e.g., 20,000 calls per years is equal to 2.3 ships/hour) This creates an immediate perspective on the problems facing the navigational infrastructure.

Table 7.2 - Financial Obligation should explicitly state whether it is dealing with nominal or 1995 dollar figures.

II.3 The Overall Impression

In this reviewer's opinion the work done on the study is of good standard consultancy quality, although there are points were the study is rather superficial. Some of these flaws are pointed out in my analysis above. The inclusion of the Simulation Model Results is, of course, a major step in the right direction. Dr. Racer's work is of high quality and will serve the decisions and the decision makers well.

Review of Baltimore Harbor Anchorages and Channels Study

by

Paul Schonfeld
Civil Engineering Department
University of Maryland

July 11, 1996

Introduction

This review of the Baltimore Harbor Anchorages and channels study focuses, as requested by the Baltimore District of the Army Corps of Engineers, on the simulation model developed and applied for this study by Professor Michael Racer of Memphis State University. However, I should start with some comments about the rest of the study, as documented in the "Draft Integrated Feasibility Report and Environmental Impact Statement" and its Appendices A through I, of October 1995.

General Study

The overall study seems to be well presented and documented. Although I can always regret the lack of additional information in areas of interest to me, I think the authors should be commended for a very comprehensive and detailed study. It seems to me that the efforts and resources devoted to the study are commensurate with the magnitude of the problems and with the costs and other impacts of the solutions examined. Although the overall study seems quite satisfactory, I think the following specific comments might still be addressed:

1. Information in the appendices or from previous studies should be more precisely cited when appropriate. For instance, there seems to be insufficient connection or reference to particular forecasts in Section 2 (are all forecasts based on Appendix C information?) or to cost estimates in Section 5 (are all these taken from Appendix H?). It would be helpful to cite actual pages or tables from the referenced sources.
2. I would have liked to read more about the assumptions and procedures used in the evaluation methods. The report tends to summarize evaluation results without providing enough information

or references about estimation methods, even in appendices. It tends to assume that there is only one way to calculate dredging quantities or compare the costs and benefits over time of interrelated alternatives and that every reader knows that one way. Personally, I would have liked to know more about how anchorage costs depend on dimensions, locations, or other characteristics. Most importantly, I would have liked to know much more about the possible interdependencies among alternatives and about the rationale for grouping various alternatives into only 6 plans.

3. Related to #2 above, the report does not provide enough assurance to readers that some promising alternatives concerning anchorage locations and capacities have not been overlooked. A fuller discussion of the search process for anchorage alternatives would be desirable.

4. I think the report is particularly good at explaining the problems related to channels and anchorages in Sections 3 and 4. However, there is little connection in the main report between actual operations and simulation model descriptions. For instance, in discussing VTMS (=Vessel Traffic Management Systems) around page 4.18, there is no indication if such systems can be represented in the simulation model. Section 4.10 - Simulation Analysis, also seems brief, incomplete and insufficiently connected to simulation results presented elsewhere.

5. Many things are particularly well presented and help clarify the analysis. Thus, the tables and maps of Section 5 are very good for explaining and comparing alternatives. The vessel routing flow charts of Appendix C should be very helpful in adapting a simulation

model to Baltimore. In general, the information and arguments that are included in the report are very well written and presented.

Simulation Model

The simulation model developed by Dr. Michael Racer was subjected to more intensive scrutiny than the rest of the study. My overall impression is that this could be a very useful model with some further development. At this stage however, the model is not documented well enough to be understood and used by practitioners.

Furthermore, sufficient information has not been provided to assess the reliability and validity of the model. I assume that Dr. Racer has conducted his own tests to determine how well the model duplicates the performance of an actual system, but no such results were available to me. I have tried to check the reasonableness of the model's results by running it with different assumed parameter values, but I do not have real data with which to compare simulation results. My main comments and suggestions are as follows:

1. A much better description and documentation of the model is desirable if this model will be used in future Corps of Engineers studies. This should include the basic concepts and assumptions used in the model, some reasonably detailed flow charts and a complete list of variables. The variables should be clearly defined and their units should be specified. The present model input and output includes a substantial number of variables which never seem to be used and are not defined in the user manual. Users waste a lot of time trying to make sense out of such undefined and unused variables, such as the anchorage information in the input file. In the structure file, BST.DAT, two integers in each cell's data are not

defined. The last three numbers for each vessel class information are not defined either.

Flow charts should at least show the relations among different routines. If possible, they should also show relations among events.

2. The user manual should indicate what distributions are used for all randomly generated numbers and how those distributions might be changed. It would also be desirable to mention the order in which random numbers are generated, e.g., for vessel class and destination.

3. It is desirable for a user-friendly model to have some automatic checks on the consistency or reasonableness of input variables. For example, in the structure file (BST.DAT), cell 17 is connected to cell 15. However, cell 15 does not connect to cell 17.

4. The distinction between trips and departures is not clear in the users manual.

5. The average times between departures are zero for all ports in the input files except SEA. This implies an infinite frequency of departures per day.

6. Anchorages have two or three "tie-ups" for ships but only one "slot" (except for anchorage 7 at Annapolis). That hardly seems consistent.

7. The variable D.D. cost (=dispatched demurrage?) should be defined, so that others can understand why it is almost never positive in the output. I do not think this "cost" (actually, a price or transfer from users to the port operators) should be part of the total system costs or cost savings.

8. It is not clear why output statistics are provided for only 17 of the 26

cells.

9. It would be desirable for the purposes of this study to have output statistics on (1) anchorage utilization and (2) conflicts among ships due to channel width restrictions.

10. After testing the model for different simulation periods, as shown in Figure 1, I am surprised that the average cost in $/ship mile increases with the simulation period. That is not reasonable. Although some of this might result from failure to discard results from start-up periods, to allow the model to reach a steady state, that would not account for the even faster increase in average cost as the simulation period increases. The unstable results for unfinished trips in Figure 3 and for average speed in Figure 5 are similarly surprising.

11. It is also surprising that the average cost per mile (in Figure 2) and per trip (in Figure 4) increase with headway as the average headway increases from 0.08 days to 0.16 days but not beyond that, while the average speed (in Figure 6) keeps increasing for headways above 0.16 days. If reduced congestion effects are sufficient to increase speed at higher headways, they should also decrease average costs (since the average speeds involved, up to about 3.3 miles/hr, are far below economic speeds of ships).

12. Another surprising result, which I can not explain, is that the cost per trip greatly exceeds that for unfinished trips than for finished trips, e.g., by $323,194 vs. $45,198 in one typical case.

13. I have tried to examine model's sensitivity to anchorage location and capacity by varying these two variables. The results obtained seem reasonable. Additional testing seems desirable since these are key

questions in the Baltimore Study.

14. The extensions mentioned by Prof. Racer in Section VI of the User Manual certainly seem worthwhile. In my opinion, priority should be given to (1) testing the simulation model by comparisons with actual data and (2) developing the model to simulate some efficient Vessel Traffic Management System or Systems which might significantly reduce delays.

Conclusion

I was glad to look at such an interesting simulation model and think that this kind of model was the right choice for this study. I hope that some of the questions I raise may be addressed without too much difficulty.

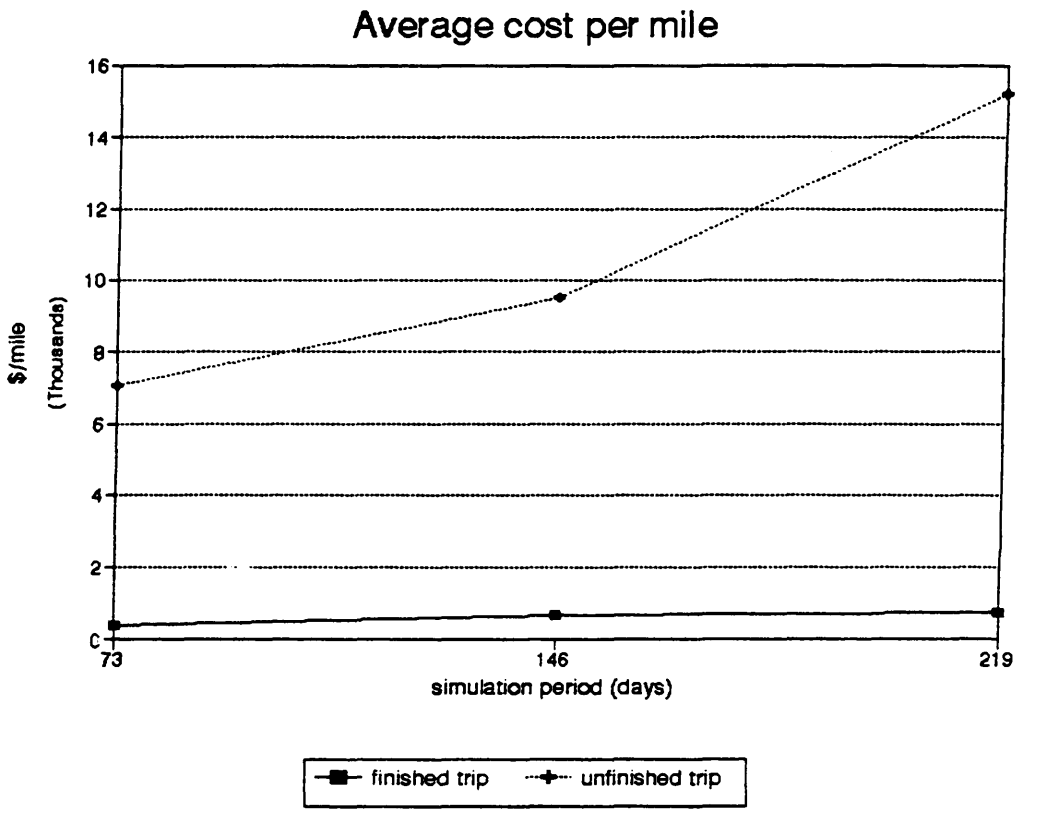


Figure 1. Average Cost per Mile versus Simulation Period

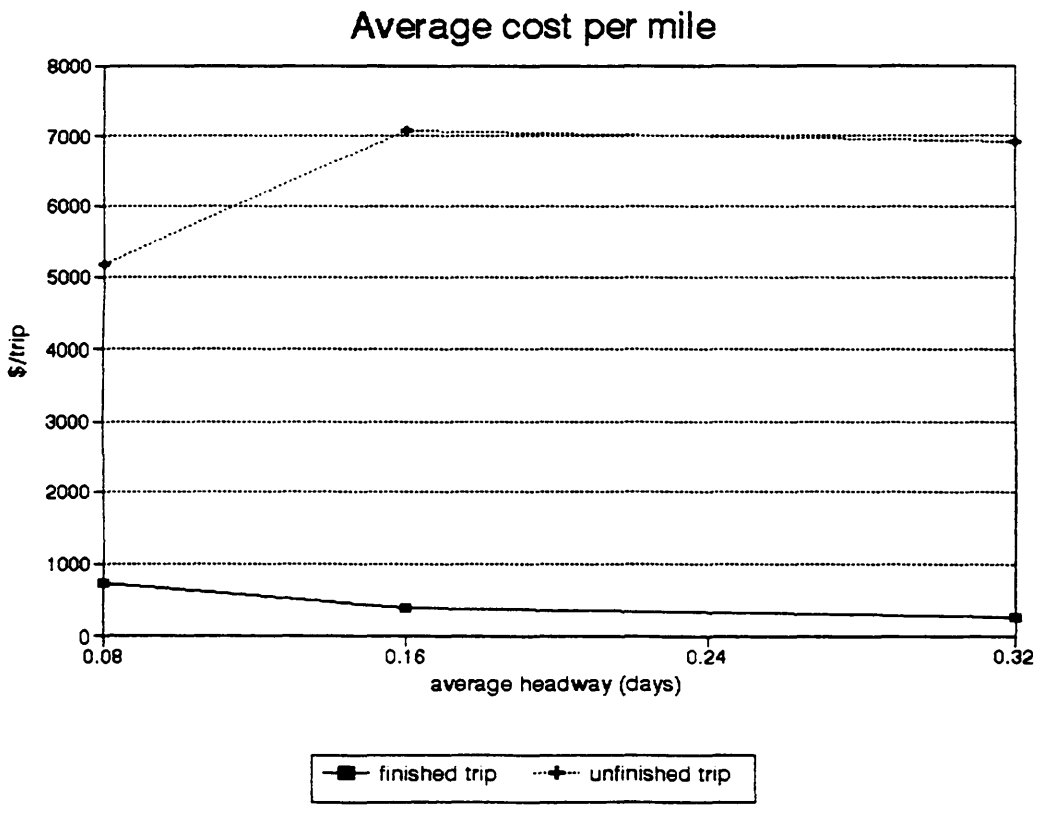


Figure 2. Average Cost per Mile versus Average Headway

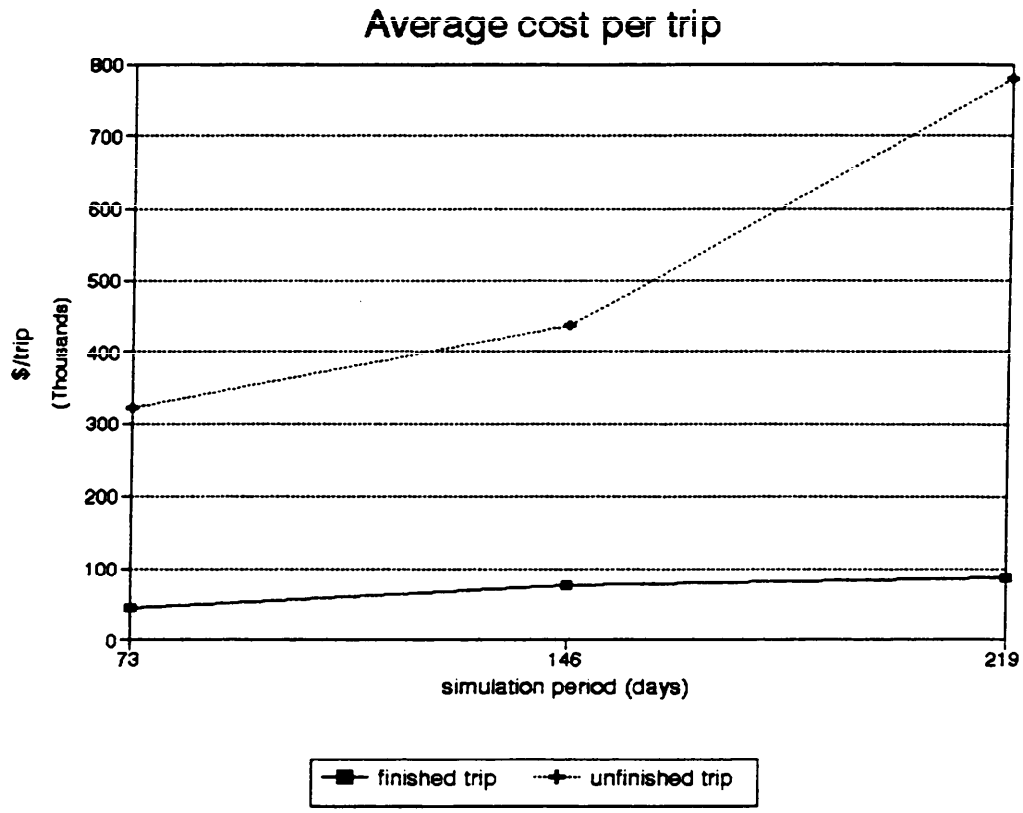


Figure 3. Average Cost per Trip versus Simulation Period

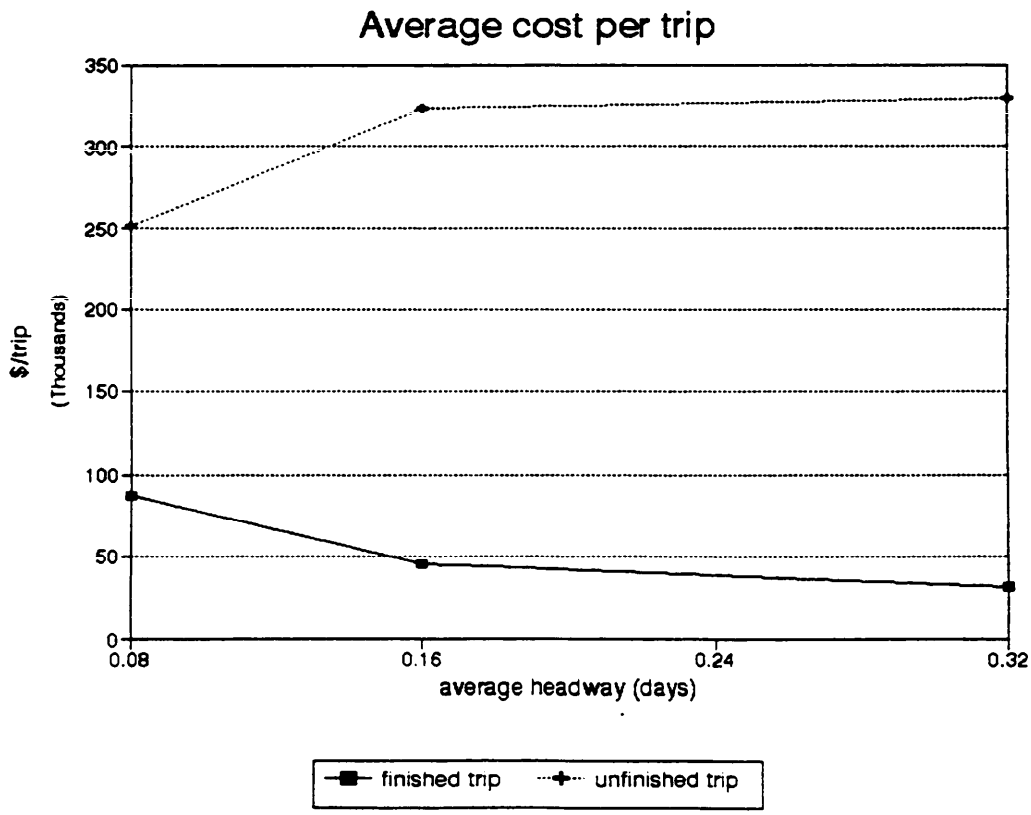


Figure 4. Average Cost per Trip versus Average Headway

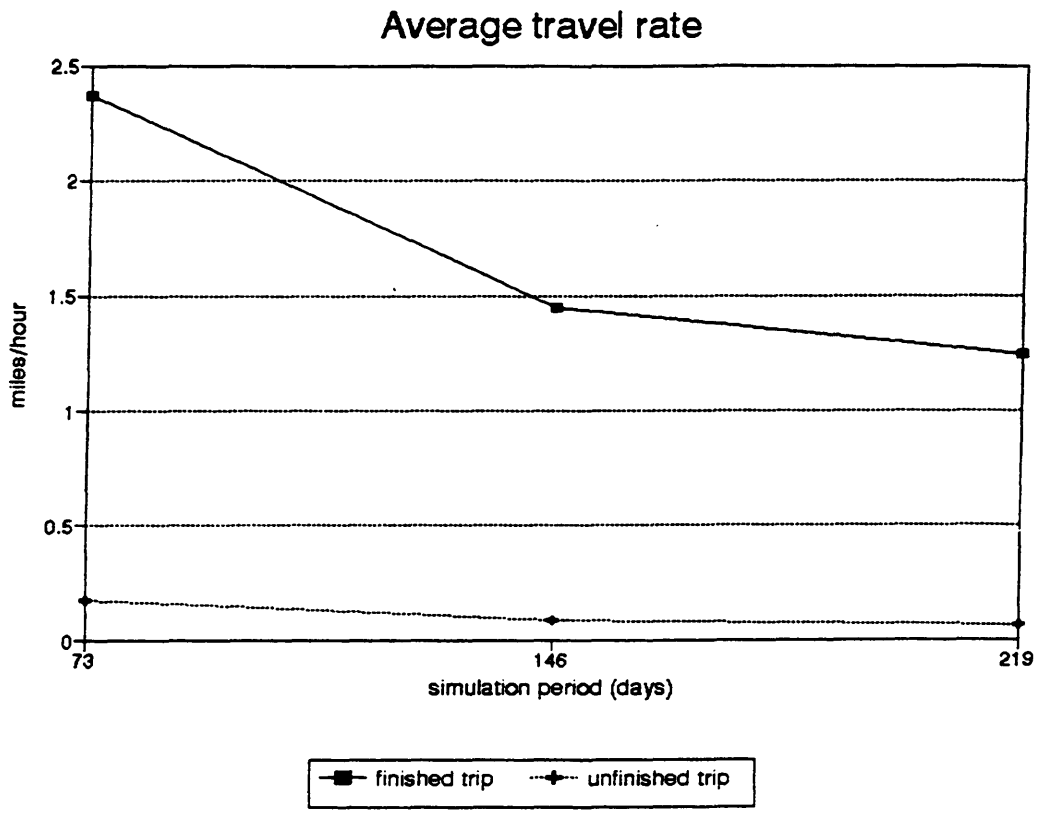


Figure 5. Average Travel Rate versus Simulation Period

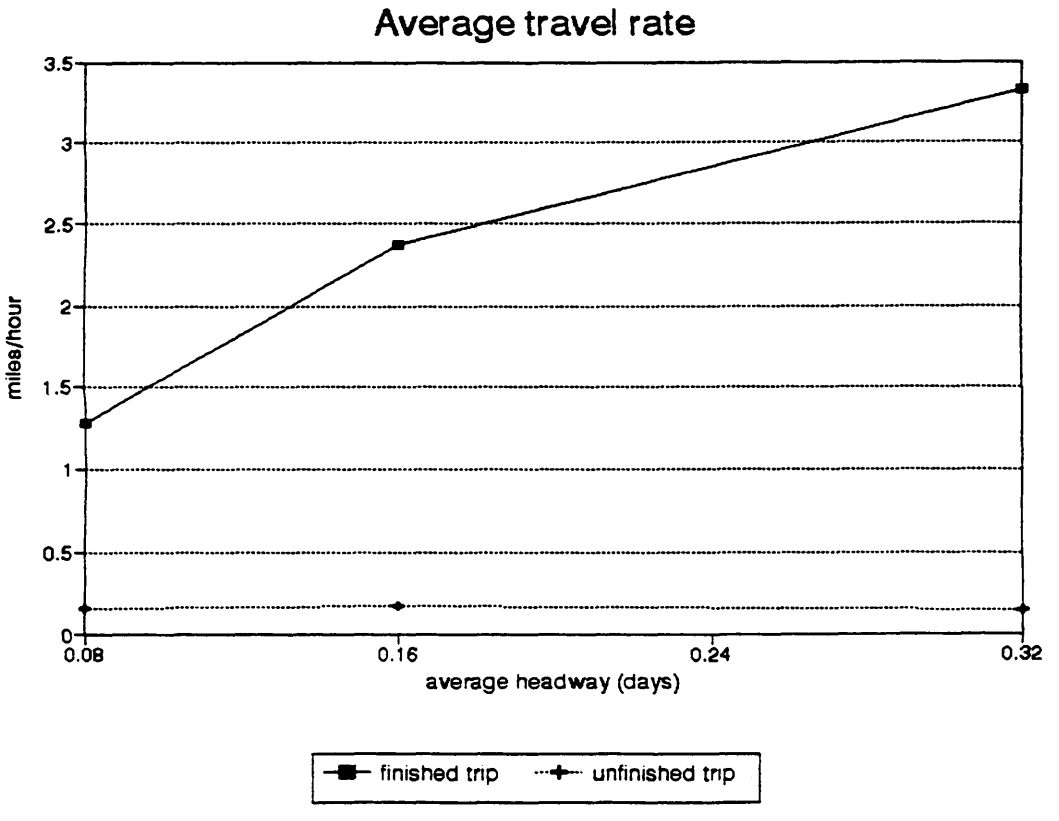


Figure 6. Average Travel Rate versus Average Headway

REVIEW OF THE BALTIMORE HARBOR ANCHORAGES AND CHANNEL STUDY SIMULATION MODEL

Prepared By
Michael S. Bronzini

June 16, 1996

Introduction

The Baltimore Harbor Anchorages and Channel Study Simulation Model, hereafter referred to as "the model", was developed by Dr. Michael Racer of the University of Memphis and programmed in the Simscript 2.5 simulation language. The model was used to study various proposed plans for upgrading the anchorages and connecting channels serving the Port of Baltimore, Maryland. This review was conducted by studying the draft Integrated Feasibility Report and Environmental Impact Statement, dated October 1995, as well as Dr. Racer's draft simulation study report and the model documentation and source code. The results of this review appear in the following paragraphs.

Readability and Presentation

1. Baltimore Harbor Study Anchorages and Branch Channel Modifications; A Feasibility Analysis, by M. Racer, August 2, 1995 (Draft).

Dr. Racer's description of how the model was applied to the study is, in general, readable and understandable. He does a good job of describing how a simulation model may be used in studies of this type, and of identifying the various factors and variables that might be included in such a model. He lays out very clearly which variables were included in the model, and which were excluded. He clearly defines the alternatives that were simulated, and indicates how the model input data were modified to represent the alternatives. There are, however, some minor departures from this generally good presentation. Some of the descriptive material on pages 11 and 14 was left incomplete, Section VIII (Conclusions) is missing entirely, and Appendix B requires more annotation and labeling, particularly the cost data.

2. Integrated Feasibility Report and Environmental Impact Statement, July 1995 (Draft); Appendix C, Economics, October 1995 (Draft).

The summary descriptions in these two documents of the model and its application are much less satisfying. The model description

on p. 4-6 does not accurately depict the difference between simulation and analytic (eg., queueing theory) approaches. Also, it includes puzzling or vague statements, such as: "...simulation will solve for a discrete 'length of time' for any number of vessel arrivals and services;" and "It is important to indicate that the program simulates vessel traffic movement; it does not mimic traffic." Statements like these do not clarify the model's operation, and they serve to take a fairly simple modeling process and make it sound like "magic".

The modelling study description in Appendix C, pp. C-181 ff., is rather casual and haphazard. One would be hard-pressed to take this material and reproduce the analysis. Figures appear to have been assembled hastily, and many are hand-annotated. The data that are presented are not labeled sufficiently to facilitate ease of interpretation, and there are disconnects between the text and figures. For example, at the top of p. C-183 it states that Figure 6 is sample output for a 150-day simulation, but Figure 6 itself is annotated as a 365-day simulation. Further, there are no cost units given, and the results in Figure 6 do not square with the without project costs given in Figures 7 to 17 (if they are not supposed to agree, this is not stated anywhere). It is not easy to relate the results in Tables 7-17 to the "plans" into which the various alternatives are organized elsewhere in the report.

In summary, while one can more or less see what was done in the study, the documentation in this report does not make it easy to follow the process or trace through it in detail.

Sufficiency of Model Description

This is the weakest area of the entire effort. There does not appear to exist a single, unified description of the model as used in the Baltimore study. The principal reference document is the User's Manual that was prepared for the version of the model used in the Galveston study ("Channel Simulation; A User's Manual," dated January 1994). This manual is inadequate in two respects. First, there is no detailed description of the technical innards of the model. Precise definitions of the model's processes are not provided. Entities, events, and routines are defined in an abbreviated fashion. No mathematical or logical formulations are given. For example, reference is made to a "backup event" (pp. 8-9) and to the "Texas Chicken Maneuver" (p. 9), but no precise definitions of these processes are offered. The waterway system constructs of "cells" and "wide spots" are introduced, but without sketches or descriptions of exactly how they relate to each other and how vessels are processed through these locations. Vessel meeting and passing operations are not discussed in any detail. Procedures used for collecting statistics and other outputs are not defined.

The second weakness of the manual is the description of the model's input and output. Input data items are not defined in sufficient detail, and the directions for how to input the data are sketchy. There does not appear to be a one-to-one correlation between the written input descriptions and the sample input file included in the Appendix. There is no indication of the precision recommended for real numeric values. While the sample input file is helpful, it should be annotated to assist the prospective user. Similarly, the output values are not defined, units are often not specified in the output table headers, and the sample output should be annotated.

One other recourse is to look at the model source code, as it is often claimed that Simscript programs are virtually self-documenting. This is true if the code is annotated liberally with comments. Unfortunately, it was found that comments are used very sparingly in the source code.

In summary, the standard for a good model description is that a skilled analyst/programmer should be able to take the description and program the model in a software language of his or her choosing, and an analyst should be able to prepare a model input file for a different system with little or no assistance. The model description provided fails on both counts. While it is possible, with much study, to muddle through and infer how the model works and how to prepare input, it is not as easy as it should be.

Rationale/Assumptions Used in Model Development

While the lack of a sufficient model description makes it difficult to assess this with complete confidence, it appears that the theoretical basis for the model is sound. All of the significant variables seem to be included, and the simplifying assumptions made seem to be appropriate. One would hope that more would be done with traffic management measures, such as assigning vessel priorities for anchorage use by class and enforcing vessel anchorage occupancy limits, but these are appropriately pointed out as areas for desirable enhancements of the model.

Appropriateness of Modelling Tool for Analysis

Given the stated objectives of the Baltimore Harbor Anchorages and Channels Study, the Channel Simulation model is the appropriate tool for the analysis. It would be very difficult to construct a queueing model with sufficient detail to analyze all of the alternatives, and other available simulation tools (such as the Ohio River Division's Deep Draft Analysis Model) would require significant modification to fit this study context.

Sufficiency of Analysis

The basic approach to the analysis was sound, and followed the usual practice of simulating each alternative under the traffic forecast for each decade a number of times (in this study, five replications were used for each condition simulated). A good range of alternatives was considered, and appropriate combinations of improvements were analyzed.

The variance in the modelling results could have been controlled better by keeping the traffic levels in the system constant for all of the model runs for a given decade. For example, looking at Figure 7 in the Economics Appendix (p. C-196), the number of vessels in the year 2000 for the base condition ranged from 1303 to 1459, which is a range of more than 11 percent of the mean number of vessels. Total vessel operating cost was used as the measure of system performance, and this will obviously vary directly with the number of vessels whose movements are simulated. Thus, keeping the number of vessels nearly constant would eliminate one major source of variation in the outcome, thereby better revealing differences in system performance due to the physical changes being evaluated. There are a number of ways to accomplish this. A simple fix is to add an adjustment factor to the mean value of the negative exponential distribution of ship interarrival times. A more direct control is to generate a file of vessel arrivals in advance of the simulation, thereby insuring that exactly the same traffic demand is placed on each system.

A second potential problem in the sufficiency of the analysis is the lack of any feedback from the system capacity to the traffic input to the system. It was noted in the study report that none of the systems simulated had sufficient capacity to accommodate all of the ship calls forecast for the years beyond 2030, so the total system operating costs and benefits for the years 2040 and 2050 were held constant at their year 2030 values. In cases like this, it would be better to determine which ships in the forecast would divert to other ports, to get a better handle on the benefits foregone due to the diversions.

While not necessarily a flaw, one would like to see more justification or evidence for the claimed vessel time savings due to branch channel improvements. Dr. Racer's report (p. 13) shows time savings ranging from 20 minutes to 40 minutes per vessel. Since the project benefits will be a direct function of these values, it is important to establish a good case for their accuracy. An alternative would be to show how sensitive the results are to variations in these values.

Deficiencies in Model and/or Approach to Analysis

As noted above, there do not appear to be any glaring deficiencies in the model, or in its application in this study. There is, however, a conceptual difficulty in the analysis of the model output. This deals with the lack of attention to the variability in the model output.

Consider, for example, Figure 7 on p. C-196. For the year 2000, the results show an average total vessel operating cost (150 days) of $45.45 million for the base condition and $44.90 million for the improved system, yielding an average system benefit of $550,000. However, the standard deviation of the mean, s, of vessel costs for the base condition is $1.12 million, so the benefit is only 0.49s; that is, the benefit is not statistically different from zero. This result is somewhat due to the fact that the variability in the number of vessels serviced is embedded in the variability due to the system improvement. One way to help control for this is to do the analysis in terms of the average operating cost per vessel. For year 2000 again, the results are an average cost per vessel over the five runs of $32,775 for the base case (s = 278), and $32,376 for the improvement, producing an average benefit per vessel of $399, which is equal to 1.43s. This is still nothing to write home about, but is a statistically more satisfying representation of the effect of the system on vessel operating costs. (Note: a rigorous statistical analysis would involve computing the t-statistic, which involves the standard deviations of cost per vessel for both the base and improved systems. The ratio of benefit to s used above is merely a quick way to assess the significance of variability in the outcome.)

Since the number of vessels served is the same in each run for both the base and improved systems (run 1 has 14459 vessels, run 2 has 1366, etc.), an even better approach is to consider the samples to be paired, and analyze the difference in operating costs. For the year 2000, the average difference in total vessel costs is $553,663 (which is mathematically equivalent to the difference in average total costs), with a standard deviation of the mean s = $480,823. The average benefit, then is equal to 1.15s. A similar result is obtained by analyzing the differences in cost per vessel.

A more dramatic result occurs with the outcomes for the year 2010. Here, the standard deviation of the mean total vessel operating cost is $1.16 million for the base cost, which is an order of magnitude greater than the observed difference in mean total costs of $101,108. However, the mean of the differences in total vessel costs, also $101,108, has a standard deviation of the mean of $10,630 and a corresponding t-score of 9.51, which is highly significant statistically.

The point is that the results need to be analyzed and presented in a way that takes into account the variance in simulated outcomes. Presenting the results in the way that is done in Figures 7 through 17 invites the erroneous conclusion that none of the claimed benefits are statistically significant.

Suggestions for Further Improvement

Dr. Racer has done a credible job of taking an existing model and adapting it to the needs of the Baltimore Harbor Anchorages and Channels Study. It seems obvious to this reviewer that he was working under significant budget and time constraints, which led to many of the deficiencies cited. If the model is to be used by the Corps as a general analysis tool, the following improvements are suggested.

1. Provide a detailed technical description of the model, including precise definitions of all model entities and their attributes, and mathematical or statistical descriptions of all model processes and outputs.

2. Provide a unified User's Manual for the current version of the model, including better descriptions of the model input streams and an annotated sample input file keyed to a sketch of the corresponding system to be simulated.

3. Modify the model to provide for a user-friendly input/output structure.

4. Modify the model to provide for additional outputs, to facilitate statistical analysis of outcomes and to help the analyst spot system choke points, which should lead to better project formulation efforts. This output redesign should include a thorough reconsideration of analysis requirements and a look at the types of outputs being generated by other navigation simulation models in use by the Corps of Engineers.

5. Provide positive mechanisms in the model to specify the number of vessels that will be processed through the system, thereby better controlling one of the major sources of variance in model results.

Items to Consider in Subsequent Model Applications

The suggestions offered below relate primarily to continued use of the model to analyze the Baltimore Harbor system, although similar suggestions would apply to analysis of other deep draft harbors.

1. Include management alternatives in the analysis of anchorage requirements, to make better use of the added capacity to handle large vessels. This will require a model modification, but one that is not very complex.

2. Allow for feedback from the anchorages and channels system capacity to the number of vessels that will call on the port of Baltimore. This will likely require some iteration between the simulation model and the table or list of forecasted vessel calls. There will also need to be a determination of how to characterize the economic costs to the nation of the excess vessel demand. Do they go to another port, with resultant increases in freight transport costs, or is the commerce lost entirely to foreign competitors?

3. Conduct a systematic statistical analysis of the model results, along the lines suggested earlier in my report. This could be done largely with the current set of model outputs, requiring at most only a limited number of extra model runs.

Integrated Technologies and Research, Inc.
7631 Bland Drive, Manassas, Virginia 22110, Phone (703) 361-7740

July 14, 1996

Baltimore District, Corps of Engineers
Planning Division, 11th Floor
ATTN: Clifford J. Kidd
City Crescent Building
10 South Howard Street
Baltimore, MD 21201
Phone (410) 962-3100

REF: REVIEW AND TECHNICAL EVALUATION OF SIMULATION MODELLING PROGRAM

Dear Cliff:

Finally, after many months of waiting for all the software files needed, instructions to be gathered, innumerable e-mail messages, many attempts at installing and running the software, and printing out of simulation results I am ready to complete my review. You may recall, I mailed to you on 10/4/95 my preliminary notes and review of the User's Manual, but I could not run the simulation software and therefore I could not comment on the software itself. I am now able to give you my review of both the software and its user's manual.

I would like, however, to preface my review by offering the following general comments:

General Comments:

(1) Any software development effort will most likely require more work hours, more testing, more documentation, and more review effort than initially anticipated. My own experience is that the development effort ends up requiring between 25% and 35% more effort (i.e., hours and, therefore dollars) that initially estimated.

(2) The reviewer of a software development effort will tend to be critical because he/she will be comparing the effort against an "ideal software effort", and he will not be aware of the estimate of hours required initially agreed between the client

and the developer. The developer will most likely try to give the client his money's worth, and the reviewer will not be aware of this fair trade.

(3) In the course of creating a new software model, both the client and the developer learn from each other as to requirements, sometimes small changes to initial requirements take place, individually these changes may be small but are changes that add up to additional software development; the client's expectations may grow somewhat as he learns from the newly created model.

Having said the above in defense of the software developer, I proceed to offer the following comments:

General Comments:

(1) Professor Michael Racer has created a useful software model in SIMSCRIPT (software development environment by CACI Corporation) that simulates a category of events relating to the navigation of vessels in various channel geometries for the Baltimore Harbor.

(2) I found the User's Manual to be very inadequate, difficult to read, lacking content proper of an actual user's manual; the first seven pages, for example, are appropriate for a user's manual, whereas the balance of the manual is more appropriate for a Programmer's Manual. What has been missing in the creation of the User's Manual is a perspective of the intended user, the level of skills of the intended user. Who is the intended user of this software model? If the intended user is a Corps planner, a non-Corps planner, or just about anyone other than the creators of the software then the user' manual fails to communicate the capabilities of the software itself. If a "general user" was intended to be able to install the software, design and load the required files, run the software and interpret the simulation results, then substantial changes are needed in the User's Manual.

(3) Re-do the User's Manual. I offer a table of contents to serve as a guideline. This manual should include instructions for the installation of the software itself.

(4) A Programmer's Manual should be prepared to support the software effort. Essentially, pages 8 - 56 should be entered into a programmer's manual, not in its current form, but modified. I enclose a suggested table of contents to use as a guide in the preparation of a User's Manual.

(5) A User-System Interface is missing. I realize that this item was probably not discussed in the initial costing of the software model. However, now days software development routinely addresses the creation of a series of screens, either in a DOS or AWINDOWS environment, that communicate to the user several

items of information: name of software, producer (Baltimore District), credits (Professor M. Racer, student(s)), model assumptions, "menus" on how to run the model, how to change parameters, conduct sensitivity analysis, etc. Often, the adoption of a software tool by others depends heavily on "what the system looks like", whether it is "user-friendly" or not, and whether the user feels that he/she can navigate the system going from one option menu to another. I highly recommend this feature as a add on to the existing software system, preferably with color graphics in a WINDOWS environment using a tool such as POWERBUILDER or other similar fourth-generation tool.

(6) Simulation results and sensitivity of results to changes in parameter inputs. Unfortunately I cannot contribute much to the validity of results because it was so difficult to understand the printout of results (enclosed); it is not so much that Michael Racer was not willing to cooperate, since he would provide the answer if I asked a question, and he certainly tried to help once he and I were on the phone; on the other hand, I asked and never received a diagram or schematic of the cell network employed in the simulation, for example.

(7) Publish simulation results in the form of a paper in a scientific journal or conference proceedings (e.g., Transportation Board). Professor Michael Racer could be the first author and Cliff Kidd could be second author, for example. Several reasons for this suggestion. The exercise of writing the paper, sending it to the publisher, receiving reviews from 2-3 independent reviewers, and eventually seeing the paper published will help with the documentation of the software itself (user's and programmer's manuals) as well as the communication of the availability of such a model to others in the profession.

Next, I proceed to offer my specific comments in a section titled: Review of a Simulation Model for Baltimore Harbor Improvements. I remain available to you and Michael Racer, of course, for any questions of further information on my comments, as needed.

Sincerely,

Ambrose.

Ambrose Goicoechea

Review of a Simulation Model for Baltimore Harbor Improvements

July 13, 1996

These are my comments regarding my review of the Channel Simulation software and User's Manual by Professor Michael Racer.

General Comments:

(1) Any software development effort will most likely require more work hours, more testing, more documentation, and more review effort than initially anticipated. My own experience is that the development effort ends up requiring between 25% and 35% more effort (i.e., hours and, therefore dollars) that initially estimated.

(2) I have reviewed this software against an "ideal software effort", without knowledge of the estimate of hours required initially agreed between the client and the developer.

(3) In the course of creating a new software model, both the client and the developer learn from each other as to requirements, sometimes small changes to initial requirements take place, individually these changes may be small but are changes that add up to additional software development; the client's expectations may grow somewhat as he learns from the newly created model.

General Comments:

(1) Professor Michael Racer has created a useful software model in SIMSCRIPT (software development environment by CACI Corporation) that simulates a category of events relating to the navigation of vessels in various channel geometries for the Baltimore Harbor. A study of the 319 pages of code generated reveal a meticulous documentation of the global and local variables on the code itself. However:

(2) I found the User's Manual to be lacking, difficult to read, with little content proper of an actual user's manual; the first seven pages, for example, are appropriate for a user's manual, whereas the balance of the manual is more appropriate for a Programmer's Manual. What has been missing in the creation of the User's Manual is a perspective of the intended user, the level of skills of the intended user. Who is the intended user of this software model? If the intended user is a Corps planner, a non-Corps planner, or just about anyone other than the creators of the software then the user' manual fails to communicate the capabilities of the software itself. If a "general user" was intended to be able to install the software, design

and load the required files, run the software and interpret the simulation results, then substantial changes are needed in the User's Manual.

(3) Re-do the User's Manual. I offer a table of contents to serve as a guideline. This manual should include instructions for the installation of the software itself. I am not claiming that the user' manual provided (QUANTUM I for comparison and evaluation of alternative plans for Corps planners) is the ultimate manual, certainly not, but I did have to modify it three times, and each time the Corps managers that reviewed it provided very helpful comments.

(4) A Programmer's Manual should be prepared to support the software effort. Essentially, pages 8 - 56 should be entered into a programmer's manual, not in its current form, but modified. I enclose a suggested table of contents to use as a guide in the preparation of a User's Manual.

(5) A User-System Interface is missing. I realize that this item was probably not discussed in the initial costing of the software model. However, now days software development routinely addresses the creation of a series of screens, either in a DOS or AWINDOWS environment, that communicate to the user several items of information: name of software, producer (Baltimore District), credits (Professor M. RACER, student(s)), model assumptions, "menus" on how to run the model, how to change parameters, conduct sensitivity analysis, etc.

(6) Publish simulation results in the form of a paper in a scientific journal or conference proceedings (e.g., Transportation Board). Professor Michael Racer could be the first author and Cliff Kidd could be second author, for example. Several reasons for this suggestion. The exercise of writing the paper, sending it to the publisher, receiving reviews from 2-3 independent reviewers, and eventually seeing the paper published will help with the documentation of the software itself (user's and programmer's manuals) as well as the communication of the availability of such a model to others in the profession.

USER'S MANUAL

TABLE OF CONTENTS

PREFACE
ACKNOWLEDGEMENTS

Section Page

1.0 GENERAL INFORMATION

1.1 Purpose of the Navigation Modelling Program
How to use this manual
Questions and Answers: Who to Call for Help

1.2 Contents of the Manual
[A brief description of the content of the various sections in this manual]

1.3 Background
[Who did what: contractor's program manager, programmer(s), Mr. Cliff Kidd is the program manager of the Corps, period of performance, etc.]

1.4 Approach
["This modelling effort makes use of queuing theory, statistical modeling of some processes, and...Also, describe what data sources are used, whether a database is used as input to the main program, whether the outputs are in the form of files, file names...]

2.0 INSTALLING THE SOFTWARE

Instructions for installing the software in the user's computer!!! This item is often ignored, resulting in many hours wasted by a prospective user. Detailed instructions (1-2 pages) must be provided to guide the user through the software installation task.

The user needs to know, for example, that he must create a sub-directory CHANNEL under the main directory SIM:

C:\SIM>md channel

3.0 DESCRIPTION OF THE SYTEM

3.1 Hardware and Software Components

3.2 Summary of Functions Supported [e.g., a description of the various things that the program can do: simulate channel branch changes, elapsed time, use of operating costs in the optimization of results, etc....]

4.0 INSTRUCTIONS FOR RUNNING THE SYSTEM

4.1 Step 1: Preparing the Input Files for Main Program
4.2 Step 2: Building Branch Channel Changes into the Main Program
4.3 Step 3: Specifying the Probability Density Functions for the Various Random Variables (Processes and Events)
4.4 Step 4: Results and Report Generation Options (Tables, graphs that can be printed out, summary of assumptions, etc.)
4.5 How to Start and How to End the Program

The user must be given instructions for loading data files (eg., BST.DAT, SMOOTH.DAT, other) into sub-directory CHANNEL <DIR>; proceed to SIM directory and call SIMLAB to enter the simulation environment, select CHANNEL, load parameters:

```
SIMLAB>   assi 3 < BST.DAT
          assi 2 < SMOOTH.DAT
          assi 7 > SM7.DAT
          assi 8 > SM8.DAT
          assi 9 > SM9.DAT

          RUN <ENTER>
```

5.0 ANALYTICAL CONTENT OF THE NAVIGATION MODELLING PROGRAM

5.1 Modelling Variables
5.2 List of Design Parameters
5.3 Decision Variables
5.4 Equations Used
(actually show the various queuing relationships used in the program, channel flow equations, operating cost relationships including discount factors, present value forms, other)

5.5 A Run Example
(Important to show an example, with values of parameters, results, an explanation of the results, diagrams, schematics, etc.)

6.0 CALIBRATION PROCEDURES

6.1 What is Calibration

6.2 How to Calibrate the Navigation Modelling Program (Important!!!)

APPENDIX A: A Sample of a Seasonal Ship Channel Input File.
Just as provided on pages 26-44, but shorter in length (say 20 ports only), and with instructions to the user on how to prepare such an input file using the DOS text editor! Must users will not know that the DOS text editor can be used to generate input files for use in the channel simulation software. Also, each entry in the file must be defined/explained to the user right there and then, not 20 pages earlier in the user's manual.

A printout of simulation results, with explanation of each alphanumeric character appearing in the printout. Currently, no explanation is offered to the user in the user's manual (pages 51-55). What is the meaning of tow.tow.passes? tow.ship.meetings? The explanation may be very simple but it needs to be given to the user.

APPENDIX B: A second sample of an input file, this time with changes in some of the parameters. Again, provide simulation results with explanation of parameters to the user.

PROGRAMMER'S MANUAL

TABLE OF CONTENTS

PREFACE
ACKNOWLEDGEMENTS

Section Page

1.0 GENERAL INFORMATION

1.1 Purpose of the Navigation Modelling Program
1.2 Contents of the Manual
[A brief description of the content of the various sections in this manual]
1.3 Motivation for this Manual
To provide adequate documentation of the software model, so that future changes and enhancements can make proper use of existing procedures, files, and data dictionary.

2.0 SOFTWARE SYSTEM ARCHITECTURE

2.1 Main Event Routines Within Code
[This sub-section should identify and define the seven event routines cited in the User's Manual (remove these from the User's Manual):

E.BT.ARRIVE	arrival of a vessel to its destination port
E.BT.BACKUP	initiation of a vessel backup
E.BT.BEGIN	departure of a vessel from a port
E.BT.MEET	meeting of two vessels in a channel
E.BT.MOVE	change in movement of a vessel
E.BT.PASS	passing of one vessel by another
E.BT.TURN	turn of a vessel from one channel to another
E.STOP.SIM	termination of the simulation

Generate Data Flow Diagrams (DFDs, levels 0, 1, and 2, at least) to show the interrelationships among these events. I offer my own software, EasyCASE Professional, to Professor Racer and his students to generate these DFDs. DFDs are box-and-arrow representations of processes (events or activities), flow of data from one process to another, input from

external entities (e.g., input files), and the storage of statistics in files and databases. These diagrams are most important because they provide "the next programmer" with a detailed picture of the main processes and the relationships among these processes in a software system. I have enclosed an example of a DFD created with EasyCASE.

2.2 Main Activity Routines Within Code

[The 13 main routines in the code should be identified and defined in detail:

MAIN	Main program driver
R.BT.CASUALTY	handles casualties
R.BT.DEPARTURE	supports vessel port departure
R.CLEAN.UP	supports simulation termination
R.END.BOAT.EVENTS	cancels all events for a vessel as needed
R.FINAL.STATS	calculates and prints out final statistics
R.INITIALIZE	initializes all data and variables
R.NXT.MOVE	determines next vessel availability
R.RD.DATA	data input
R.RTE.CREATOR	determines origin-destination route for vessel
R.START.TOWS	starts all tow activities
R.UPDATE.BOAT	re-evaluates vessel location
R.VERIFY	verifies vessel characteristics
SNAP.R	debug aid

Again, generate data flow diagrams (DFDs) for each of these routines. I have studied the code provided (319 pages of code provided) and I see very good documentation of the code itself. There remains to prepare the DFDs, a data dictionary of all terms, variables, and parameters used in the code, the origin (routines) of variables, and interrelationships among routines. A computer-aide software engineering (CASE) tool such as EasyCASE would be needed.

2.3 SIMSCRIPT Environment

How much SIMSCRIPT environment is required to run the software model created by Professor Racer? Which SIMSCRIPT version will do? What is the minimum information about the SIMSCRIPT environment that the user should know?

3.0 CALIBRATION OF MODEL

3.1 Why Calibration of Simulation Model

Explain why the model must be calibrated to reflect seasonal vessel traffic

patterns, changes to geometry of channel (depth, width, length), mix of vessels, other.

3.2 How to Calibrate Simulation Model

Show steps needed to calibrate model, including identifying input files needed, number of runs needed to achieve a desired accuracy (i.e., difference between historical and simulation results)

3.3 Calibrated Results Achieved

For selected statistics, show comparison of historical and simulation values, in graphical or table form, and number of runs required.

4.0 HARDWARE SYSTEM

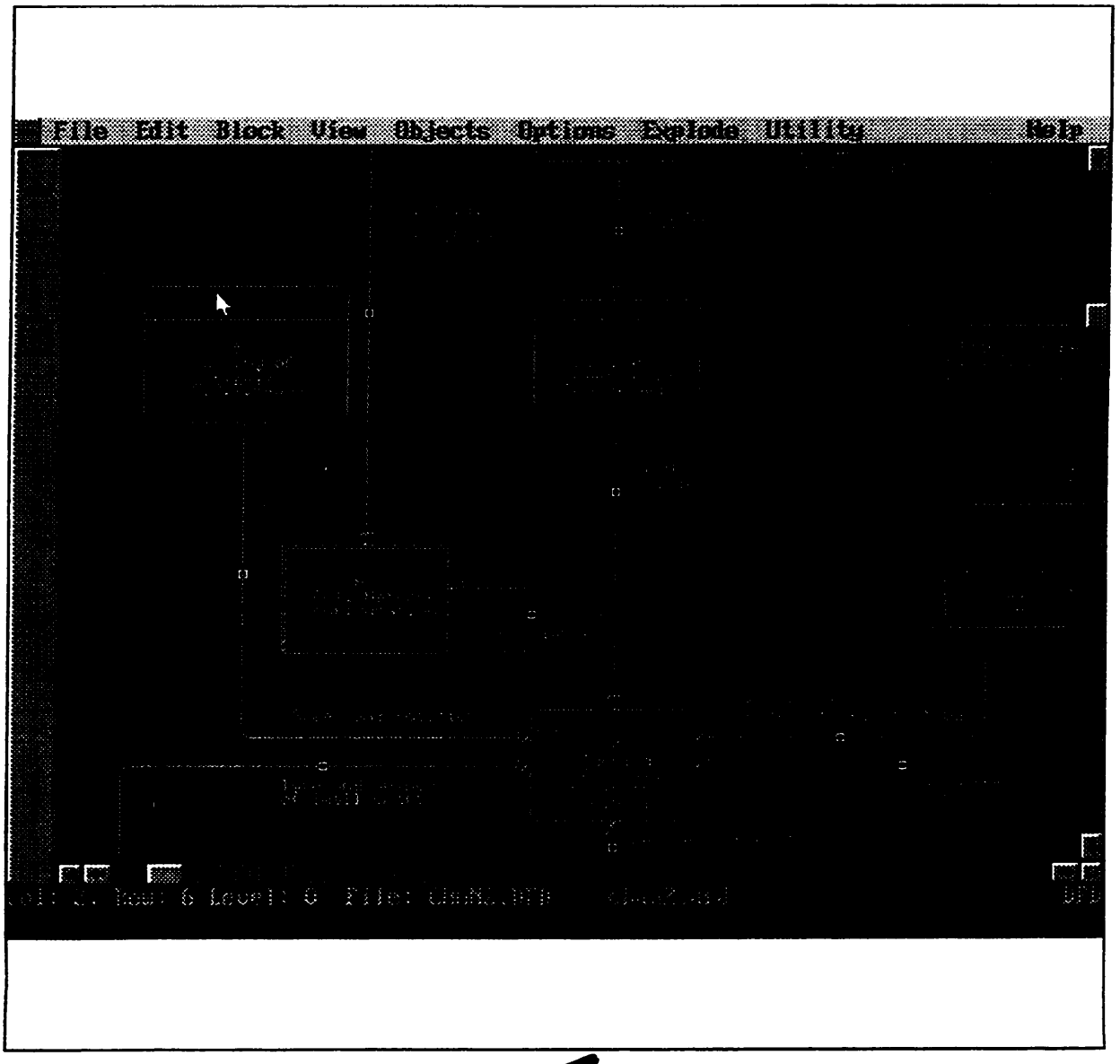
Identify hardware system requirements as well as system recovery procedures in case of system "freeze" or other type of system failure.

APPENDIX A: SOURCE CODE

(An actual, complete printout of the Source Code developed; this may take anywhere from 50 to 500 pages; should the code be lost in the future this would be the Corps' record of the program as it was developed) This code has been provided (319 pages of code).

APPENDIX B: Generation of Input and Output Files

This appendix can be used to show the user how to prepare input files using the DOS text editor or other editor, the format of the input files.

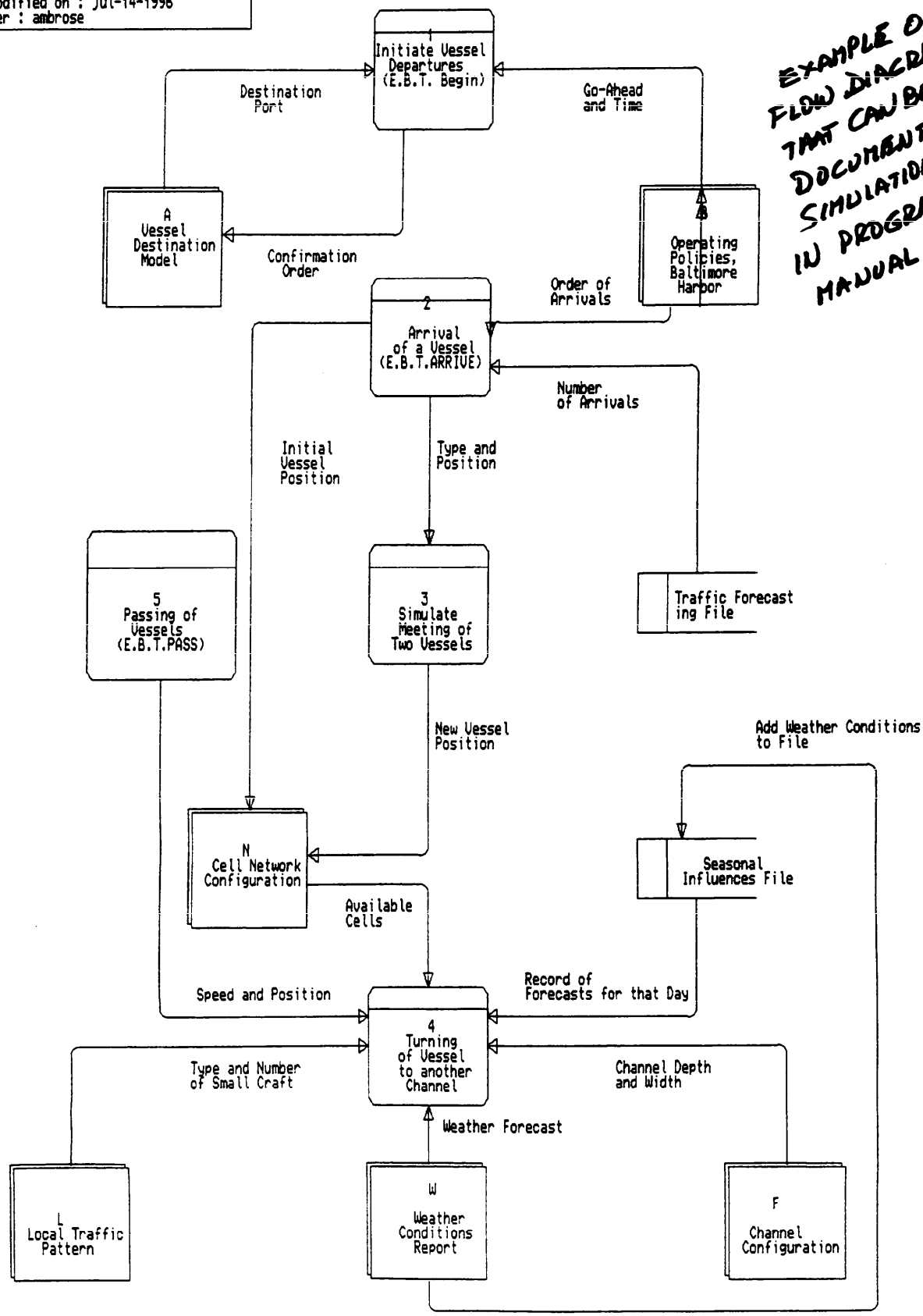


WINDOWS ENVIRONMENT IN EASYCASE PROFESSIONAL TO GENERATE DFDs.

EXAMPLE of Data Flow Diagram (DFD)

using the CASE tool EasyCASE Professional Plus

Project : C:\ECPLUS30\PROJ1\
Chart : chan2.dfd
Filename : chan2.dfd
Last modified on : Jul-14-1996
by User : ambrose



EXAMPLE OF DATA FLOW DIAGRAM (DFD) THAT CAN BE USED TO DOCUMENT CHANNEL SIMULATION MODEL IN PROGRAMMER'S MANUAL.

Review - 11

Input Files BST.DAT and SMOOTH.DAT

It is recommended that a detailed explanation of all variables in the output format be provided for the user in the User's Manual. Also, instructions should be provided to the user to modify the input files using the DOS Text Editor or other appropriate text editor. By modifying some of the parameters in the input files, the user can conduct sensitivity analysis to reflect variations in channel geometries and traffic patterns (vessel speed, types of vessels, origin-destination routes, etc.)

See Appendix A of User's Manual for the software system titled:

QUANTUM I: A Quantitative Tradeoff Analysis and Uncertainty Modeling System for Multiple Criteria Decision Making

[Created by Ambrose Goicoechea and the Greeley-Polhemus Group for the Institute for Water Resources, Corps of Engineers, Alexandria, Virginia]

for an example of an input file prepared with the DOS text editor and an explanation of the variables in the input file QUANT517.DAT.

File **BST.DAT**

```
<Existing condition structure file <

old.seeds
1.0  1.   0.   1.

26   0
1    cape_henry
     15   0.0
     2    0    0    0
     50   54   1000
     1  0
2    junc_1
     15   0.0
     3    17   1    0
     50   .1   1000
     1  0
3    brewerton
     12   0.0
     4    0    2    0
     50   2    600
     1  0
4    fm1
     8    0.0
     5    0    3    0
     50   .29  600
     0  0
5    junc_2
     3    0.0
     6    0    4    18
     50   .40  600
     0  0
6    fm2
     3    0.0
     7    0    5    0
     50   .29  600
     0  0
```

```
7  junc_3
   3   0.0
   8   19  6   0
   50  .21 600
   0 0
8  fm3
   3   0.0
   9   0   7   0
   50  .21 600
   0 0
9  junc_4
   3   0.0
   10  20  8   0
   50  .12 600
   0 0
10 fm4
   3   0.0
   11  0   9   0
   50  1.15 600
   0 0
11 junc_5
   3   0.0
   12  22  10  0
   50  .17 600
   0 0
12 fm5
   3   0.0
   13  0   11  0
   50  .21 600
   0 0
13 junc_6
   3   0.0
   14  0   12  23
   50  .23 600
   0 0
14 tunnel
   3   0.0
   15  0   13  0
   50  .81 600
   0 0
15 junc_7
   3   0.0
```

```
   16  0   14  26
   50   .15  600
   0  0
16  east
   3   0.0
   0   0   15  0
   50   .35  600
   0  0
17  c&d
   12  0.0
   0   0   15  0
   50   12   600
   0  0
18  curtis_bay
   3   0.0
   0   5   0   0
   50  2.3  400
   0  0
19  e_dundalk
   3   0.0
   0   0   0   7
   38  .69  300
   0  0
20  w_dundalk
   3   0.0
   0   21  0   9
   42  .81  350
   0  0
21  sd_connect
   3   0.0
   0   0   0   20
   42  .46  350
   0  0
22  w_seagirt
   3   0.0
   0   0   0   11
   42  .58  500
   0  0
23  ferry_bar
   3   0.0
   0   13  0   24
   42  2  600
```

```
   0 0
24  j_fb
   3   0.0
   25  23  0   0
   42  .17  600
   0 0
25  slpt
   3   0.0
   0   0   24  0
   50   .29  600
   0 0
26  west
   3   0.0
   0   15  0   0
   50   3.5 600
   0 0


25
A1  73  25  482  17  17  738  140       0  72
A2  94  34  676  18  18  1270 141.4     0  72
A3  112 41  853  20  20  1492 142.12    0  72
A4  117 43  905  20  20  1664 142.12    0  72
AA  76  32  542  17  17  751  141.4   417  72
AB  64  25  447  17  17  576  140     417  72
AE  76  32  542  17  17  751  141.4     0  72
AF  64  25  447  17  17  576  140       0  72
DA  67  28  478  14  14  564  140     417  72
DB  83  34  583  14  14  692  141.4   417  72
DC  105 43  717  14  14  888  142.12  417  72
DD  119 49  780  14  14  1049 142.12  417  72
DE  136 55  910  14  14  1233 142.6   417  72
EC  109 42  585  14  14  1158 141.4   417  72
ED  125 47  800  14  14  1293 142.12  417  72
FA  76  30  519  14  14  891  141.4   417  72
FB  87  34  585  14  14  971  141.4   417  72
FC  109 42  585  14  14  1158 141.4   417  72
FD  125 47  800  14  14  1293 142.12  417  72
HB  64  25  447  17  17  576  140     417  72
PA  76  30  519  14  14  891  141.4   417  72
PB  87  34  585  14  14  971  141.4   417  72
```

```
PC   109 42   585 14   14   1158 141.4    417 72
PD   125 47   800 14   14   1293 142.12   417 72
TOW  150 25   800 15   15   0    0        0 72

0

1000  .5  .5  .95
5
  0    1.0
 .25   1.0
 .38   .5
 .53   .375
 1.0   .375
1000  .95  .75  .50
1.0
5
  0    1.0
 .25   1.0
 .38   .500
 .53   .333
 1.00  .333

2. 4.


1   anc1 2
    35
    550 550
    0
    9999
2   anc2 3
    25
    550  550  550
    0
    9999
3   anc3 3
    35
    550  550  550
    0
    9999
4   anc4 2
    25
```

```
   550  550
   0
   9999
5   anc5 3
   20
   550  550  550
   0
   9999
6   anc6 3
   25
   550  550  550
   0
   9999
7   annap    9999

   5  73
   1  365
```

```
<SMOOTH Baltimore existing condition<
TOW.INFO  0  .25
```

(1) **[this file appears to be a "Seasonal file", as described in User's Manual, pages 22- 24. The user is not told the meaning of the various parameters]**

```
39
  AGRICO
    26  .57    0.0
    0  0
    1
    24  .75  .5
    0.0
    0.0
  AMSTAR
    26  2.08    0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
  APEX
    26  2.84    0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
  ATLTERM
    26  2.84    0.0
    0   0
    2
    24  .75  .5
    0.0
    0.0
  ATT
    23  1.32    0.0
    0   0
    2
    24  .75  .5
    0.0
    0.0
```

```
BAYSIDE
   26  2.08    0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
CANTGRN
   26  .95     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
CBORE
   18  1.95    0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
CHESA
   18  1.95    0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
CLINTON
   26  .95     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
CONOCO
   26  2.27    0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
```

```
CONSOL
   26  .75     0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
CURTISBAY
   26  2.65    0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
DMT
   20  .6      0.0
   0   0
   13
   24  .75 .5
   0.0
   0.0
HAWKINS
   18  2.08    0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
HESS
   26  1.7     0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
LAZA
   26  .76     0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
```

```
LPT
   26  2.08     0.0
   0   0
   6
   24  .75  .5
   0.0
   0.0
NATGYP
   26  .38      0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
NAVAL
   26  2.65     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
NLPT
   26  2.46     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
PERIDOT
   18  1.95     0.0
   0   0
   2
   24  .75  .5
   0.0
   0.0
SEAGIRT
   22  .4       0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
```

```
SEALAND
   8   .05      0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
SLPT
   23  .95      0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
SPPT
   3   1.5      0.0
   0   0
   4
   24  .75  .5
   0.0
   0.0
STT
   26  2.84     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
TOYOTA
   26  3.03     0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
USGYP
   18  .95      0.0
   0   0
   1
   24  .75  .5
   0.0
   0.0
```

```
VISTA
   12  .01     0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
WWALL
   26  3.41    0.0
   0   0
   1
   24  .75 .5
   0.0
   0.0
SEA
   1   .01 .16
   24  15
   A1  .02 6
      DMT      9
      SLPT     8
      SPPT     2
      LPT      1
      SEALAND  1
      CANTGRN  1
   A2  .16 4
      SEAGIRT  49
      SLPT     32
      DMT      65
      USGYP    1
   A3  .04 3
      SEAGIRT  22
      DMT      13
      SPPT     1
   A4  .02 2
      DMT      18
      SEAGIRT  1
   AA  .11 8
      DMT      46
      LPT      11
      SLPT     43
      LAZA     4
      AMSTAR   5
```

```
    NLPT     4
    SEAGIRT  7
    STT      1
 AB  .02  9
    DMT      6
    CANTGRN  2
    LAZA     4
    AMSTAR   2
    CLINTON  2
    SLPT     3
    WWALL    3
    CBORE    1
    CONSOL   1
 AE  .18  6
    DMT      112
    ATLTERM  12
    SLPT     31
    TOYOTA   14
    CHESA    5
    USGYP    1
 AF  .02  1
    DMT      18
 DA  .04  10
    SLPT     4
    USGYP    22
    NATGYP   6
    DMT      6
    SPPT     5
    AMSTAR   2
    CLINTON  2
    NLPT     3
    CONSOL   1
    AGRICO   1
 DB  .11  15
    CANTGRN  8
    LPT      13
    SLPT     5
    HAWKINS  6
    CLINTON  8
    DMT      36
    AMSTAR   5
    SPPT     6
```

```
    BAYSIDE  21
    CONSOL   7
    ATT      4
    NLPT     1
    CHESA    1
    CBORE    1
    USGYP    1
DC  .05  12
    SPPT     24
    AMSTAR   1
    CONSOL   13
    SLPT     1
    NLPT     8
    STT      1
    BAYSIDE  6
    CLINTON  1
    DMT      1
    USGYP    2
    HAWKINS  1
    LPT      1
DD  .01  2
    CONSOL   2
    SPPT     3
DE  .01  3
    CONSOL   11
    BAYSIDE  2
    SPPT     1
EC  .01  5
    CONSOL   3
    CLINTON  1
    BAYSIDE  1
    DMT      1
    HESS     1
ED  .01  2
    CONSOL   6
    BAYSIDE  2
FA  .01  2
    STT      1
    USGYP    1
FB  .01  1
    DMT      1
FC  .01  5
```

```
        APEX    2
        HESS    7
        STT     3
        NLPT    1
        LPT     1
    FD  .02 4
        APEX    3
        CLINTON 3
        LPT     1
        HESS    1
    HB  .07 5
        TOYOTA  19
        SEAGIRT 6
        DMT     42
        ATLTERM 11
        CHESA   6
    PA  .03 6
        SLPT    3
        STT     10
        NLPT    2
        DMT     1
        PERIDOT 5
        VISTA   8
    PB  .01 3
        STT     1
        DMT     1
        PERIDOT 1
    PC  .02 6
        NLPT    3
        HESS    2
        LAZA    1
        STT     2
        VISTA   1
        CONOCO  1
    PD  .01 2
        DMT     1
        HESS    1
    9999
    0   .75 .5
    0.0
    0.0
ANC1_LOCN
```

```
    11  .1  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANC2_LOCN
    10  .8  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANC3_LOCN
    10  .4  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANC4_LOCN
    7  .1  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANC5_LOCN
    6  .2  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANC6_LOCN
    6  .1  -10
    0 0
    1
    999.0  0.0  0.0
    0.0
    0.0
ANNAP_LOCN
```

```
1   .1   -10
0 0
1
999.0  0.0  0.0
0.0
0.0
```

SIMULATION RUN

This simulation run was completed on 06/21/96 using input files BST.DAT and SMOOTH.DAT.

It is recommended that a detailed explanation of all variables in the output format be provided for the user in the User's Manual. Also, instructions should be provided to the user to modify the input files using the DOS Text Editor or other appropriate text editor. By modifying some of the parameters in the input files, the user can conduct sensitivity analysis to reflect variations in channel geometries and traffic patterns (vessel speed, types of vessels, origin-destination routes, etc.)

```
SimLab> assi 7 > sm7.out
SimLab> assi 8 > sm8.out
SimLab> assi 9 > sm9.out
SimLab> run
Linking CHANNEL...
Task SIML [97E0] initiated at 15:02:41
 PC SIMSCRIPT II.5  Linker
Missing MAIN
Task SIML [97E0] 15:02:41
Fatal error(s) detected by linker
SimLab> ?
   PC SIMSCRIPT II.5     r2.41a                                Num                    NUL

SIMLABáá[CHANNEL]ááááááááááááááááááááááááááááááááááááááááááááááááááááááááááááááááááááá



 PC SIMSCRIPT II.5  SimLab (R)

SimLab> select channel
Subdirectory selected
SimLab> assi 3 < hsc40.dat
SimLab> assi 3 < bst.dat
Previous assignment for unit  3 replaced
SimLab> assi 2 < smooth.dat
SimLab> assi 7 > sm7.out
SimLab> assi 8 > sm8.out
SimLab> assi 9 > sm9.out
SimLab> run
Linking CHANNEL...
Task SIML [97E0] initiated at 15:02:41
 PC SIMSCRIPT II.5  Linker
Missing MAIN
Task SIML [97E0] 15:02:41
Fatal error(s) detected by linker
SimLab> ?
   PC SIMSCRIPT II.5     r2.41a                                Num                    NUL
dir/p

 Volume in drive A has no label
 Directory of A:\

SIMLAB2   (C)            512 05-31-91  11:27a
SIM          <DIR>           05-31-91  11:45a
        2 file(s)              512 bytes
                           303,616 bytes free

A:\>
NEWDIR    DAT            111 09-05-90   5:18p
OLDDIR    DAT              1 08-14-90   4:05p
OLDFIL    DAT            541 08-08-90   6:48a
RUNDIR    DAT             32 09-05-90   5:45p
DRIVFIL   DAT            640 02-06-91  10:37a
SIMLAB1   (C)            512 05-31-91  11:26a
INSTALL   EXE         81,632 05-31-91  11:17a
RUNFIL    DAT            512 01-28-91  10:54a
SIM          <DIR>           05-31-91  11:28a
BST       DAT          4,321 05-26-95   1:10p
SMOOTH    DAT          9,032 05-19-95   2:20p
       14 file(s)        108,342 bytes
                         407,552 bytes free

A:\>dir/p

 Volume in drive A has no label
```

RIV-2

SIMSCRIPT II.5

Questions regarding the Installation, Application, or use of this product should be directed to the Technical Support Hotline:

CACI Products Company
3344 North Torrey Pines Court
La Jolla, California 92037

(619) 455-6300 x 156 [Voice]
(619) 458-0031 [FAX]
e-mail: support@cacilj.cts.com

If you have an attached printer, you may wish to press Shift-PrtSc to print a copy of this screen for future reference.

Hit any key to continue... Esc or "Q" to quit

RUN-3

SMOOTH.DAT INPUT FILE USED TO RUN SOFTWARE.

```
SMOOTH Baltimore existing condition

Existing condition structure file

      today is 06/21/1996
      time  is 15:10:57

        seed1                2116429302
        seed2                 683743814
        seed3                 964393174
        seed5                 618433579
        seed10                477424540
tow count =        0
   R.NXT.MOVE time is    146.19
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =     3.126 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat     11141633, wide+2.400000E+011 task     3.12573681
                                         tbk+2.40000000E+011
   checking     149.313824 vs.+2.400000E+011
   R.NXT.MOVE time is    147.10
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =     2.215 ta+2.40E+011 tp+2.40E+011 tm     1.102 tw+2.40E+011
   boat     11141633, wide+2.400000E+011 task     1.10214646
                                         tbk+2.40000000E+011
   checking     148.200712 vs.+2.400000E+011
   R.NXT.MOVE time is    148.21
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =     1.104 ta+2.40E+011 tp+2.40E+011 tm      .565 tw+2.40E+011
   boat     11141633, wide+2.400000E+011 task      .56532313
                                         tbk+2.40000000E+011
   checking     148.775224 vs.+2.400000E+011
   R.NXT.MOVE time is    148.78
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =      .530 ta+2.40E+011 tp+2.40E+011 tm      .268 tw+2.40E+011
   boat     11141633, wide+2.400000E+011 task      .26827083
                                         tbk+2.40000000E+011
   checking     149.052473 vs.+2.400000E+011
   R.NXT.MOVE time is    149.06
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =      .252 ta+2.40E+011 tp+2.40E+011 tm      .125 tw+2.40E+011
   boat     11141633, wide+2.400000E+011 task      .12486622
                                         tbk+2.40000000E+011
   checking     149.186317 vs.+2.400000E+011
   R.NXT.MOVE time is    149.20
```

```
boat        41  class =        2
backup = false
pres.cell =      1 next.cell =      2
tn =       .119 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .11851742
                                       tbk+2.40000000E+011
checking      149.313824 vs.+2.400000E+011
R.NXT.MOVE time is    149.31
boat        41  class =        2
backup = false
pres.cell =      2 next.cell =      3
tn =       .006 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .00578947
                                       tbk+2.40000000E+011
checking      149.319613 vs.+2.400000E+011
R.NXT.MOVE time is    149.32
boat        41  class =        2
backup = false
pres.cell =      3 next.cell =      4
tn =       .145 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .14473684
                                       tbk+2.40000000E+011
checking      149.464350 vs.+2.400000E+011
R.NXT.MOVE time is    149.46
boat        41  class =        2
backup = false
pres.cell =      4 next.cell =      5
tn =       .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .03148026
                                       tbk+2.40000000E+011
checking      149.495831 vs.+2.400000E+011
R.NXT.MOVE time is    149.50
boat        41  class =        2
backup = false
pres.cell =      5 next.cell =      6
tn =       .116 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .11578947
                                       tbk+2.40000000E+011
checking      149.611620 vs.+2.400000E+011
R.NXT.MOVE time is    149.61
boat        41  class =        2
backup = false
pres.cell =      6 next.cell =      7
tn =       .084 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .08394736
                                       tbk+2.40000000E+011
checking      149.695567 vs.+2.400000E+011
R.NXT.MOVE time is    149.70
boat        41  class =        2
backup = false
pres.cell =      7 next.cell =      8
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .06078947
                                       tbk+2.40000000E+011
checking      149.756357 vs.+2.400000E+011
```

RESULTS-2

```
R.NXT.MOVE time is    149.76
boat        41  class =        2
backup = false
pres.cell =     8 next.cell =     9
tn =      .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .06078947
                                       tbk+2.40000000E+011
checking     149.817146 vs.+2.400000E+011
R.NXT.MOVE time is    149.88
boat        41  class =        2
backup = false
pres.cell =    20 next.cell =    21
tn =+2.40E+011 ta      .174 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .17368422
                                       tbk+2.40000000E+011
checking     150.057497 vs.+2.400000E+011
R.NXT.MOVE time is    176.56
boat        41  class =        2
backup = false
pres.cell =    20 next.cell =     9
tn =      .174 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .17368422
                                       tbk+2.40000000E+011
checking     176.731181 vs.+2.400000E+011
R.NXT.MOVE time is    176.80
boat        41  class =        2
backup = false
pres.cell =     8 next.cell =     7
tn =      .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .06078947
                                       tbk+2.40000000E+011
checking     176.858638 vs.+2.400000E+011
R.NXT.MOVE time is    176.86
boat        41  class =        2
backup = false
pres.cell =     7 next.cell =     6
tn =      .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .06078947
                                       tbk+2.40000000E+011
checking     176.919427 vs.+2.400000E+011
R.NXT.MOVE time is    176.92
boat        41  class =        2
backup = false
pres.cell =     6 next.cell =     5
tn =      .084 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .08394736
                                       tbk+2.40000000E+011
checking     177.003374 vs.+2.400000E+011
R.NXT.MOVE time is    177.00
boat        41  class =        2
backup = false
pres.cell =     5 next.cell =     4
tn =      .116 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task      .11578947
                                       tbk+2.40000000E+011
```

RESULTS-3

```
checking     177.119164 vs.+2.400000E+011
R.NXT.MOVE time is    177.12
boat       41  class =        2
backup = false
pres.cell =     4 next.cell =     3
tn =      .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .03148026
                                      tbk+2.40000000E+011
checking     177.150644 vs.+2.400000E+011
R.NXT.MOVE time is    177.15
boat       41  class =        2
backup = false
pres.cell =     3 next.cell =     2
tn =      .145 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .14473684
                                      tbk+2.40000000E+011
checking     177.295381 vs.+2.400000E+011
R.NXT.MOVE time is    177.30
boat       41  class =        2
backup = false
pres.cell =     2 next.cell =     1
tn =      .006 ta+2.40E+011 tp+2.40E+011 tm     1.614 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .00578947
                                      tbk+2.40000000E+011
checking     177.301170 vs.+2.400000E+011
R.NXT.MOVE time is    177.30
boat       41  class =        2
backup = false
pres.cell =     1 next.cell =     0
tn =+2.40E+011 ta     3.126 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task     3.12573681
                                      tbk+2.40000000E+011
checking     180.426907 vs.+2.400000E+011
R.NXT.MOVE time is    179.94
boat       41  class =        2
backup = false
pres.cell =     1 next.cell =     0
tn =+2.40E+011 ta      .489 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .48899014
                                      tbk+2.40000000E+011
checking     180.426907 vs.+2.400000E+011
R.NXT.MOVE time is    180.30
boat       41  class =        2
backup = false
pres.cell =     1 next.cell =     0
tn =+2.40E+011 ta      .128 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141633, wide+2.400000E+011 task       .12810737
                                      tbk+2.40000000E+011
checking     180.426907 vs.+2.400000E+011
WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is1752.000000
 from port              1 waiting list        0
 from port              2 waiting list        0
 from port              3 waiting list        0
 from port              4 waiting list        0
 from port              5 waiting list        0
```

RESULTS-4

```
     from port              6 waiting list        0
     from port              7 waiting list        0
     from port              8 waiting list        0
     from port              9 waiting list        0
     from port             10 waiting list        0
     from port             11 waiting list        0
     from port             12 waiting list        0
     from port             13 waiting list        0
     from port             14 waiting list        0
     from port             15 waiting list        0
     from port             16 waiting list        0
     from port             17 waiting list        0
     from port             18 waiting list        0
     from port             19 waiting list        0
     from port             20 waiting list        0
     from port             21 waiting list        0
     from port             22 waiting list        0
     from port             23 waiting list        0
     from port             24 waiting list        0
     from port             25 waiting list        0
     from port             26 waiting list        0
     from port             27 waiting list        0
     from port             28 waiting list        0
     from port             29 waiting list        0
     from port             30 waiting list        0
     from port             31 waiting list        0
     from port             32 waiting list        0
     from port             33 waiting list        0
     from port             34 waiting list        0
     from port             35 waiting list        0
     from port             36 waiting list        0
     from port             37 waiting list        0
     from port             38 waiting list        0
     from port             39 waiting list        0
transiting boats          8
R.REINIT - reinitialize the system

       today is 06/21/1996
       time  is 15:11:18

         seed1                977627078
         seed2                683743814
         seed3                214464419
         seed5                628678078
         seed10               477424540
tow count =        0
   R.NXT.MOVE time is    171.00
   boat       41  class =        6
   backup = false
   pres.cell =     1 next.cell =     2
   tn =     3.126 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat     11141582, wide+2.400000E+011 task     3.12573681
                                          tbk+2.40000000E+011
   checking     174.128027 vs.+2.400000E+011
   R.NXT.MOVE time is    174.13
```

```
boat        41  class =        6
backup = false
pres.cell =     2 next.cell =     3
tn =      .006 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .00578947
                                       tbk+2.40000000E+011
checking     174.133816 vs.+2.400000E+011
R.NXT.MOVE time is    174.13
boat        41  class =        6
backup = false
pres.cell =     3 next.cell =     4
tn =      .145 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .14473684
                                       tbk+2.40000000E+011
checking     174.278553 vs.+2.400000E+011
R.NXT.MOVE time is    174.28
boat        41  class =        6
backup = false
pres.cell =     4 next.cell =     5
tn =      .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .03148026
                                       tbk+2.40000000E+011
checking     174.310034 vs.+2.400000E+011
R.NXT.MOVE time is    174.38
boat        41  class =        6
backup = false
pres.cell =    18 next.cell =     0
tn =+2.40E+011 ta      .564 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .56447369
                                       tbk+2.40000000E+011
checking     174.941174 vs.+2.400000E+011
R.NXT.MOVE time is    201.44
boat        41  class =        6
backup = false
pres.cell =    18 next.cell =     5
tn =      .564 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .56447369
                                       tbk+2.40000000E+011
checking     202.005648 vs.+2.400000E+011
R.NXT.MOVE time is    202.07
boat        41  class =        6
backup = false
pres.cell =     4 next.cell =     3
tn =      .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .03148026
                                       tbk+2.40000000E+011
checking     202.103794 vs.+2.400000E+011
R.NXT.MOVE time is    202.10
boat        41  class =        6
backup = false
pres.cell =     3 next.cell =     2
tn =      .145 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .14473684
                                       tbk+2.40000000E+011
checking     202.248531 vs.+2.400000E+011
```

```
R.NXT.MOVE time is    202.25
boat        41  class =        6
backup = false
pres.cell =     2 next.cell =     1
tn =      .006 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task      .00578947
                                      tbk+2.40000000E+011
checking     202.254321 vs.+2.400000E+011
R.NXT.MOVE time is    202.25
boat        41  class =        6
backup = false
pres.cell =     1 next.cell =     0
tn =+2.40E+011 ta     3.126 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat     11141582, wide+2.400000E+011 task     3.12573681
                                      tbk+2.40000000E+011
checking     205.380058 vs.+2.400000E+011
WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is1752.000000
 from port              1 waiting list        0
 from port              2 waiting list        0
 from port              3 waiting list        0
 from port              4 waiting list        0
 from port              5 waiting list        0
 from port              6 waiting list        0
 from port              7 waiting list        0
 from port              8 waiting list        0
 from port              9 waiting list        0
 from port             10 waiting list        0
 from port             11 waiting list        0
 from port             12 waiting list        0
 from port             13 waiting list        0
 from port             14 waiting list        0
 from port             15 waiting list        0
 from port             16 waiting list        0
 from port             17 waiting list        0
 from port             18 waiting list        0
 from port             19 waiting list        0
 from port             20 waiting list        0
 from port             21 waiting list        0
 from port             22 waiting list        0
 from port             23 waiting list       56
 from port             24 waiting list        0
 from port             25 waiting list        1
 from port             26 waiting list        0
 from port             27 waiting list        0
 from port             28 waiting list        0
 from port             29 waiting list        7
 from port             30 waiting list        3
 from port             31 waiting list        0
 from port             32 waiting list        0
 from port             33 waiting list        0
 from port             34 waiting list        0
 from port             35 waiting list        0
 from port             36 waiting list        0
 from port             37 waiting list        0
 from port             38 waiting list        0
```

RESULTS-7

```
    from port              39 waiting list        0
transiting boats          10
R.REINIT - reinitialize the system

       today is 06/21/1996
       time  is 15:11:37

         seed1                1063949095
         seed2                 683743814
         seed3                1052768847
         seed5                2140117916
         seed10                477424540
tow count =         0
   R.NXT.MOVE time is    157.24
   boat        41  class =        10
   backup = false
   pres.cell =      1 next.cell =      2
   tn =      3.349 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat      11141729, wide+2.400000E+011 task      3.34900389
                                          tbk+2.40000000E+011
   checking      160.586626 vs.+2.400000E+011
   R.NXT.MOVE time is    160.59
   boat        41  class =        10
   backup = false
   pres.cell =      2 next.cell =      3
   tn =       .006 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat      11141729, wide+2.400000E+011 task       .00620301
                                          tbk+2.40000000E+011
   checking      160.592829 vs.+2.400000E+011
   R.NXT.MOVE time is    160.59
   boat        41  class =        10
   backup = false
   pres.cell =      3 next.cell =      4
   tn =       .145 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat      11141729, wide+2.400000E+011 task       .14473684
                                          tbk+2.40000000E+011
   checking      160.737566 vs.+2.400000E+011
   R.NXT.MOVE time is    160.74
   boat        41  class =        10
   backup = false
   pres.cell =      4 next.cell =      5
   tn =       .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat      11141729, wide+2.400000E+011 task       .03148026
                                          tbk+2.40000000E+011
   checking      160.769046 vs.+2.400000E+011
   R.NXT.MOVE time is    160.77
   boat        41  class =        10
   backup = false
   pres.cell =      5 next.cell =      6
   tn =       .116 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
   boat      11141729, wide+2.400000E+011 task       .11578947
                                          tbk+2.40000000E+011
   checking      160.884836 vs.+2.400000E+011
   R.NXT.MOVE time is    160.88
   boat        41  class =        10
```

RESULTS-8

```
backup = false
pres.cell =      6 next.cell =      7
tn =       .084 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .08394736
                                        tbk+2.40000000E+011
checking      160.968783 vs.+2.400000E+011
R.NXT.MOVE time is     160.97
boat        41  class =        10
backup = false
pres.cell =      7 next.cell =      8
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      161.029573 vs.+2.400000E+011
R.NXT.MOVE time is     161.03
boat        41  class =        10
backup = false
pres.cell =      8 next.cell =      9
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      161.090362 vs.+2.400000E+011
R.NXT.MOVE time is     161.16
boat        41  class =        10
backup = false
pres.cell =     20 next.cell =     21
tn =+2.40E+011 ta       .174 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .17368422
                                        tbk+2.40000000E+011
checking      161.330713 vs.+2.400000E+011
R.NXT.MOVE time is     187.83
boat        41  class =        10
backup = false
pres.cell =     20 next.cell =      9
tn =       .174 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .17368422
                                        tbk+2.40000000E+011
checking      188.004397 vs.+2.400000E+011
R.NXT.MOVE time is     188.07
boat        41  class =        10
backup = false
pres.cell =      8 next.cell =      7
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      188.131853 vs.+2.400000E+011
R.NXT.MOVE time is     188.13
boat        41  class =        10
backup = false
pres.cell =      7 next.cell =      6
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      188.192643 vs.+2.400000E+011
R.NXT.MOVE time is     188.19
```

```
boat        41  class =        10
backup = false
pres.cell =      6 next.cell =      5
tn =       .084 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .08394736
                                        tbk+2.40000000E+011
checking      188.276590 vs.+2.400000E+011
R.NXT.MOVE time is    188.28
boat        41  class =        10
backup = false
pres.cell =      5 next.cell =      4
tn =       .116 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .11578947
                                        tbk+2.40000000E+011
checking      188.392380 vs.+2.400000E+011
R.NXT.MOVE time is    188.39
boat        41  class =        10
backup = false
pres.cell =      4 next.cell =      3
tn =       .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .03148026
                                        tbk+2.40000000E+011
checking      188.423860 vs.+2.400000E+011
R.NXT.MOVE time is    188.42
boat        41  class =        10
backup = false
pres.cell =      3 next.cell =      2
tn =       .145 ta+2.40E+011 tp+2.40E+011 tm       .066 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .06551535
                                        tbk+2.40000000E+011
checking      188.489375 vs.+2.400000E+011
R.NXT.MOVE time is    188.51
boat        41  class =        10
backup = false
pres.cell =      3 next.cell =      2
tn =       .058 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .05808662
                                        tbk+2.40000000E+011
checking      188.568597 vs.+2.400000E+011
R.NXT.MOVE time is    188.57
boat        41  class =        10
backup = false
pres.cell =      2 next.cell =      1
tn =       .006 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task       .00620301
                                        tbk+2.40000000E+011
checking      188.574800 vs.+2.400000E+011
R.NXT.MOVE time is    188.57
boat        41  class =        10
backup = false
pres.cell =      1 next.cell =      0
tn =+2.40E+011 ta      3.349 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141729, wide+2.400000E+011 task      3.34900389
                                        tbk+2.40000000E+011
checking      191.923804 vs.+2.400000E+011
```

RESULTS-10

```
WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is1752.000000
    from port              1 waiting list        0
    from port              2 waiting list        0
    from port              3 waiting list        0
    from port              4 waiting list        0
    from port              5 waiting list        0
    from port              6 waiting list        9
    from port              7 waiting list        2
    from port              8 waiting list        2
    from port              9 waiting list        0
    from port             10 waiting list        0
    from port             11 waiting list        0
    from port             12 waiting list        0
    from port             13 waiting list        0
    from port             14 waiting list        0
    from port             15 waiting list        0
    from port             16 waiting list        0
    from port             17 waiting list        0
    from port             18 waiting list        0
    from port             19 waiting list        3
    from port             20 waiting list        0
    from port             21 waiting list        8
    from port             22 waiting list        0
    from port             23 waiting list       52
    from port             24 waiting list        0
    from port             25 waiting list       58
    from port             26 waiting list        0
    from port             27 waiting list        0
    from port             28 waiting list       15
    from port             29 waiting list       10
    from port             30 waiting list        3
    from port             31 waiting list        0
    from port             32 waiting list        0
    from port             33 waiting list        0
    from port             34 waiting list        0
    from port             35 waiting list        0
    from port             36 waiting list        0
    from port             37 waiting list        0
    from port             38 waiting list        0
    from port             39 waiting list        0
transiting boats          5
R.REINIT - reinitialize the system

       today is 06/21/1996
       time  is 15:11:51

         seed1                490611474
         seed2                683743814
         seed3               1077320315
         seed5               1408737831
         seed10               477424540
tow count =         0
   R.NXT.MOVE time is    128.95
   boat       41  class =        5
   backup = false
```

RESULTS-11

```
pres.cell =      1 next.cell =      2
tn =      3.126 ta+2.40E+011 tp+2.40E+011 tm       .512 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .51188029
                                        tbk+2.40000000E+011
checking      129.465611 vs.+2.400000E+011
R.NXT.MOVE time is    128.95
boat        41  class =        5
backup = false
pres.cell =      1 next.cell =      2
tn =      3.126 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task      3.12573681
                                        tbk+2.40000000E+011
checking      132.079467 vs.+2.400000E+011
R.NXT.MOVE time is    132.08
boat        41  class =        5
backup = false
pres.cell =      2 next.cell =      3
tn =       .006 ta+2.40E+011 tp+2.40E+011 tm       .061 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .00578947
                                        tbk+2.40000000E+011
checking      132.085257 vs.+2.400000E+011
R.NXT.MOVE time is    132.09
boat        41  class =        5
backup = false
pres.cell =      3 next.cell =      4
tn =       .145 ta+2.40E+011 tp+2.40E+011 tm       .066 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .06551535
                                        tbk+2.40000000E+011
checking      132.150772 vs.+2.400000E+011
R.NXT.MOVE time is    132.15
boat        41  class =        5
backup = false
pres.cell =      3 next.cell =      4
tn =       .077 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .07747541
                                        tbk+2.40000000E+011
checking      132.229994 vs.+2.400000E+011
R.NXT.MOVE time is    132.23
boat        41  class =        5
backup = false
pres.cell =      4 next.cell =      5
tn =       .031 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .03148026
                                        tbk+2.40000000E+011
checking      132.261474 vs.+2.400000E+011
R.NXT.MOVE time is    132.26
boat        41  class =        5
backup = false
pres.cell =      5 next.cell =      6
tn =       .116 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .11578947
                                        tbk+2.40000000E+011
checking      132.377264 vs.+2.400000E+011
R.NXT.MOVE time is    132.38
boat        41  class =        5
```

```
backup = false
pres.cell =      6 next.cell =      7
tn =       .084 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .08394736
                                        tbk+2.40000000E+011
checking      132.461211 vs.+2.400000E+011
R.NXT.MOVE time is    132.46
boat        41  class =        5
backup = false
pres.cell =      7 next.cell =      8
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      132.522000 vs.+2.400000E+011
R.NXT.MOVE time is    132.52
boat        41  class =        5
backup = false
pres.cell =      8 next.cell =      9
tn =       .061 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .06078947
                                        tbk+2.40000000E+011
checking      132.582790 vs.+2.400000E+011
R.NXT.MOVE time is    132.58
boat        41  class =        5
backup = false
pres.cell =      9 next.cell =     10
tn =       .035 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .03473684
                                        tbk+2.40000000E+011
checking      132.617527 vs.+2.400000E+011
R.NXT.MOVE time is    132.62
boat        41  class =        5
backup = false
pres.cell =     10 next.cell =     11
tn =       .333 ta+2.40E+011 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .33289473
                                        tbk+2.40000000E+011
checking      132.950421 vs.+2.400000E+011
R.NXT.MOVE time is    132.95
boat        41  class =        5
backup = false
pres.cell =     11 next.cell =     12
tn =+2.40E+011 ta       .029 tp+2.40E+011 tm+2.40E+011 tw+2.40E+011
boat      11141827, wide+2.400000E+011 task       .02894737
                                        tbk+2.40000000E+011
checking      132.979369 vs.+2.400000E+011
WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is1752.000000
 from port              1 waiting list        0
 from port              2 waiting list        0
 from port              3 waiting list        0
 from port              4 waiting list        0
 from port              5 waiting list        0
 from port              6 waiting list       11
 from port              7 waiting list        4
 from port              8 waiting list        1
```

```
    from port              9 waiting list        0
    from port             10 waiting list        7
    from port             11 waiting list        0
    from port             12 waiting list        0
    from port             13 waiting list        0
    from port             14 waiting list       31
    from port             15 waiting list        2
    from port             16 waiting list        0
    from port             17 waiting list        0
    from port             18 waiting list        0
    from port             19 waiting list        1
    from port             20 waiting list        0
    from port             21 waiting list       16
    from port             22 waiting list        0
    from port             23 waiting list       39
    from port             24 waiting list        0
    from port             25 waiting list       60
    from port             26 waiting list        0
    from port             27 waiting list        0
    from port             28 waiting list       17
    from port             29 waiting list        9
    from port             30 waiting list        6
    from port             31 waiting list        0
    from port             32 waiting list        0
    from port             33 waiting list        0
    from port             34 waiting list        0
    from port             35 waiting list        0
    from port             36 waiting list        0
    from port             37 waiting list        0
    from port             38 waiting list        0
    from port             39 waiting list        0
transiting boats          5
R.REINIT - reinitialize the system

       today is 06/21/1996
       time  is 15:12:03

         seed1               1369559351
         seed2                683743814
         seed3                969018896
         seed5               2056084433
         seed10               477424540
tow count =        0
   R.NXT.MOVE time is    159.99
   boat       41  class =        2
   backup = false
   pres.cell =     1 next.cell =     2
   tn =+2.40E+011 ta       .005 tp+2.40E+011 tm     1.611 tw+2.40E+011
   boat     11142856, wide+2.400000E+011 task      .00521053
                                          tbk+2.40000000E+011
   checking     159.996253 vs.+2.400000E+011
WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is1752.000000
    from port              1 waiting list        0
    from port              2 waiting list        0
    from port              3 waiting list        0
```

```
    from port          4 waiting list      0
    from port          5 waiting list      0
    from port          6 waiting list     14
    from port          7 waiting list      5
    from port          8 waiting list      0
    from port          9 waiting list      7
    from port         10 waiting list     10
    from port         11 waiting list      0
    from port         12 waiting list      0
    from port         13 waiting list      0
    from port         14 waiting list    179
    from port         15 waiting list      3
    from port         16 waiting list      0
    from port         17 waiting list      0
    from port         18 waiting list      0
    from port         19 waiting list      1
    from port         20 waiting list      0
    from port         21 waiting list     11
    from port         22 waiting list      0
    from port         23 waiting list     47
    from port         24 waiting list      0
    from port         25 waiting list     57
    from port         26 waiting list      0
    from port         27 waiting list      0
    from port         28 waiting list     16
    from port         29 waiting list     24
    from port         30 waiting list      6
    from port         31 waiting list      0
    from port         32 waiting list      0
    from port         33 waiting list      0
    from port         34 waiting list      0
    from port         35 waiting list      0
    from port         36 waiting list      0
    from port         37 waiting list      0
    from port         38 waiting list      0
    from port         39 waiting list      0
transiting boats      2
R.REINIT - reinitialize the system
#starts      =      496
#exits       =        1.0
                FINAL STATISTICS FOR THE RUN
```

```
~~~~~~~~~~~~~~~~          PASSING STATISTICS          ~~~~~~~~~~~~~~~~
   cell          tow.tow.passes       tow.ship.passes      ship.ship.passes
 cape_henry                 0                    0                    3
 fm1                        0                    0                   22
    TOTALS                  0                    0                   25

~~~~~~~~~~~~~~~~          MEETING STATISTICS          ~~~~~~~~~~~~~~~~
   cell          tow.tow.meetings     tow.ship.meetings    ship.ship.meetings
 cape_henry                 0                    0                  584
 brewerton                  0                    0                   39
 fm1                        0                    0                    7
 junc_2                     0                    0                   36
```

fm2	0	0	17
junc_3	0	0	15
fm3	0	0	34
junc_4	0	0	6
fm4	0	0	16
junc_5	0	0	3
fm5	0	0	4
junc_6	0	0	2
tunnel	0	0	7
w_dundalk	0	0	14
w_seagirt	0	0	2
ferry_bar	0	0	20
west	0	0	5
TOTALS	0	0	811

~~~~~~~~~~~~~~~ SYSTEM COSTS ~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~ finished trips ~~~~~~~~~~~~~~~

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
A1	737272.875	22	2553.780	33512.403	288.70
A2	13925493.000	178	20814.949	78233.107	669.01
A3	2609535.750	35	4062.699	74558.164	642.32
A4	2114658.750	29	3371.360	72919.267	627.24
AA	6485162.000	157	18799.939	41306.764	344.96
AB	866441.000	33	3947.079	26255.788	219.51
AE	12837054.000	303	35772.059	42366.515	358.86
AF	936738.250	29	3369.409	32301.319	278.01
DA	658320.625	29	3452.700	22700.711	190.67
DB	5366353.500	171	20500.313	31382.184	261.77
DC	3361226.750	96	11215.298	35012.779	299.70
DD	975374.750	23	2653.260	42407.598	367.61
DE	1291044.500	24	2908.601	53793.521	443.87
EC	992793.437	21	2566.760	47275.878	386.79
ED	849355.188	15	1827.900	56623.679	464.66
FA	458806.500	13	1627.140	35292.808	281.97
FB	1115315.750	16	1858.880	69707.234	599.99
FC	834096.625	19	2367.400	43899.822	352.33
FD	1516747.125	31	3866.341	48927.327	392.30
HB	2310413.500	89	10647.051	25959.702	217.00
PA	1483002.125	38	4619.341	39026.372	321.04
PB	805592.750	21	2512.640	38361.560	320.62
PC	1433789.750	31	3855.980	46251.282	371.84
PD	985383.063	14	1694.740	70384.504	581.44
TOW	0.	0	0.	0.	0.
TOTAL	$ 64949971.562	1437	170865.619	45198.31	380.12

~~~~~~~~~~~~~~~ unfinished trips ~~~~~~~~~~~~~~~

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
A1	0.	0	0.	0.	0.
A2	3718662.750	7	350.145	531237.536	10620.34
A3	5825270.000	5	179.440	1165054.000	32463.61
A4	38650.523	1	58.090	38650.523	665.36
AA	105792.398	3	130.620	35264.133	809.92
~~~~~~~~~~~~~~~

AB	12445.734	1	61.130	12445.734	203.59
AE	72072.484	5	240.559	14414.497	299.60
AF	17024.871	1	58.090	17024.871	293.08
DA	25440.518	3	178.820	8480.173	142.27
DB	1255221.750	6	234.770	209203.625	5346.60
DC	31959.545	3	68.516	10653.182	466.45
DD	0.	0	0.	0.	0.
DE	0.	0	0.	0.	0.
EC	0.	0	0.	0.	0.
ED	45337.941	1	70.530	45337.941	642.82
FA	0.	0	0.	0.	0.
FB	0.	0	0.	0.	0.
FC	0.	0	0.	0.	0.
FD	14348.086	1	61.130	14348.086	234.71
HB	9593.438	1	58.090	9593.438	165.15
PA	18364.312	1	58.940	18364.312	311.58
PB	0.	0	0.	0.	0.
PC	2060758.000	2	62.640	1030379.000	32898.44
PD	0.	0	0.	0.	0.
TOW	0.	0	0.	0.	0.
TOTALS	13250942.352	41	1871.511	323193.716	7080.35

~~~~~~~~~~~~~~~ SYSTEM DELAYS ~~~~~~~~~~~~~~~

CELL	AVE. DELAYS(hrs.)	#DEPARTURES
cape_henry	8.04042	2596
brewerton	29.94047	96
fm3	30.08274	1
fm4	56.12876	7
junc_5	37.60668	33
fm5	30.77249	4
curtis_bay	31.79244	53
w_dundalk	51.34924	669
w_seagirt	42.07442	33
ferry_bar	84.81228	102
west	35.04654	485
TOTALS	21.7232	4079

~~~~~~~~~~~~~~~ SYSTEM CASUALTIES ~~~~~~~~~~~~~~~

	MEETINGS			PASSINGS		
CELL	tow.tow	tow.ship	ship.ship	tow.tow	tow.ship	ship
TOTALS	0	0	0	0	0	0

~~~~~~~~~~~~~~~ TRAVEL(by cell departed) ~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~ finished trips ~~~~~~~~~~~~~~~

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
brewerton	10673.278	3204.567	3.331
fm3	114.660	33.665	3.406
fm5	471.520	140.180	3.364
curtis_bay	5941.221	1830.813	3.245
w_dundalk	77505.031	36818.871	2.105
w_seagirt	3904.901	1526.399	2.558
ferry_bar	12263.372	9109.753	1.346
west	59991.461	19439.471	3.086
TOTALS	170865.445	72103.718	2.370

~~~~~~~~~~~~~~~ unfinished trips ~~~~~~~~~~~~~~~

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
cape_henry	1547.131	10733.783	.144
curtis_bay	121.130	63.702	1.902
w_dundalk	62.190	34.064	1.826
west	141.060	70.109	2.012
TOTALS	1871.511	10901.659	.172
~~~~~~~~~~~~~~~

Baltimore Harbor Study
Anchorages and Branch Channel Modifications
A Feasibility Analysis

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APPENDIX C - Vessel Arrival Patterns

I. Introduction

In February, 1994, the Industrial and Systems Engineering (INSE) Program at the University of Memphis was asked to be a partner in the study of the Baltimore Harbor, under the leadership of the Baltimore District Corps of Engineers (BCOE). The defined purpose of the study was to investigate the economic viability of anchorage and branch channel modifications in the Baltimore Harbor System.

The primary tool utilized by INSE was a simulation model that had previously been employed by the Galveston District Corps of Engineers on a study of the Houston Ship Channel. Because of the dynamics of the vessel movements and the inability to effectively define an analytical approach to the problem, it was decided that a simulation analysis would be more effective than one based on a queuing strategy.

II. Problem Overview

The Baltimore District prepared a Reconnaissance Report on the Baltimore Harbor Anchorages and Channels in April, 1992. The basic problem, as stated in the report, was to provide "anchorage areas to accommodate larger and more efficient vessels," and to develop branch channels that both increase the number of large vessels that can access Baltimore ports as well as improve the arrival process of vessels in the branches.

The focus of the report was on structural changes at the anchorages and branches. A number of anchorages currently exist in the system, and existing anchorages were targeted. These anchorages could be deepened and widened to accommodate the larger fleet that is anticipated for the future. Currently, the larger vessels are required to anchor primarily at Annapolis, a three-hour trip from the port. The impact on total time required to service such a vessel is significant.

Deepenings and widenings could likewise prove efficient for the branch channels. Vessels

that currently call on a port in such a branch may benefit from decreased access times, while widespread changes could broaden the range of vessels which could call on the ports.

In addition to such structural modifications, there was also the potential for non-structural changes. Such changes could also be accommodated in the simulation, and allow for an assessment of the impact of different management alternatives on system performance.

III. Information Resources

A number of resources were utilized in preparing this analysis for Baltimore. We identify each below, indicating the primary use of the source.

1. *Baltimore Harbor Anchorages and Channels, Maryland: Reconnaissance Report and Supporting Technical Appendices*, Baltimore District, Corps of Engineers, April 1992.

   The reconnaissance report provided the basis for developing the simulation model. From this report, it was determined that the simulation methodology applied in a previous project for the Galveston Corps of Engineers could be substantively applied in Baltimore as well.

2. *Tariff Sheet #6: Pilotage Rates for Chesapeake Bay and Tributaries*, Association of Maryland Pilots, Effective: October 15, 1994.

   This document was utilized to develop approximate hourly pilotage charges for vessels in the system. The charge is based on "pilotage units", which are a function of the vessel's LOA, breadth and depth.

3. *Port Facilities at Baltimore, Maryland*, Water Resources Support Center, Field Data:October, 1989, Aerial Photography: January 1983 and January, 1990.

   These maps were utilized to locate the various port facilities in the system, for input into the simulation model.

4. *The Port of Baltimore, Maryland, Port Series No. 10*, Water Resources Support Center, Revised 1991.

   In conjunction with the maps, this information was utilized to characterize the ports.

5. Vessel Traffic Information, Baltimore Maritime Exchange, 1991-93.

   This information assisted in the calibration of the model.

6. Vessel Forecasts, DRI/McGraw-Hill, 1995.

DRI provided estimate of the numbers of each vessel type calling on the system for the years 2000, 2010, 2020, 2030, 2040, and 2050. These forecasts were used in the simulation to create the representative vessel traffic.

7. Information on the anticipated Masonville Terminal, Maryland Port Administration.

A 1981 study by the Port Administration identified the future need for a new terminal in the system. This terminal is expected to be functional sometime after 2005. The relevant information was utilized in simulations of years following 2005.

8. *Deep Draft Vessel Costs*, Institute For Water Resources.

This information was used to define an average operating cost for each of the vessel types that calls on the Port of Baltimore.

IV. Simulation Overview

A system that is suitable for simulation usually consists of at least one of the following two characteristics. First, the system might contain a significant amount of activity that is probabilistic in nature. Uncertainty of an activity may influence <u>whether</u> the activity occurs, <u>when</u> the activity occurs, and <u>to what level</u> the activity occurs. For instance, in modeling a ship arriving to the system, there are a number of uncertain elements:

- time of arrival to the system
- time to complete service at the dock
- whether the vessel is involved in an encounter (possibly a collision) with a second vessel
- what type of vessel is calling on the port
- etc.

It is noteworthy to point out that at some point in time, these elements may in fact gain certainty. For instance, we might know with accuracy within minutes the arrival times of all vessels calling on the Port tomorrow. However, this analysis must address the issue as an uncertain one, particularly in light of the need to provide some decision-making capabilities over a 50-year period.

The second key system characteristic that lends itself to a simulation analysis is pure complexity. That is, a system may consist of a number of interacting activities, each of which

alone might be amenable to an analytical solution, but not true in the aggregate. Again, with respect to the harbor system, it might be a very straightforward analysis to define the equipment needs of a particular dock in the system. Even if each of these elements alone could be evaluated simply, interaction effects make a global analysis much more difficult. For example, let us again consider the harbor system. There are a number of functions which together define vessel movements:

- vessel transit
- anchorage management
- pilotage
- docking pilot service
- offload/onload
- etc.

The simulation is a "What if...?" type of tool. Each element in the system is defined by what are deemed to be its key characteristics. For instance, in this simulation model, the concept of an anchorage was explicitly developed to indicate an intermediate location at which a vessel could wait while its destination dock is unavailable. Characteristics of the anchorage included in the current model are:

- location
- number of tie-downs
- dimensions of largest vessel that can be accommodated in a tie-down (LOA, draft)

One common element in all simulation models is the employment of various probability distributions. The concept of a probability distribution is that some characteristic might differ over elements in the system, and the distribution indicates how that variation arises. For instance, a number of different vessel classes call on the Port of Baltimore. We define a distribution which ensures that the proportion and numbers of each class are consistent with current observations and future expectations.

It is important to note that the level of detail to which an element is modeled should depend on the questions to be investigated with the simulation model. It is not possible to completely mimic the activity of the system. At the same time, important characteristics should not be omitted. The purpose of this analysis was to consider two fundamental questions:

- What is the impact of restructuring of the anchorages?
- What is the impact of restructuring of branch channels?

With regard to the first question, the model includes the anchorage elements mentioned earlier. Note that redevelopment of an anchorage is a deepening and/or lengthening of one or more tie-downs within the anchorage. The "What if...?" issues that can now be investigated are:

- Which anchorage(s) be should be redeveloped?
- How many anchorages should be redeveloped?
- What dimensions should the redeveloped anchorages be?

With respect to the issue of branch channel modification, the focus was on widening to improve access to the docks. The "What if...?" issues that can now be investigated are:

- Which branch(es) should be modified?
- To what extent should a branch be widened?

The final element that is inherent in most simulation models is the definition of policies. Many systems rely on some sort of decision making, either explicitly or implicitly. Vessel traffic moves at a certain rate, a vessel in an encounter with another vessel acts in some manner, incoming vessels are assigned to anchorages. To be useful, the simulation must imitate actual behavior, or provide a reasonable agreed-upon surrogate. We close this section by noting again that the simulation is a "What if...?" tool. The simulation does not provide a solution to the problem, in the sense that it will suggest the optimal course of action to take. It will provide an understanding of how a particular course of action will impact the system performance.

V. The Model

The simulation model created is essentially an imitation of vessel movements within the Port System. The original model was developed for the Galveston District Corps of Engineers, in an attempt to identify the impact of deepening and widening the main channel. Documentation of the original model is included in Appendix A. The bulk of the simulation as developed for the Houston\Galveston Ship Channels (HSC) can be applied in the Baltimore system as well. The fundamental difference is in the generation of vessel movements.

For the HSC model, the focus was on the interaction between vessels on the channel. As

such, landside activities were insignificant. Vessels arrived to the HSC with a distribution based on historical information. Vessels departed from the various docks at rates consistent with history. No effort was made to coordinate vessel dock arrivals with dock departures. We refer to this as a "vessel-push" system, in the sense that vessels are pushed into the HSC from some outside source, and vessels are pushed out of the docks.

In the Baltimore system, on the other hand, the use of the anchorages is a key question. As such, the interactions of dock activities\vessel and vessel\vessel must be considered. A vessel arriving to the system may not simply proceed to its destination dock, if the dock space is currently being utilized. Similarly, a vessel may not proceed to an anchorage if another vessel is in anchorage. In general, once a vessel has entered the system, its progress from then on is dictated by its destination. We institute a "vessel-pull" system in this case. A dock that is open pulls a waiting vessel in. An anchorage that becomes available pulls a vessel in that might be waiting at the Annapolis anchorage location.

We note that there is a significant difference in a "vessel-push" system and a "vessel-pull" system. The push system relies on historical data and forecasting to define vessel arrivals and departures. This is a probabilistic approach. On the other hand, the "vessel-pull" system relies on a probabilistic approach to generate arrivals to the system, and some management policy to dictate movements thereafter. Note that this policy could be very simple or extremely complicated. In the current implementation, anchorages are managed on a first-come-first-served basis, by eligible vessels. (Oversized vessels may not utilize certain anchorages.) It is assumed that there are enough pilots available to easily handle the demand - both bay pilots and docking pilots. It is assumed that vessels may travel the system from an anchorage to a dock - or exit from a dock - on a first-come-first-served basis.

Possibilities do exist for more directly controlling the movement of vessels in the system. It might be advantageous to limit the use of certain anchorages to particular vessel classes. It might be useful to control traffic such that a vessel that is incoming has higher priority on the channel than does one that is leaving. It could be beneficial to limit the use of an anchorage to some period of time. These are what could be referred to as non-structural modifications.

The current study has focused on the impact of structural adjustments.

There are several cost components included in the model. For each vessel class, there is a pilotage cost, and an hourly operating cost. For some vessel classes, it is also recognized that dispatch-demurrage may apply. A credit is received if a vessel is served by the system within the anticipated time. This time counts from the time the vessel arrives at the system until the vessel pulls out of the dock. A demurrage cost is assessed if the vessel is not served within the allotted time. Demurrage rates are generally twice that of dispatch.

The model defines general vessel classes with average dimensions. (More details are available in Appendix A.) For instance, every vessel in a particular class will have the same draft. (As referenced earlier, the vessel definitions are based on the vessel categories of DRI/McGraw-Hill and the vessel cost information provided by the Water Resources Support Center.) Vessel class characteristics are provided in Appendix B. Arrival rates by vessel class are provided in Appendix C.

VI. Alternatives

In the next three sections we identify the alternatives studied. The first section indicates those anchorage alternatives considered. The second section indicates those branch channel alternatives considered. The final section lists combination alternatives investigated.

Anchorages: Structural Modifications

Anchorage modifications were considered at anchorages 3 and 4. All anchorages utilize a free-swinging design. Anchorage 3 currently can accommodate three vessels of length no more than 550 feet, and draft under 35 feet. Anchorage 4 may simultaneously accommodate 2 vessels 450 feet x 30 feet. These dimensions are much smaller than the typical vessel that is currently calling on the Port of Baltimore, and the typical vessel dimensions are only expected to increase in the coming years.

The alternatives are anchorages #3 and #4 (the two-digit alphanumeric code maps into a computer file naming convention):

- Anchorage Modifications (Replacing two smaller anchorages)
  - C1: one enlarged anchorage at #3; 820x36
  - C2: one enlarged anchorage at #3; 800x40
  - C3: one enlarged anchorage at #3; 920x36
  - C4: one enlarged anchorage at #3; 900x40
  - C5: one enlarged anchorage at #3; 1020x36
  - C6: one enlarged anchorage at #3; 1020x40
- Added Anchorage {No Replacement}
  - E1: one additional anchorage at #3; 690x42
  - E2: one additional anchorage at #3; 735x43
  - E3: one additional anchorage at #3; 905x43
  - E4: one additional anchorage at #3; 890x42
- Additional Anchorage Modifications (These replace two smaller anchorages)
  - F1: one enlarged anchorage at #3; 890x42
  - F2: two enlarged anchorages at #3; 890x42
  - F3: one enlarged anchorage at #4; 690x38
  - F4: one enlarged anchorage at #3; 905x43
  - F5: two enlarged anchorages at #3; 905x43

A second set of alternatives focused on Anchorage # 4 designs. These alternatives, developed jointly by INSE and BCOE, considered both dredging concerns as well as relationships with the anticipated fleet. The configurations for the new anchorage at #4 were:

- LOA = 550' Depth = 30'
- LOA = 550' Depth = 32'
- LOA = 585' Depth = 34'
- LOA = 680' Depth = 34'
- LOA = 690' Depth = 42'
- LOA = 735' Depth = 43'
- LOA = 815' Depth = 47'
- LOA = 945' Depth = 41'

It is worthwhile to note that the results of an anchorage modification are not necessarily positive. Key factors in addressing the possibilities include port availability, anchorage utilization, and channel traffic. By *port availability*, we mean the likelihood that a vessel might arrive to find that its destination port is available, and no intermediate anchoring is necessary.

On the other hand, a vessel requiring anchoring must confront the *anchorage utilization* issue. That is, an anchorage that can temporarily accommodate the vessel may or may not be available. Depending on the characteristics of the calling fleet with respect to the current anchorage configurations, it may be the case that additional modifications are not warranted. In the case of the Baltimore Harbor, it is the case that a large portion of the calling fleet cannot be served by the current set of anchorages, which may serve only small vessels.

The final issue is *channel traffic.* It may certainly be the case that effective anchorage development can offset any problems encountered because of heavy channel traffic. Traffic may be heavy in the sense that a large number of vessels are attempting to utilize the channel simultaneously, or in the sense that the dimensions of the channel are such that vessel passings and meetings are restricted. In the first case, we may say traffic is driven by the port activity, while in the second case port activity is restricted by channel dimensions. Effective management of anchorage resources may overcome some of the impacts of channel traffic. In any case, it may not necessarily be said that a particular anchorage modification will have a positive impact on the system. This is particularly true when a pair of anchorage slots are given up to produce a single large one. (Management may play a key role.) If smaller vessels call in such numbers that the larger vessels do not have the opportunity to take full advantage of the improvement, then the benefits are lost. In general it is true that the larger vessels are also the most costly in terms of hourly operating costs. This conditions the system towards accruing benefits by virtue of being able to anchorage these vessels. On the other hand, the much larger vessels do not account for a large share of the traffic, so any improvement targeting these extreme vessels may not prove to be fruitful.

It should also be noted that the economic impacts are not limited to the direct recipient of the modification. A vessel entering the system may benefit from being closer to port as a result of an anchorage improvement. At the same time, the impact of improved service to that vessel may carry over to other vessels. As an example, the vessel next to arrive destined for that port may have a decreased wait time, because the first vessel was able to arrive in port more quickly. As such, the impacts of a particular event may propagate for some time.

Branch Channels: Structural Modifications

A number of alternatives for branch channel improvements exist within the Port of Baltimore, and an independent analysis of each was done first. For each improvement, the impact of widening was assessed. While the possibility of deepening was considered, it was determined through discussions with the Baltimoe District and DRI that the impact on the calling fleet from such changes would be minimal. As such, the primary benefit of a widening is in the speed with which a vessel can approach/depart a port. For each alternative, we identify the proposed width, and the expected time saved by the vessel per visit. This savings includes both approach and departure savings and was estimated after consultation with docking pilots. (An additional benefit of these widenings that was suggested by the docking pilots was in improved safety conditions.) The initial set of alternatives considered were the following:

B1: South Locust Point; widen to 400'; reduced relevant maneuvering times by 20 minutes
B2: East Dundalk; widen to 400'; reduced relevant maneuvering times by 10 minutes
B3: Seagirt/East Dundalk; widen to 400'; reduced relevant maneuvering times by 15 minutes
B4: Seagirt/West Dundalk; widen to 400'; reduced relevant maneuvering times by 15 minutes
B5: Seagirt/East Dundalk/West Dundalk; widen to 500'; reduced relevant maneuvering times by 20 minutes.

Multiple Structural Modifications

Other simulations investigated multiple channel modifications. These are:

G1: Modifications to South Locust Point/Seagirt/E. Dundalk
G2: Modifications to South Locust Point/Seagirt/E. Dundalk/ W. Dundalk

While it is true that a given anchorage modification may have both positive and negative cost impacts, any changes to branch channels have purely positive consequences. In addition, these improvements are felt much more system-wide, since the efficient flow of the vessels is affected so dramatically. A vessel saving time on its approach frees up a docking crew that much sooner. This crew may now be used for another vessel, improving that vessel's service time. Likewise, a vessel with an accelerated departure frees up dock space for another vessel.

Multiple Structural and Anchorage Modifications

A number of integrative runs, corresponding to plans within the Corps of Engineers Report, were also performed. These simulations addressed the potential for multiple improvements within the system. These are:

Plan 5: East Dundalk/Seagirt/Connecting Channel/South Locust Point
Anchorage #3 modification of one tie-up to 890'x42'
Anchorage #4 modification of one tie-up to 690'x42'

Plan 6: East Dundalk/Seagirt/Connecting Channel/South Locust Point
Anchorage #3 modification of two tie-ups to 890'x42'
Anchorage #4 modification to 690'x42'

Plan 5x: East Dundalk/Seagirt/Connecting Channel/South Locust Point
Anchorage #3 modification of one tie-up to 905'x43'
Anchorage #4 modification of one tie-up to 690'x42'

Plan 6: East Dundalk/Seagirt/Connecting Channel/South Locust Point
Anchorage #3 modification of two tie-ups to 905'x43'
Anchorage #4 modification to 690'x42'

VII. The Analysis

A number of factors influenced the scenarios modeled and the extent to which each alternative was considered. An initial study of vessel traffic information suggested that there was no significant seasonal effect that needed to be considered, so it was decided to perform analyses based on annual traffic patterns. Three years of traffic information were available from the Baltimore Maritime Exchange, 1991-93. Each year was simulated independently and as an aggregate three-year period. The differences were not significant, and the decision was made to utilize the three-year aggregated data as the baseline.

A detailed breakdown of vessel traffic is provided in Appendix C. The forecasted traffic flows, as determined by DRI, for the six decades under consideration were as shown in Table 1.

TABLE 1.
Vessel Traffic Information - By Decade

Decade	#round trips/day	#trips in 150 days
2000	9.4	1410
2010	13.2	1980
2020	20.8	3120
2030	28.6	4290
2040	40.0	6000
2050	55.6	8340

Simulations based on these conditions under the scenario reflective of no modifications revealed two critical factors. First, large vessel backlogs developed in the decade 2030 and beyond. The traffic flow forecast is demand-driven; it does not take into consideration whether the system has the capacity to accommodate the expected growth. As the simulation showed, the channel was simply incapable of allowing the smooth movement of more than 28 vessels per day. (Note that the idea of a round-trip suggests that not only are there an average of 28 inbound vessels per day in 2030, but there are also 28 outbound vessels per day.) It was determined that no analyses would be carried out for the decades 2040 and 2050, and that after 2030, traffic would remain constant.

It was apparent in subsequent simulations that the capacity was somewhere in the range of 20-25 round trips per day. A number of simulation runs exhibited the backlog. Some modifications, most notably branch changes, induced effects that eliminated backlogs in some instances. There were, however, a number of times in which backlogs continued, even with the introduction of some improvement.

The second observation from the baseline simulation runs was that significant queues formed for the busiest terminals in the system. After consultation with the Maryland Port Administration, it was decided to recognize the addition of the Masonville Terminal to offset expected terminal demands. The Masonville Terminal was included in simulations for 2010, 2020, and 2030.

Once a stable baseline was developed, a strategy was stated for evaluating alternatives. For any alternative, its impact in every test decade (2000,2010,2020,2030) was to be assessed.

Thus, for any alternative, a number of replications had to be made for each decade. As discussed earlier, both anchorage and branch channel alternatives were to be developed. Because of the notable number of alternatives to be investigated, and time limitations, the decision was made to perform five 150-day simulation replications per decade for each alternative considered. This resulted in many (5*4 decades*#alternatives) test sets. Referring to Table 1, this limitation does not appear to be much of a weakness, if we consider it in the context of the total number of vessel movements simulated. For instance, for any alternative considered in 2020, roughly 16,000 (3,120*5) vessel movements were evaluated.

VIII. Conclusion and Potential for Future Efforts

The efforts of this analysis focused on the development of alternatives and recognition of potential. This led to a fairly comprehensive analysis with respect to the breadth of the alternatives considered. Consequently, as a result of time and budgetary restraints, no significant analysis was performed to investigate the issue of sensitivity. Decisions were made on the anticipated savings of the branch channel modifications in concert with pilots and port facility managers. It remains to be seen whether a modification will in fact result in a savings of, for instance, 20 minutes, or whether some other value is more likely.

Nor is it known whether the magnitude of the difference will have much impact on the relative values of the alternatives. It was the stance of the analysis team that relative impacts would be somewhat insensitive to such variability, and as such were not considered a major detail.

One issue that needs to be investigated further is the interaction of channel dimensions, and passing and meeting criteria. Preliminary runs indicated that there was a fair amount of variability inherent in this; again however, the relative impact is uncertain.

One area of interest from the early stages in the analysis of the anchorage system was with respect to anchorage management - as opposed to anchorage structure. It was agreed that management could play a fairly significant role in effective utilization of the system. The capabilities of the model currently capture the use of priorities; this feature was not utilized

in this study, however. A more detailed management structure could very likely be implemented without much additional effort. This issue of management also ties over to the upgraded model's linking of waterborne operations and land operations. It was apparent that there are issues landside that could heavily influence vessel movements.

One reviewer of the study suggested that an iterative approach to the analysis could be fruitful, in that vessel operators are themselves decision makers, and a vessel's utilization of the Baltimore System is a function of the characteristics of the system. For example, a scenario which indicates the existence of bottleneck operations might lead vessel operators to curtail trips into the System, which in turn would lessen the bottleneck. The suggestion made by the reviewer was that an iterative approach - with a simulation interlinked with a vessel operator decision model could result in a more reliable and steady-state analysis.

Along similar lines, the model did recognize the limits of the current system, with respect to anticipated traffic demands. An unconstrained forecast was simulated; the result of that simulation (for the year 2040) was essentially a complete collapse of the system, in that not all calling vessels were able to be processed in a reasonable length of time. As was noted, some of this was a consequence of the inability to move the vessels through the channel; however, a large amount of this was also a result of the inability of landside operations to process the anticipated incoming products. This result provided further support for the Port of Baltimore's assertion that an additional facility - similar to Seagirt - was a worthwhile investment.

One reviewer also suggested that the statistics collected and reported be refined. The value in doing so is obvious. Restraints dictated other priorities for the present analysis. In conclusion, the model has changed dramatically since its initial development. The linkage between landside and waterside operations is signficant. The introduction of explicit anchorage functionality broadens the usefulness of the model immensely.

APPENDIX A

BASIC SIMULATION STRUCTURE

CHANNEL SIMULATION

A User's Manual

simulation designed and developed by

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OUTLINE

I. Introduction

II. Fundamentals of Simulation

III. Essential Elements of the Environment

IV. The Simulation Model
- A. Events
- B. Functions
- C. Routines

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VI. Possible Extensions

Appendices:
- A. Sample Input/Houston Ship Channel - seasonal
- B. Sample Input/Houston Ship Channel - structure
- C. Sample Output/Houston Ship Channel - single iteration
- D. Running The Simulation

I. Introduction

The Galveston Corps of Engineers began exploring the possibility of modifications of the Houston and Galveston Ship Channels in the late 1980's. In the Fall of 1989, the Galveston Corps of Engineers contacted Dr. Michael Racer of the Industrial and Systems Engineering Program at Memphis State University to assist in the analysis. To aid the Galveston Corps of Engineers (GCOE) in this task, a simulation program was written. This program simulates vessel traffic in the channel to a very detailed level. Using this simulation, the impact of any of a number of decisions can be addressed. These include:

- channel modifications (width and depth)
- traffic changes (e.g. alternate vessel types)
- policy changes (e.g. passing/meeting protocol)
- port usage changes (e.g. addition/deletion of a facility, increase/decrease in utilization)
- flexibility to model other channel environments

Section II develops the essential concepts of simulation. Section III provides an overview of the environment under consideration. Section IV presents the simulation model, including a rationale for the approach taken. Section V outlines the data requirements of the model, while Section VI discusses some possible

extensions of the model.

Appendices are included on input format and description, sample output, and execution steps.

[The following documentation/resources were used in developing the simulation model:

- *VTS Houston/Galveston Information*, Rev. 3/89
- *The Ports of Galveston and Texas City, Texas*, Port Series #23, Rev. 1985, U.S. Army Corps of Engineers
- *The Port of Houston, Texas*, Port Series #24, Rev. 1989, U.S. Army Corps of Engineers
- *Final Feasibility Report and Environmental impact Statement*
  Galveston Bay Area Navigation Study
  Volume 3 Appendix
  C. Navigation Economics
- Vessel/Tow Traffic Data (1989)
- discussions with Frank Incaprera
- discussions with Gloria Appell]

II. Fundamentals of Simulation

In this section, we present a synopsis of the concept of simulation, and relate that to channel functionality. Through the use of simulation we may better understand some aspect of the real world.

The use of simulation is usually required in those situations which possess a great deal of complexity and some level of uncertainty or variability. The problem posed by the GCOE certainly possesses these features. There are a large number of ports in the system. The channel is large and non-homogeneous - over sixty miles of channel and subchannel, varying in width and depth. There are a great many of variable elements in the channel system. From the system-wide viewpoint, vessel traffic is highly variable. The simulation models the departure of vessels from ports. Those elements of a given vessel trip which are determined according to probabilistic distributions are:

time of departure
class of vessel
destination

Departure rates for the ports were determined from historical data. It was found that the exponential distribution provided a good fit to the observed rates. Vessel class and destination are also chosen with regard to a port-specific distribution, supplied by the user.

It is important to point out that the program simulates traffic movement; it does not mimic traffic. That is, a run of the program will produce vessel flows that have characteristics similar to that observed in the real world. The average number of simulated departures from a given port will

be close to that of the actual port. The average number of vessels in the simulated channel system at any point in time will be similar to that observed. By simulating the environment in this manner, we may analyze the effect of alternate scenarios on the system effectiveness, without physically implementing the changes. Using the simulation code for the problem faced by GCOE, we can assess the impact of widening and deepening parts of the channel. Using forecasts of vessel types, channel traffic was simulated over a fifty year period.

To develop a meaningful simulation analysis, it is important for the user to have a very thorough understanding of the system being simulated. The user must identify those characteristics which significantly influence the system, and in particular the questions to be addressed in the analysis. In the HSC/GC effort, it was found that seasonalities did exist, with respect to channel traffic. In addition, because the modifications are long term efforts, it was necessary to analyze traffic patterns well into the future. To accommodate these, data was collected on traffic in each of four seasons. (Channel seasons are closely related to natural seasons. In other environments, it may be necessary to model fewer, or more, seasons.)

The GCOE also developed a forecast of future vessel classes and volumes for the HSC/GC. Using this information, and current seasonal data, future seasonal forecasts were created.

One further issue of importance in simulation modeling is to remember that a single run of the simulation does not provide the definitive answer. Within each environment, the user must make several simulation runs of several days. The number of days and number of runs can be determined by the user as he collects results. As an example, suppose that the evaluation measure

is total system cost. The user must make several runs to determine the variability present. From this, the user may choose the number of runs and period simulated so as to bring the observed variance down to an acceptable level.

III. Essential Elements of the Environment

A number of factors are potentially influential in simulating channel operations. These may include the following:

- vessel data (size,origin,destination, etc.)
- channel configuration (depth, width, shape, presence of subchannels, etc.)
- port location/operation
- operating policies
- weather
- accidents

In the current application, the primary factors are the first four. No attempt is made to account for weather conditions, and casualty effects are not critical for the problem at hand.

Since the essence of the GCOE problem is to assess the impact of channel widening and deepening, it is very important to understand the traffic moving through the channel and various subchannels, as well as to represent realistically that channel structure. Port operations are important only in that this dictates the supply of vessels traveling the channel. (The program has been structured in a modular fashion, as to allow for future extensions as needed. This will be discussed later.) We discuss each of these below, providing detailed data requirements in a later section.

vessel class model

At a high level, it can be recognized that there exist some commonalities among vessels. In order to simplify the modeling process, the program allows any number of vessel classes to be defined. The number defined will depend on the user: how much diversity is necessary to answer the questions to be addressed? The reasons for discriminating between vessel classes are numerous, and situation-dependent. In the Houston/Galveston model, it is necessary to distinguish vessels primarily on structure - draft and width in particular. However, in another environment it may be more important to distinguish based on operating costs. (Such may be the case when preparing an analysis for channel port operators, for instance.) By allowing the user to define he/she has the capability to investigate a wide range of issues.

vessel model

The second level of vessel definition is port-specific. That is, the vessel must be defined with respect to its origin and destination. Internally, the vessel is also linked to a particular vessel class, and the information pertinent to that class.

structure model- cell

There are essentially two components in describing the physical character of the channel. These are the development of a cell structure, and the definition of wide spots. We first discuss the cells.

Since there are may be long stretches of the channel in which the appearance of the channel is

constant. Recognition of this facilitated the development of the simulation, and increases the efficiency of the run-time. The channel is defined with respect to a major axis - primarily north-south, or primarily east-west. By defining the other cells adjacent to each cell, we can represent the entire channel structure, including sub-channels and turns without requiring excessive modeling of ship maneuvers.

structure - wide.spot

In situations for which a stretch of the channel may be fairly homogeneous, but spotted by vessel turnouts, we include the modeling of wide spots in each cell. These are locations at which a vessel may wait for other vessels to pass before continuing. Such waiting is necessary when passing and meeting rules restrict such events.

port model

The ports in the system drive the activities in the simulation. A port may be truly a functioning operation, or may represent some other source of vessels. For instance, in the Houston/Galveston model, two additional ports were modeled - one for the sea, and a second one for the anchorage area. A port is defined with respect to its location, and characteristics of departing vessels.

IV. The Simulation Model

The simulation consists of 3300 lines of computer code. This program has been written to execute on an IBM-compatible PC, and has been tested on an 80386 machine.

A. Events

The activity of the simulation is driven by the creation of event routines within the code. The following eight events form the core of the channel simulation model:

E.BT.ARRIVE	arrival of a vessel to its destination port
E.BT.BACKUP	initiation of a vessel backup
E.BT.BEGIN	departure of a vessel from a port
E.BT.MEET	meeting of two vessels in a channel
E.BT.MOVE	change in movement of a vessel
E.BT.PASS	passing of one vessel by another in a channel
E.BT.TURN	turn of a vessel from one channel to another
E.STOP.SIM	termination of the simulation

Each event is described in more detail below.

<u>E.BT.ARRIVE (71 lines)</u>

This event essentially identifies the arrival of a vessel at the appropriate destination port. A variety of trip statistics are collected. (These statistics will be discussed in detail in a later section.) If the vessel is a tow, a new assignment is determined, and a departure is scheduled for the tow.

<u>E.BT.BACKUP (44 lines)</u>

This routine marks the time at which a vessel must begin traveling in the reverse direction, to allow for a legal passing. Once this is done, the next action of the vessel is determined.

E.BT.BEGIN (289 lines)

When a vessel initiates a port departure, a number of actions must be taken. This routine scans the local channel area to make sure that the vessel can safely exit from the port, avoiding oncoming traffic. If this is not the case, departure is delayed until the appropriate time. Once a safe departure is determined, the next event involving this vessel is determined.

E.BT.MEET (225 lines)

The following inputs are provided by the user, with respect to the function of two vessels meeting in a channel:

meet_margin distance, in feet, at which vessels must initiate meeting protocol
draft_ratio_limit_1,
draft_ratio_limit_2,
width_ratio_limit limits on draft ratios of the two vessels
speed_reduction_matrix_size
number of elements in speed reduction array
ratio_array(i),
reduc_array(i) speed reduction array elements, i = 1...array size

The inputs reflect the discussion of meeting protocol described in Section 7.4.3.6.2 of the *Galveston Bay Area Navigation Study*. Draft ratio limits and the beam width ratio limit are used to define those situations in which a meeting is not possible, and a backup must occur. When a meeting is allowed, the (ratio_array,reduc_array) determine the amount by which the vessels must

slow down for a proper meeting. The procedure followed simulates the Texas Chicken Maneuver.

When two vessels are scheduled to meet, a number of statistics are collected. Casualty probabilities are modeled in a very rudimentary fashion. For each cell, the probability of a casualty occurring during an encounter has been determined. Random casualties are marked, based on this distribution. Since this was not considered to be of much concern with respect to the Houston Ship Channel problem, and detailed data was unavailable, little attention was paid to this aspect. (The code has the capability to be expanded to more accurately reflect casualty concerns.)

When two vessels are scheduled to meet, the combined beam width ratio of the vessels is calculated. If this exceeds the maximum allowable ratio, the vessel of smaller beam is backed up. Otherwise, the appropriate speed reduction for meeting is determined, via a table look-up. Vessel speeds are reduced accordingly. If either boat had previously been backing up, and is now allowed to continue forward motion, then this is done. The next event for each vessel is determined, at the conclusion of the meeting.

E.BT.MOVE (123 lines)

A variety of movements are considered in this routine. These are:

- initiation of a turn
- completion of a turn
- completion of travel in a cell

If a turn is being initiated, an E.BT.TURN event is scheduled.

If a cell completion of turn completion is scheduled, the transition is marked. Vessel speed is revised if necessary. If the vessel is backing up, and has found a wide enough place to wait, the vessel is stopped; otherwise, it continues to back up.

E.BT.PASS (224 lines)

Vessel passing protocol is similar to that of the meeting, discussed earlier. Inputs are similar. Statistics are collected, and casualties are modeled to a limited degree.

E.BT.TURN (372 lines)

When a turn is identified, this event recognizes the cell into which the vessel is moving, and changes the course of the vessel appropriately. If other vessels are near the intersection and the vessel is currently in a subchannel, the vessel waits until that time at which it is safe to make the transition. If the turn is allowed, the routine then determines the time at which the turn will be completed.

E.STOP.SIM (86 lines)

E.STOP.SIM terminates an iteration of the simulation at a time specified by the user.

B. Functions

The simulation consists of one function - OPPOSITE (25 lines) - which is used to reverse the direction of travel which must back up.

C. Routines

The simulation consists of a number of routines, which provide support to the main activities, as dictated by the events. These routines are:

MAIN	driver
R.BT.CASUALTY	handles casualties
R.BT.DEPART	supports vessel port departure
R.CLEAN.UP	supports simulation termination
R.END.BOAT.EVENTS	cancels all events for a vessel when necessary
R.FINAL.STATS	calculates and prints final statistics
R.INITIALIZE	initializes all data and variables
R.NXT.MOVE	supports determination of next vessel activity
R.RD.DATA	data input
R.RTE.CREATOR	determines route for a vessel, from origin to destination
R.START.TOWS	starts all tow activities in the simulation
R.UPDATE.BOAT	re-evaluates vessel location
R.VERIFY	verifies vessel characteristics
SNAP.R	debug aid

<u>MAIN (86 lines)</u>

This routine is the driver for the entire simulation. The user is prompted to define the length of time for each simulation, as well as the number of simulation runs to be done. Data is input. An E.STOP.SIM is scheduled. Vessel departures are scheduled for each port in the system. Tow movements are initiated. When the simulation is terminated, statistics are collected, and all arrays reinitialized as necessary.

<u>R.BT.CASUALTY (166 lines)</u>

When a casualty has occurred, this routine collects statistics. Casualties are defined with respect to vessel types, as well as locations. Activities for both vessels involved are ceased.

R.BT.DEPART (88 lines)

It was determined that vessel departures were exponentially distributed. This routine supports the departure of a vessel from a port. The vessel class is determined, using the characterizes of the port provided by the user. In the same fashion, an destination port is selected. The route for the vessel is determined, and the first activity - an E.BT.BEGIN - is scheduled according to the departure rate of vessels from the port.

R.CLEAN.UP (31 lines)

this routine simply releases all storage utilized by the routine during the simulation.

R.END.BOAT.EVENTS (101 lines)

When the simulation determines that a new event will preempt the previously calculated activity of a vessel, this routine is called to cancel all relevant events. Activities of other vessels may also be impacted; in this case, new activities are determined for those vessels.

R.FINAL.STATS (239 lines)

The following statistics are compiled and displayed:

- passing
    - by cell of encounter
        - tow_tow
        - tow_ship

ship_ship
summary
- meeting
by cell of encounter
tow_tow
tow_ship
ship_ship
summary
- system costs (finished trips)
by vessel class
total expense($)
number of trips
number of miles
cost/trip
cost/mile
summary
- system costs (unfinished trips)
by vessel class
total expense($)
number of trips
number of miles
cost/trip
cost/mile
summary
- delays
by cell of departure
average delay (hours)
number of departures
summary

- casualties
by cell of encounter
tow_tow
tow_ship
ship_ship
summary
- travel (finished trips)
by cell of departure
miles traveled
time traveled (hours)
average rate (miles/hour)
summary
- travel (unfinished trips)

by cell of departure
    miles traveled
    time traveled (hours)
    average rate (miles/hour)
summary

Statistics were collected independently on finished and unfinished trips, to accommodate the determination of annual system costs. Finished trip data is dependent heavily on the length of time simulated; unfinished trips, on the other hand, represent a snapshot of system activity.

R.INITIALIZE (13 lines)

This routine initializes some variables.

R.NXT.MOVE (342 lines)

This routine is one of the most substantive in the entire simulation. This routine determines the next activity that will involve a vessel at any point in time. When called, the routine determines which of the six events - E.BT.ARRIVE, E.BT.BACKUP, E.BT.MEET, E.BT.MOVE, E.BT.PASS, E.BT.TURN - will occur next. In addition, for a vessel currently backing up, this routine will identify the nearest wide spot in the channel. The appropriate event is then scheduled.

R.RD.DATA (353 lines)

All data input - except for number of runs, and simulation period - are read via this routine.

R.RTE.CREATOR (188 lines)

When a vessel departure is scheduled, this routine determines the path to be followed by the vessel, including all turns. A route file is created, storing all relevant information for the vessel.

R.START.TOWS (34 lines)

The user specifies the number of tows operating in the system, and the expected amount of idle time between assignments for a tow. This routine starts tows in accordance with the user-supplied information.

R.SUMMARY.STATS (122) lines)

This routine provides a summary printout of the per iteration finished trip costs. Average results over the run are also calculated.

R.UPDATE.BOAT (64 lines)

This routine updates the location when necessary. Vessel travel distance is increased, and vessel speed is modified when appropriate.

R.VERIFY (54 lines)

This routine verifies that the position of a vessel is a valid one.

SNAP.R (47 lines)

This routine provides debug support, and can be modified with regard to the particular debug needs.

V. Data Requirements

There are two input files required. The first input file describes the structure of the system, containing all static information. The second file is used to define the traffic pattern. By separating the data in this fashion, a variety of dynamic issues can be explored:

seasonal influences
traffic forecasting issues
etc.

{Anything in **bold** characters is considered a key word, and must be entered as shown.}

{inputs shown in outline form indicate numbers supplied by the user.}

We begin by developing the contents of file one - the <u>structure file</u>

<u>Structure File Format</u>

1. *Header line:* The file begins with a header line(s). This is included to allow the user to included a detailed descriptor of the file contents. The header is echoed in the output.

format:

< header information <

The program looks for the opening '<'. Everything lying between the '<'s is considered as comment.

2. *Seeds*: There are 5 random number strings used in the simulation. These are tied to 5 different random event types occurring in the program. The user may allow the simulation to select the seeds, or may supply his own.

format (all integers; unformatted):

old.seeds

or

new.seeds
seed1 seed2 seed3 seed4 seed5

3. *Sensitivity Analysis Parameters*: (These are not currently used, but were part of preliminary analysis.)

format (all reals; unformatted):

1.0 1.0 0.0 1.0

4. *System Configuration*: These two parameters provide the general structure of the system. The first parameter indicates the number of cells in the network; the second identifies the major axis of orientation of the system.

format (2 integers; unformatted):

num_cells orient (0=north-south, 1=east-west)

5. *Cell information*: There are a number of parameters specified for each cell. Each cell is numbered sequentially, up to num_cells. Each cell is given a name, chosen by the user. The remainder of the cell input defines the cell speed limit (knots), the cell casualty rate (probability of occurrence/meeting), and the cells adjacent to the cell. In addition, the user provides the cell depth (feet), the length (miles), and the width (feet).

format (type as shown; unformatted):

cell_id (integer)	cell_name (text)
cell_speed_limit (real)	cell_casualty_rate (real)
cell_north_neighbor (integer)	cell_eastern_neighbor (integer)
cell_southern_neighbor (integer)	cell_western_neighbor (integer)
cell_depth (integer)	cell_length (real)
cell_width (integer)	

6. *Number of vessel classes*: Following the input of all cell information, the user provides the number of vessel classes to be defined.

format (integer, unformatted):

num_class

7. *Vessel class information*: For each vessel class, the user supplies information about the vessels of this class: identifier, vessel dimensions (feet), maximum speed (knots), turning speed (knots), and operating cost ($/hour).

format (type as shown;unformatted):

class_ID (text)
class_draft (integer)
class_speed (integer)
class_cost (real)
class_beam_width (integer)
class_length (integer)
class_turn_speed (integer)

NOTE:The class_ID of tow vessels must be "TOW".

8. *Wide spots*: The software allows for the introduction of a wide spot into an otherwise homogeneous cell. Each wide spot is defined by location (cell number and distance into the cell), and may include a descriptor.

format: (integer, real, text; unformatted; one wide spot per line):

wide_spot_cell wide_spot_dist descriptor(optional)

9. *Passing information*: As discussed earlier, in the section on E.BT.PASS, the passing policy is reflected in the data input.

format (type as shown, unformatted):

pass.margin (integer)
comb_bm_width_ratio_pass (real)
passer_draft_ratio_limit (real)
passee_draft_ratio_limit (real)
pass_array_dimension (integer)
pass_beam_width(i)(real) pass_speed_reduction(i) (real)
i = 1...pass_array_dimension

NOTE: pass_beam_width(1) must be 0.0, and pass_beam_width(pass_array_dimension) must be 1.0.

10. *Meeting information*: As discussed earlier, in the section on E.BT.MEET, the passing policy is reflected in the data input. There is also an additional parameter - casualty_reduc - which allows the user to investigate the impact of scaling up and down the casualty rates.

format (type as shown, unformatted):

meet.margin (integer)
draft_ratio_backup_limit1 (real)
draft_ratio_backup_limit2 (real)
width_ratio_backup_limit (real)
casualty_reduc (real)
meet_array_dimension (integer)
meet_beam_width(i)(real) meet_speed_reduction(i) (real)
i = 1...meet_array_dimension

NOTE: meet_beam_width(1) must be 0.0, and meet_beam_width(meet_array_dimension) must be 1.0.

11. *Turning information*: Two parameters influence turning - a distance limit and a time limit. If there is no vessel within a certain distance, in miles, of the turning point <u>and</u> no vessels will arrive at that point within the allotted time, in minutes, the turn is allowed; otherwise the vessel must wait.

format (2 reals; unformatted):

turn_dist_limit turn_time_limit

Seasonal File Format

The seasonal file contains information that may vary while a particular structure is held constant. this variation may be due to forecasting with respect to the current environment, or modeling of seasonal attributes.

1. *Header line:* The file begins with a header line(s). This is included to allow the user to included a detailed descriptor of the file contents. The header is echoed in the output.

format:

< header information <

The program looks for the opening '<'. Everything lying between the '<'s is considered as comment.

2. *Seasonal tow information*: Since tow operations may vary, we have included here two parameters indicating the number of tows in the system, as well as the average time between dispatch (in minutes), once a task has been completed.

format (integer,real; unformatted):

tow_count tow_departure_rate

3. *Port count*: The user must specify the number of ports in the system.

format (integer; unformatted):

port_count

4. *Port information*: For each port the user must define a number of parameters. These include information about the port's location, as well as the activity from that port - vessel departure rate, number of destinations served, vessel types. It was determined through analysis of the Galveston VTS data that the exponential distribution is a very close approximation to the true departure pattern of vessels.

format (type as shown; unformatted):

port_name (text)	defined by the user
port_cell (integer)	cell in which port is located
port_dist (integer)	distance into the cell of the port
port_departure_rate (real)	average number of days between departures
port_classes_used (integer)	number of vessels exiting this port
port_dests (integer)	number of destinations served by this port
for each class of vessel repeat the following:	
pt_cls_id(i) (text)	vessel class exiting the port; name must match with one in the structure file
pt_cls_frac(i) (real)	proportion of vessels from this port of this class
pt_cls_dest(i) (integer)	number of destinations served by this class from this port
for each (port,class) pair repeat the following:	
pt_cls_dest(i,j) (text)	destination port; name must match with one in the structure file

pt_cls_frac(i,j) (real) proportion of vessels of this class departing from this port for this destination

VI. Possible Extensions

There are a number of extensions possible for the model; the attractiveness of these extensions is dependent on the analysis needs. One enhancement, which has been previously mentioned, is a detailed analysis of casualty occurrences. Currently, casualties are modeled solely in terms of probability per encounter. Future studies may be directed at identifying relationships between vessel configuration and/or channel structure/traffic patterns. Extending the code to this would require very little effort.

Currently, all ports are modeled in terms of generating departures, without regard to the arrival of vessels to that port. Future modifications could provide a detailed look at landside operations.

In concert with that, there is a need to model some arrival/departure points as intermediaries, rather than ports. Such will be the case with the project under consideration by the Baltimore Corps of Engineers. Anchorages identify temporary holding stops, while a vessel is awaiting access to a port. There will be a very distinct link between arrivals and departures, as well as some development of the managerial aspects underlying those operations.

There is the possibility of modeling weather influences. This will require some understanding of recognizing these relationships, and then determining the most plausible way of modeling them. The Baltimore Corps of Engineers has also expressed an interest on this aspect.

A. Sample Input/Houston Ship Channel - seasonal

```
<NOV   2019 40-FT   SEASONAL FILE<
TOW.INFO        76    0.25
 51
ADAM
      19   0.473   3.675
      2      1
   SV20     0.833      1
        SEA        1.000
   SV60     0.167      1
        SEA        1.000
ANC
      1   3.000   0.602
     18      4
   SV20     0.687      4
        EXXN       0.200
        G36-40     0.200
        G01-05     0.200
        PTRU       0.400
   SV60     0.053      1
        PTRU       1.000
   SV60-A   0.079      3
        G01-05     0.334
        EXXN       0.333
        G36-40     0.333
   CV90     0.020      1
        PTRU       1.000
   CV90-A   0.020      3
        G01-05     0.334
        EXXN       0.333
        G36-40     0.333
   CV138-A  0.009      2
        EXXN       0.500
        G36-40     0.500
   CV187-A  0.000      1
        EXXN       1.000
   CV240-A  0.000      1
        EXXN       1.000
   OV90-A   0.004      2
```

```
        EXXN        0.500
        G36-40      0.500
    OV138-A  0.001      2
        EXXN        0.500
        G36-40      0.500
    OV187-A  0.000      1
        EXXN        1.000
    OV240-A  0.000      1
        EXXN        1.000
    TV20     0.047      1
        TX.DCKS     1.000
    TV60     0.033      1
        TX.DCKS     1.000
    TV90     0.015      1
        TX.DCKS     1.000
    TV138    0.016      1
        TX.DCKS     1.000
    TV187    0.000      1
        TX.DCKS     1.000
    TV240    0.000      1
        TX.DCKS     1.000
ARCO
      23   0.568   0.659
      2      4
   SV20     0.833      4
        SEA         0.250
        ICT         0.250
        BULK        0.250
        CONT        0.250
   SV60     0.167      4
        SEA         0.250
        ICT         0.250
        BULK        0.250
        CONT        0.250
BAYT
      8      20   0.942
      7      3
   SV20     0.670      3
        SEA         0.400
        ANC         0.400
        CONT        0.200
   SV60     0.134      3
        SEA         0.400
```

```
        ANC        0.400
        CONT       0.200
    CV90     0.059       3
        SEA        0.400
        ANC        0.400
        CONT       0.200
    OV90     0.002       3
        SEA        0.400
        ANC        0.400
        CONT       0.200
    TV20     0.059       1
        TX.DCKS    1.000
    TV60     0.041       1
        TX.DCKS    1.000
    TV90     0.018       1
        TX.DCKS    1.000
BROW
      19   0.473   99999
      0      0
BULK
      18   0.947   99999
      0      0
CARE
      16   0.284   3.987
      4      2
   SV20     0.774       2
        SEA        0.667
        HESS       0.333
   SV60     0.155       2
        SEA        0.667
        HESS       0.333
   CV90     0.068       2
        SEA        0.667
        HESS       0.333
   OV90     0.002       2
        SEA        0.667
        HESS       0.333
CELAN
      8      20   99999
      0      0
CITY.DCKS
      25   0.663   0.319
      2      6
```

SV20 0.743 6
SEA 0.710
PTRU 0.058
PAKG 0.058
EXXN 0.058
ICT 0.058
PAKD 0.058
SV60 0.149 6
SEA 0.710
PTRU 0.058
PAKG 0.058
EXXN 0.058
ICT 0.058
PAKD 0.058
CONT
9 0.852 0.424
4 4
SV20 0.774 4
SEA 0.667
ARCO 0.083
EXXN 0.083
ICT 0.167
SV60 0.155 4
SEA 0.667
ARCO 0.083
EXXN 0.083
ICT 0.167
CV90 0.068 4
SEA 0.667
ARCO 0.083
EXXN 0.083
ICT 0.167
OV90 0.002 4
SEA 0.667
ARCO 0.083
EXXN 0.083
ICT 0.167
CRGL
16 0.710 1.541
6 1
SV20 0.764 1
SEA 1.000
SV60-A 0.153 1

```
        SEA        1.000
    CV90-A   0.068       1
        SEA        1.000
    CV138-A  0.012       1
        SEA        1.000
    OV90-A   0.002       1
        SEA        1.000
    OV138-A  0.001       1
        SEA        1.000
CRWN
      21     0.9    99999
       0      0
EQTY
      15    1.799    99999
       0      0
EXXN
      11    1.420    0.514
      17      4
   SV20     0.663       4
        SEA        0.571
        ANC        0.143
        BAYT       0.143
        CONT       0.143
   SV60-A   0.095       2
        SEA        0.800
        ANC        0.200
   SV60     0.038       2
        BAYT       0.500
        CONT       0.500
   CV90-A   0.042       2
        SEA        0.800
        ANC        0.200
   CV90     0.017       2
        BAYT       0.500
        CONT       0.500
   CV138-A  0.010       2
        SEA        0.800
        ANC        0.200
   CV187-A  0.000       2
        SEA        0.800
        ANC        0.200
   CV240-A  0.000       2
        SEA        0.800
```

```
        ANC        0.200
    OV90-A   0.001       2
        SEA        0.800
        ANC        0.200
    OV90     0.000       2
        BAYT       0.500
        CONT       0.500
    OV138-A  0.001       2
        SEA        0.800
        ANC        0.200
    OV187-A  0.000       2
        SEA        0.800
        ANC        0.200
    OV240-A  0.000       2
        SEA        0.800
        ANC        0.200
    TV20     0.057       1
        TX.DCKS    1.000
    TV60     0.039       1
        TX.DCKS    1.000
    TV90     0.017       1
        TX.DCKS    1.000
    TV138    0.019       1
        TX.DCKS    1.000
FALC
      15   0.616   99999
      0      0
G01-05
      25   0.303   0.310
      3      2
    SV20     0.849       2
        SEA        0.500
        ANC        0.500
    SV60-A   0.131       2
        SEA        0.500
        ANC        0.500
    CV90-A   0.019       2
        SEA        0.500
        ANC        0.500
G06-10
      27   0.227   0.929
      3      1
    SV20     0.849       1
```

```
        SEA        1.000
    SV60-A   0.131       1
        SEA        1.000
    CV90-A   0.019       1
        SEA        1.000
G11-15
      27   0.227   99999
       0       0
G16-20
      27   0.644   1.295
       3       1
    SV20     0.849       1
        SEA        1.000
    SV60-A   0.131       1
        SEA        1.000
    CV90-A   0.019       1
        SEA        1.000
G26-30
      28   1.023   99999
       0       0
G31-35
      28   1.402   99999
       0       0
G36-40
      28   1.742   0.465
       3       2
    SV20     0.844       2
        SEA        0.500
        ANC        0.500
    SV60-A   0.131       2
        SEA        0.500
        ANC        0.500
    CV90-A   0.019       2
        SEA        0.500
        ANC        0.500
GALV
      26   0.010   99999
       0       0
GGULF
      18   0.010   11.978
       2       1
    SV20     0.833       1
        ANC        1.000
```

```
    SV60      0.167       1
        ANC         1.000
GPORT
      20    0.010    99999
       0       0
GTXG
      22    0.852    0.942
       4       4
    SV20      0.774       4
        PAKG        0.400
        ANC         0.200
        ARCO        0.200
        SEA         0.200
    SV60      0.155       4
        PAKG        0.400
        ANC         0.200
        ARCO        0.200
        SEA         0.200
    CV90      0.068       4
        PAKG        0.400
        ANC         0.200
        ARCO        0.200
        SEA         0.200
    OV90      0.002       4
        PAKG        0.400
        ANC         0.200
        ARCO        0.200
        SEA         0.200
HALI
      15    1.089    99999
       0       0
HESS
      20    0.568    99999
       0       0
HOFO
      15    1.752    4.711
       4       1
    SV20      0.774       1
        SEA         1.000
    SV60-A    0.155       1
        SEA         1.000
    CV90-A    0.068       1
        SEA         1.000
```

```
    OV90-A    0.002       1
        SEA        1.000
HSR
      25    0.663    99999
       0       0
ICT
      15    1.941    6.673
      15       5
   SV20      0.663       5
        SEA        0.600
        GTXG       0.100
        EXXN       0.100
        PAKD       0.100
        WARR       0.100
   SV60-A    0.080       1
        SEA        1.000
   SV60      0.053       4
        GTXG       0.250
        EXXN       0.250
        PAKD       0.250
        WARR       0.250
   CV90-A    0.035       1
        SEA        0.667
   CV90      0.023       3
        GTXG       0.333
        EXXN       0.333
        PAKD       0.333
   CV138-A   0.006       1
        SEA        1.000
   CV138     0.004       2
        EXXN       0.500
        PAKD       0.500
   OV90-A    0.001       1
        SEA        1.000
   OV90      0.001       3
        GTXG       0.333
        EXXN       0.333
        PAKD       0.333
   OV138-A   0.001       1
        SEA        1.000
   OV138     0.000       2
        EXXN       0.500
        PAKD       0.500
```

```
    TV20      0.058       1
        TX.DCKS     1.000
    TV60      0.040       1
        TX.DCKS     1.000
    TV90      0.018       1
        TX.DCKS     1.000
    TV138     0.019       1
        TX.DCKS     1.000
IMBES
       15    1.894    6.762
        4       1
    SV20      0.774       1
        SEA         1.000
    SV60-A    0.155       1
        SEA         1.000
    CV90-A    0.068       1
        SEA         1.000
    OV90-A    0.002       1
        SEA         1.000
KACI
       19    0.947    99999
        0       0
LASH
        9    0.687    1.570
        4       3
    SV20      0.774       3
        SEA         0.333
        CITY.DCKS   0.333
        CRGL        0.333
    SV60      0.155       3
        SEA         0.333
        CITY.DCKS   0.333
        CRGL        0.333
    CV90      0.068       2
        SEA         0.500
        CRGL        0.500
    OV90      0.002       2
        SEA         0.500
        CRGL        0.500
MANABC
       24    0.237    2.022
        2       1
    SV20      0.833       1
```

```
        SEA        1.000
    SV60     0.167       1
        SEA        1.000
OCC
      16    0.855    99999
       0       0
OILT
      17    0.010    1.156
      13       3
    SV20     0.764       3
        SEA        0.333
        PAKD       0.333
        GGULF      0.333
    SV60-A   0.051       1
        SEA        1.000
    SV60     0.102       2
        PAKD       0.500
        GGULF      0.500
    CV90-A   0.023       1
        SEA        1.000
    CV90     0.045       2
        PAKD       0.500
        GGULF      0.500
    CV138-A  0.012       1
        SEA        1.000
    CV187-A  0.000       1
        SEA        1.000
    CV240-A  0.000       1
        SEA        1.000
    OV90-A   0.001       1
        SEA        1.000
    OV90     0.001       2
        PAKD       0.500
        GGULF      0.500
    OV138-A  0.001       1
        SEA        1.000
    OV187-A  0.000       1
        SEA        1.000
    OV240-A  0.000       1
        SEA        1.000
OLMN
      25    0.473    3.034
       2       2
```

```
    SV20      0.833       2
        SEA        0.500
        GTXG       0.500
    SV60      0.167       2
        SEA        0.500
        GTXG       0.500
PACMO
      25    0.663    6.068
       2       1
    SV20      0.833       1
        GTXG       1.000
    SV60      0.167       1
        GTXG       1.000
PAKD
      15    1.610    0.925
      13       5
    SV20      0.663       5
        ANC        0.200
        OILT       0.200
        SHEL       0.200
        CITY.DCKS  0.200
        ICT        0.200
    SV60-A    0.027       1
        ANC        1.000
    SV60      0.106       4
        OILT       0.250
        SHEL       0.250
        CITY.DCKS  0.250
        ICT        0.250
    CV90-A    0.020       1
        ANC        1.000
    CV90      0.039       2
        OILT       0.500
        SHEL       0.500
    CV138     0.010       1
        ANC        1.000
    OV90-A    0.001       1
        ANC        1.000
    OV90      0.001       2
        OILT       0.500
        SHEL       0.500
    OV138-A   0.001       1
        ANC        1.000
```

```
    TV20     0.058      1
        TX.DCKS     1.000
    TV60     0.040      1
        TX.DCKS     1.000
    TV90     0.018      1
        TX.DCKS     1.000
    TV138    0.019      1
        TX.DCKS     1.000
PAKG
      23   0.331   6.068
       2      2
    SV20     0.833      2
        PAKD       0.500
        ICT        0.500
    SV60     0.167      2
        PAKD       0.500
        ICT        0.500
PETRO
      24    0.01   99999
       0      0
PNZAB
      28   1.515   99999
       0      0
PTRU
       8  20.000   1.178
       3      1
    TV20     0.500      1
        TX.DCKS     1.000
    TV60     0.347      1
        TX.DCKS     1.000
    TV90     0.153      1
        TX.DCKS     1.000
SEA
       1   0.000   0.055
      19      29
    SV20     0.687     29
        ADAM       0.014
        ANC        0.029
        ARCO       0.029
        BAYT       0.014
        CARE       0.044
        CITY.DCKS  0.235
        CONT       0.093
```

	EQTY	0.014
	EXXN	0.019
	G01-05	0.014
	G06-10	0.014
	G11-15	0.014
	G16-20	0.014
	G26-30	0.014
	G31-35	0.014
	G36-40	0.044
	GGULF	0.014
	GTXG	0.014
	HOFO	0.044
	ICT	0.059
	LASH	0.014
	MANABC	0.014
	OILT	0.060
	OLMN	0.014
	PACMO	0.014
	PAKD	0.029
	PTRU	0.014
	SHEL	0.044
	WARR	0.044
SV60-A	0.055	15
	ANC	0.069
	EQTY	0.033
	EXXN	0.044
	G01-05	0.033
	G06-10	0.033
	G11-15	0.033
	G16-20	0.033
	G26-30	0.033
	G31-35	0.033
	G36-40	0.102
	HOFO	0.104
	ICT	0.138
	OILT	0.139
	PAKD	0.069
	SHEL	0.104
SV60	0.076	14
	ADAM	0.025
	ARCO	0.051
	BAYT	0.025
	CARE	0.076

	CITY.DCKS	0.411
	CONT	0.162
	GGULF	0.025
	GTXG	0.025
	LASH	0.025
	MANABC	0.025
	OLMN	0.025
	PACMO	0.025
	PTRU	0.025
	WARR	0.076
CV90-A	0.034	15
	ANC	0.068
	EQTY	0.033
	EXXN	0.044
	G01-05	0.033
	G06-10	0.033
	G11-15	0.033
	G16-20	0.033
	G26-30	0.033
	G31-35	0.033
	G36-40	0.102
	HOFO	0.103
	ICT	0.138
	OILT	0.140
	PAKD	0.068
	SHEL	0.103
CV90	0.016	6
	BAYT	0.023
	CARE	0.070
	CONT	0.149
	GTXG	0.023
	LASH	0.023
	PTRU	0.023
CV138-A	0.009	14
	ANC	0.077
	EQTY	0.037
	EXXN	0.049
	G01-05	0.037
	G06-10	0.037
	G11-15	0.037
	G16-20	0.037
	G26-30	0.037
	G31-35	0.037

G36-40 0.114
ICT 0.154
OILT 0.156
PAKD 0.077
SHEL 0.115
CV187-A 0.000 11
ANC 0.105
EXXN 0.066
G01-05 0.051
G06-10 0.051
G11-15 0.051
G16-20 0.051
G26-30 0.051
G31-35 0.051
G36-40 0.155
OILT 0.212
SHEL 0.158
CV240-A 0.000 11
ANC 0.105
EXXN 0.066
G01-05 0.051
G06-10 0.051
G11-15 0.051
G16-20 0.051
G26-30 0.051
G31-35 0.051
G36-40 0.155
OILT 0.212
SHEL 0.158
OV90-A 0.003 14
EQTY 0.036
EXXN 0.047
G01-05 0.036
G06-10 0.036
G11-15 0.036
G16-20 0.036
G26-30 0.036
G31-35 0.036
G36-40 0.110
HOFO 0.111
ICT 0.148
OILT 0.150
PAKD 0.074

	SHEL	0.111
OV90	0.001	4
	CONT	0.685
	GTXG	0.105
	LASH	0.105
	PTRU	0.105
OV138-A	0.001	14
	ANC	0.077
	EQTY	0.037
	EXXN	0.049
	G01-05	0.037
	G06-10	0.037
	G11-15	0.037
	G16-20	0.037
	G26-30	0.037
	G31-35	0.037
	G36-40	0.114
	ICT	0.154
	OILT	0.156
	PAKD	0.077
	SHEL	0.115
OV187-A	0.000	11
	ANC	0.105
	EXXN	0.066
	G01-05	0.051
	G06-10	0.051
	G11-15	0.051
	G16-20	0.051
	G26-30	0.051
	G31-35	0.051
	G36-40	0.155
	OILT	0.212
	SHEL	0.158
OV240-A	0.000	11
	ANC	0.105
	EXXN	0.066
	G01-05	0.051
	G06-10	0.051
	G11-15	0.051
	G16-20	0.051
	G26-30	0.051
	G31-35	0.051
	G36-40	0.155

```
        OILT      0.212
        SHEL      0.158
    TV20    0.047      1
        TX.DCKS    1.000
    TV60    0.033      1
        TX.DCKS    1.000
    TV90    0.015      1
        TX.DCKS    1.000
    TV138   0.016      1
        TX.DCKS    1.000
    TV187   0.000      1
        TX.DCKS    1.000
    TV240   0.000      1
        TX.DCKS    1.000
SHEL
      17   0.020   1.156
      13      3
   SV20    0.764      3
        EXXN      0.250
        SEA       0.500
        BAYT      0.250
   SV60    0.077      2
        EXXN      0.500
        BAYT      0.500
   SV60-A  0.077      1
        SEA       1.000
   CV90    0.034      2
        EXXN      0.500
        BAYT      0.500
   CV90-A  0.034      1
        SEA       1.000
   CV138-A 0.012      2
        EXXN      0.333
        SEA       0.666
   CV187-A 0.000      1
        SEA       1.000
   CV240-A 0.000      1
        SEA       1.000
   OV90    0.001      2
        EXXN      0.500
        BAYT      0.500
   OV90-A  0.001      1
        SEA       1.000
```

```
    OV138-A  0.001      1
        SEA       1.000
    OV187-A  0.000      1
        SEA       1.000
    OV240-A  0.000      1
        SEA       1.000
STER
      6      2   99999
      0      0
TX.DCKS
      6   2.000   0.263
      6      3
   TV20     0.428      3
        SEA       0.900
        ANC       0.050
        OLMN      0.050
   TV60     0.297      3
        SEA       0.900
        ANC       0.050
        OLMN      0.050
   TV90     0.131      2
        SEA       0.947
        ANC       0.053
   TV138    0.144      2
        SEA       0.947
        ANC       0.053
   TV187    0.000      2
        SEA       0.947
        ANC       0.053
   TV240    0.000      2
        SEA       0.842
        ANC       0.158
TODG
     28    0.01   99999
      0      0
TWEEK
     24   0.521   99999
      0      0
WARR
     21   0.000   2.022
      2      2
   SV20     0.833      2
        SEA       0.667
```

ICT 0.333
SV60 0.167 2
SEA 0.667
ICT 0.333
WOOD
23 0.568 99999
0 0
NOV 2019 40-FT

B. Sample Input/Houston Ship Channel - structure

```
<NOV   2019 40-FT    STRUCTURE FILE<
old.seeds
1.0  1.   0.   1.
28   0
1      CELL1
  15
  .0003351
  2  0  0  0
  40  4.5   800
2   CELL2
  15
  .0003351
  4   0  1  3
  40  .5  800
3   CELL3
  6
  .0000258
  0  2  0  26
  40  1 1125
4   CELL4
  15
  .0001213
  5  0  2  0
  40  .5  800
5   CELL5
  15
  .0001213
  7  0  4  6
  40  .5  400
6   CELL6
  6
  .0001213
  0  5  0  0
  40  2  400
7   CELL7
  15
  .0001213
  8  0  5  0
```

```
   40  .5  400
 8  CELL8
   15
   .0001213
   9  0  7  0
   40  24.  400
 9  CELL9
   11
   .0000685
   10  0  8  0
   40  2.083  400
10  CELL10
   11
   .0000685
   11  0  9  0
   40  1.515  400
11  CELL11
   11
   .0000685
   12  0  10  0
   40  1.515  400
12  CELL12
   11
   .0000685
   13  0  11  0
   40  2.225  400
13  CELL13
   11
   .0000685
   14  0  12  0
   40  1.326  400
14  CELL14
   11
   .0000685
   15  0  13  0
   40  1.042  400
15  CELL15
   9
   .0000685
   16  0  14  0
   40  2.083  400
16  CELL16
   9
```

```
   .0000685
   17 0 15 0
   40 1.894 400
 17 CELL17
   6
   .0000685
   18 0 16 0
   40 1.563 400
 18 CELL18
   6
   .0000685
   19 0 17 0
   40 1.042 300
 19 CELL19
   6
   .0000685
   20 0 18 0
   40 1.184 300
 20 CELL20
   6
   .0000685
   21 0 19 0
   40 .947 300
 21 CELL21
   6
   .0000685
   22 0 20 0
   40 1.042 300
 22 CELL22
   6
   .0000685
   23 0 21 0
   40 1.113 300
 23 CELL23
   6
   .0000685
   24 0 22 0
   40 .947 300
 24 CELL24
   6
   .0000685
   25 0 23 0
   36 .876 300
```

```
25  CELL25
  6
  .0000685
  0  0  24  0
  36  .663   300
26  CELL26
  6
  .00002
  0  3  0  27
  40  .909 1125
27  CELL27
  6
  .00002
  0  26  0  28
  40  1.061 1125
28  CELL28
  6
  .00002
  0  27  0  0
  40  1.818 1000

26
SV20  76  30  523  14  14  743.
SV60 109  35  736  14  14 1027.
SV60-A 109 39  736  14  14 1027.
CV90 125  35  800  14  14 1038.
CV90-A 125 39 800  14  14 1038.
CV138 140 39  898  14  14 1231.
CV138-A 140 39 898 14  14 1231.
CV187 160 39  995  14  14 1430.
CV187-A 160 39 995 14  14 1430.
CV240 172 39  1060  14 14 1602.
CV240-A 172 39 1060 14 14 1602.
OV90  125 35   800 14  14 1039.
OV90-A 125 39  800 14  14 1039.
OV138 140 39   898 14  14 1231.
OV138-A 140 39 898 14  14 1231.
OV187 160  39  995 14  14 1430.
OV187-A 160 39 995 14  14 1430.
OV240 172 39  1060 14  14 1602.
OV240-A 172 39 1060 14 14 1602.
TV20  76  30  523  14  14  743.
TV60 109  35  736  14  14 1027.
```

```
TV90 125  39  800  14  14 1038.
TV138 144 39  898  14  14 1231.
TV187 160 39  995  14  14 1430.
TV240 172 39  1060  14 14 1602.
TOW    35   10   400    6   6  604.

24
 26   .455     Galveston Ch.
 26   .908
 25   .010     Johnson Landing
 23   .946     Clinton Is. T. Basin
 23   .473
 21   .010     Hunting Bayou
 17   .095     Boggy Bayou
 15   .852     Lynchburg Ferry
 15   .284
 14  1.040     Crystal Bay
 14   .520
 14   .010
 13  1.325     Crystal Bay
 13   .665
 13   .010
 12  2.224     Scott Bay
 12  1.112
 12   .010
 10   .710     Tabbs Bay
 10   .284
  8 24.000     Main Channel
  8 16.000
  8  8.000
  8  0.010


1000   .5   .5   .95
5
  0     1.0
 .25   1.0
 .38    .50
 .53    .375
 1.0    .375

1000   .95   .75   .50
1.0
```

5

0	1.0
.25	1.0
.38	.500
.53	.333
1.00	.333

2. 4.

C. Sample Output/Houston Ship Channel - single iteration

NOV 2019 40-FT STRUCTURE FILE

today is 12/20/1993
time is 00:10:45

seed1	2116429302
seed2	683743814
seed3	964393174
seed5	618433579
seed10	477424540

WE ARE HALTING THIS ITERATION OF THE SIMULATION - time is 120.0000
R.REINIT - reinitialize the system

FINAL STATISTICS FOR THE RUN

~~~~~~~~~~~~~~~ PASSING STATISTICS ~~~~~~~~~~~~~~~

cell	tow.tow.passes	tow.ship.passes	ship.ship.passes
CELL1	0	1	1
CELL4	1	2	0
CELL7	0	0	1
CELL8	0	53	1
CELL9	0	1	0
CELL11	0	1	0
CELL14	0	1	0
CELL15	0	2	0
TOTALS	1	61	3

~~~~~~~~~~~~~~~ MEETING STATISTICS ~~~~~~~~~~~~~~~

cell	tow.tow.meetings	tow.ship.meetings	ship.ship.meetings
CELL1	7	23	10
CELL2	5	13	1
CELL3	37	4	0
CELL4	21	12	1
CELL5	28	16	2
CELL6	4	2	0

CELL7	26	11	1
CELL8	680	309	43
CELL9	108	37	3
CELL10	109	28	1
CELL11	86	19	0
CELL12	279	57	2
CELL13	79	17	1
CELL14	64	22	1
CELL15	302	73	3
CELL16	139	23	0
CELL17	104	23	1
CELL18	66	18	1
CELL19	161	39	2
CELL20	47	13	1
CELL21	89	24	2
CELL22	84	22	1
CELL23	56	15	0
CELL24	21	4	1
CELL25	7	5	1
CELL26	27	4	0
CELL27	39	3	0
CELL28	30	4	0
TOTALS	2705	840	79

~~~~~~~~~~~~~~~ SYSTEM COSTS ~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~ finished trips ~~~~~~~~~~~~~~~

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
SV20	323583.438	162	5125.114	1997.429	63.14
SV60	33374.234	14	370.459	2383.874	90.09
SV60-A	23780.193	7	248.964	3397.170	95.52
CV90	4952.215	3	69.902	1650.738	70.85
CV90-A	19509.598	8	221.404	2438.700	88.12
CV138	0.	0	0.	0.	0.
CV138-A	806.254	1	6.636	806.254	121.50
CV187	0.	0	0.	0.	0.
CV187-A	0.	0	0.	0.	0.
CV240	0.	0	0.	0.	0.
CV240-A	0.	0	0.	0.	0.
OV90	0.	0	0.	0.	0.
OV90-A	3162.065	1	44.193	3162.065	71.55
OV138	0.	0	0.	0.	0.
OV138-A	0.	0	0.	0.	0.

OV187	0.	0	0.	0.	0.
OV187-A	0.	0	0.	0.	0.
OV240	0.	0	0.	0.	0.
OV240-A	0.	0	0.	0.	0.
TV20	11930.567	17	178.518	701.798	66.83
TV60	11927.187	13	137.500	917.476	86.74
TV90	2413.416	2	30.000	1206.708	80.45
TV138	2681.525	3	23.000	893.842	116.59
TV187	0.	0	0.	0.	0.
TV240	1936.050	2	12.000	968.025	161.34
TOW	2735816.000	1451	31029.330	1885.469	88.17
TOTAL	$3175872.75	1684	37497.020	1885.91	84.70

~~~~~~~~~~~~~~~ unfinished trips ~~~~~~~~~~~~~~~

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
SV20	12977.346	7	180.831	1853.906	71.77
SV60	13746.381	3	74.293	4582.127	185.03
SV60-A	10138.738	2	60.560	5069.369	167.42
CV90	0.	0	0.	0.	0.
CV90-A	0.	0	0.	0.	0.
CV138	0.	0	0.	0.	0.
CV138-A	0.	0	0.	0.	0.
CV187	0.	0	0.	0.	0.
CV187-A	0.	0	0.	0.	0.
CV240	0.	0	0.	0.	0.
CV240-A	0.	0	0.	0.	0.
OV90	0.	0	0.	0.	0.
OV90-A	0.	0	0.	0.	0.
OV138	0.	0	0.	0.	0.
OV138-A	0.	0	0.	0.	0.
OV187	0.	0	0.	0.	0.
OV187-A	0.	0	0.	0.	0.
OV240	0.	0	0.	0.	0.
OV240-A	0.	0	0.	0.	0.
TV20	0.	0	0.	0.	0.
TV60	3084.009	1	-4.000	3084.009	-771.00
TV90	0.	0	0.	0.	0.
TV138	0.	0	0.	0.	0.
TV187	0.	0	0.	0.	0.
TV240	0.	0	0.	0.	0.
TOW	55074.504	36	521.831	1529.847	105.54
TOTALS	95020.977	49	833.515	1939.204	114.00
~~~~~~~~~~~~~~~

---------- SYSTEM DELAYS ----------

CELL	AVE. DELAYS(hrs.)	#DEPARTURES
CELL1	.00165	154
CELL6	.00000	64
CELL8	.00000	99
CELL9	.00000	69
CELL11	.01015	38
CELL15	.00270	220
CELL16	.00000	89
CELL17	.00000	69
CELL18	.00584	67
CELL19	.00000	86
CELL20	.00449	63
CELL21	.00349	37
CELL22	.00000	26
CELL23	.00239	67
CELL24	.00000	96
CELL25	.00000	182
CELL26	.00000	39
CELL27	.00000	102
CELL28	.00000	154
TOTALS	.0013	1721

---------- SYSTEM CASUALTIES ----------

	MEETINGS			PASSINGS		
CELL	tow.tow	tow.ship	ship.ship	tow.tow	tow.ship	ship.ship
TOTALS	0	0	0	0	0	0

---------- TRAVEL(by cell departed) ----------

---------- finished trips ----------

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
CELL1	5056.440	546.944	9.245
CELL6	1606.227	229.778	6.990
CELL8	1963.546	271.471	7.233
CELL9	1320.201	163.510	8.074
CELL11	732.586	87.315	8.390
CELL15	3080.049	445.450	6.914
CELL16	1645.602	229.501	7.170
CELL17	1081.962	138.135	7.833
CELL18	1069.998	155.918	6.863

CELL19	1675.718	240.686	6.962
CELL20	882.601	128.392	6.874
CELL21	736.228	106.990	6.881
CELL22	484.715	64.165	7.554
CELL23	1180.523	167.011	7.069
CELL24	1935.658	274.750	7.045
CELL25	4316.979	555.712	7.768
CELL26	1067.309	156.942	6.801
CELL27	3238.269	471.722	6.865
CELL28	4422.429	646.914	6.836
TOTALS	37497.043	5081.307	7.379

unfinished trips

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
CELL1	254.543	32.270	7.888
CELL6	30.598	4.623	6.619
CELL8	22.252	8.513	2.614
CELL9	34.829	2.954	11.789
CELL15	67.582	11.863	5.697
CELL17	22.715	4.570	4.970
CELL18	18.592	2.837	6.553
CELL19	17.235	2.606	6.613
CELL20	30.809	5.324	5.787
CELL22	27.167	3.027	8.976
CELL24	6.796	1.028	6.612
CELL25	161.367	27.196	5.934
CELL26	19.412	6.134	3.165
CELL27	3.636	1.007	3.610
CELL28	115.982	20.956	5.534
TOTALS	833.515	134.909	6.178

D. Running The Simulation

1. The simulation must be run within the SIMLAB environment. Once in SIMLAB, enter:

```
sel channel
```

This will select the channel subdirectory. This subdirectory is the location of the executable modules.

2. The first step in executing the system is to assign the logical units. There are 3 files required, as discussed earlier:

unit 2 - seasonal data file
unit 3 - structure file
unit 7 - output file

```
assi 3 < hsc40.dat
assi 2 < nov4019.inp
assi 7 > nov4019.out
```

3. After the logical units have been assigned, at the prompt type:

```
run
```

The program will begin execution, and prompt for the number of iterations to be done, and the number of days to be simulated within each iteration.

APPENDIX B

VESSEL CLASS CHARACTERISTICS

APPENDIX B
Vessel Class Characteristics

Cls: class
bm: beamwidth (feet)
drf: draft (feet)
LOA: length-overall (feet)
speed: speed (mph)
costs:
hourly operating
pilotage
dispatch (disp_per indicates length of dispatch period (hours)

Cls	bm	drf	LOA	speed	Costs hourly	Costs pilotage	disp	disp_per
A1	73	25	482	17	738	140	0	72
A2	94	34	676	18	1270	141.4	0	72
A3	112	41	853	20	1492	142.12	0	72
A4	117	43	905	20	1664	142.12	0	72
AA	76	32	542	17	751	141.4	417	72
AB	64	25	447	17	576	140	417	72
AE	76	32	542	17	751	141.4	0	72
AF	64	25	447	17	576	140	0	72
DA	67	28	478	14	564	140	417	72
DB	83	34	583	14	692	141.4	417	72
DC	105	43	717	14	888	142.12	417	72
DD	119	49	780	14	1049	142.12	417	72
DE	136	55	910	14	1233	142.6	417	72
EC	109	42	585	14	1158	141.4	417	72
ED	125	47	800	14	1293	142.12	417	72
FA	76	30	519	14	891	141.4	417	72
FB	87	34	585	14	971	141.4	417	72
FC	109	42	585	14	1158	141.4	417	72
FD	125	47	800	14	1293	142.12	417	72
HB	64	25	447	17	576	140	417	72
PA	76	30	519	14	891	141.4	417	72
PB	87	34	585	14	971	141.4	417	72
PC	109	42	585	14	1158	141.4	417	72
PD	125	47	800	14	1293	142.12	417	72

ASSOCIATION OF MARYLAND PILOTS

3720 DILLON STREET □ BALTIMORE, MARYLAND 21224-5239 || (410) 276-1337 □ FAX: (410) 276-1364
PRESIDENT'S FAX: (410) 276-4197 □ CABLE: MARPILOT BALTIMORE || TELEX: 87-574

TARIFF SHEET #6
These rates to become effective 0001 hours October 15, 1994

PILOTAGE RATES FOR CHESAPEAKE BAY AND TRIBUTARIES
>>>>><<<<<
BASIC PILOTAGE UNIT RATES AND CHARGES:

The rates and charges for pilotage of vessels shall be based on 'Pilotage Units'. Pilotage Units shall be determined as expressed by the following formula:

$$\frac{\text{Overall Length} \times \text{Extreme Breadth} \times \text{Depth to Uppermost Continuous Deck}}{10{,}000} = \text{Pilotage Units}$$

Definitions:

'Overall Length' is the distance between the forward and after extremities of the vessel.

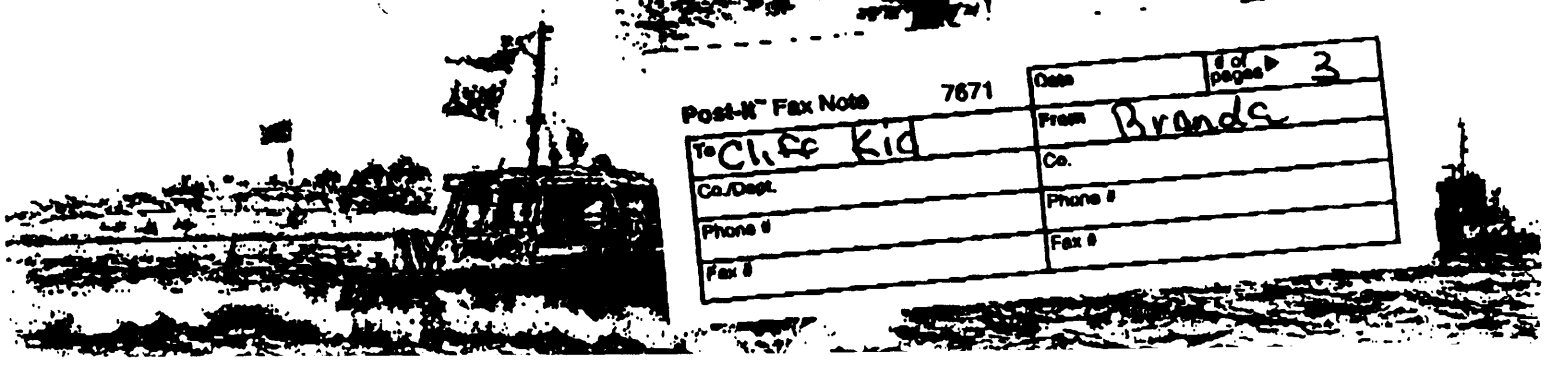
'Extreme Breadth' is the maximum breadth to the outside of the shell plating of the vessel.

'Depth' is the vertical distance at amidships from the top of the keel plate to the uppermost continuous deck fore and aft, and which extends to the sides of the vessel. The continuity of a deck shall not be considered to be affected by the existence of tonnage openings, engine space, or a step in the deck.

All measurements shall be in feet and inches (U.S.).

The Public Service Commission shall be the sole arbiter with respect to a question concerning these definitions. The decision of the Commission shall be final.

The measurements of overall length, extreme breadth and depth, as previously defined, shall be made available to the pilot by the Master or his agent for the purpose of computation of pilotage fees. Failure to provide the measurements so required shall subject the vessel to the maximum [illegible] charges.



TARIFF SHEET #6
PILOTAGE RATES FOR CHESAPEAKE
BAY AND TRIBUTARIES - PAGE THREE

Volume Incentive Discount

Steamship companies providing regular, scheduled, liner service to the Port of Baltimore whose vessels averaged at least four calls per month during calendar year 1993 shall receive a discount of 20% of calculated pilotage for all vessel calls in excess of their 1993 monthly average. This discount to commence on the effective date of tariff sheet #6 and run for a one year period thereafter.

New Line Incentive Discount

Steamship companies commencing regular, scheduled, liner service to the Port of Baltimore after the effective date of tariff sheet #6, and making not less than three calls per month, shall receive a discount of 20% of calculated pilotage for the first twelve months of their service to the Port.

Detention Charge

After a pilot has reported aboard, if trip or movement is delayed beyond one hour from time pilot was ordered (time counting from time pilot was ordered until last line off dock or anchor aweigh) for each 20 minute interval or fraction thereof counting from time of original order: $48. (Equivalent to 1/3 of the Basic Service Rate).

Cancellation of Movement Charge

After a pilot has reported aboard (or has departed to report aboard a ship outside Baltimore Harbor or Sparrows Point) and the movement is cancelled, the ship will be charged $280 per hour, or fraction thereof, for the time between departing for the assignment and returning from it, with a minimum time of 1 hour. The charge for one hour shall be equivalent to two times the Basic Service Rate.

Detention at Anchor Charge

If a vessel is anchored during any movement for the convenience of the vessel, the pilot shall be compensated at a rate of $140 per hour. (Equivalent to the B. S. R.) If a vessel is anchored due to operational necessity (mechanical failure, weather or traffic congestion) the pilot shall be compensated for the waiting time at the rate of $70 per hour. (Equivalent to 1/2 the B. S. R.)

TARIFF SHEET #6
PILOTAGE RATES FOR CHESAPEAKE
BAY AND TRIBUTARIES - PAGE TWO

PILOTAGE CHARGES AND HOURLY RATES:

The charge for pilotage of a vessel on the Chesapeake Bay and its tributaries shall be calculated by multiplying the time underway by the total hourly pilotage rate applicable to that vessel. The total hourly pilotage rates shall be as follows:

For vessels having no more than 100 pilotage units:
$140 per hour. This shall be the BASIC SERVICE RATE.

For larger vessels:
$140 per hour, plus
$1.40 per hour per pilotage unit over 100 and up to 300, inclusive, plus
$0.72 per hour per pilotage unit over 300 and up to 500, inclusive, plus
$0.48 per hour per pilotage unit over 500 and up to 700, inclusive, plus
$0.35 per hour per pilotage unit over 700

Charges are for the first pilot and shall be billed by the hour and minute for underway time only. Minimum hours billed for any vessel movement shall be 3 hours, except that the minimum hours billed for movements taking place entirely within Baltimore Harbor to Sparrows Point shall be 2 hours. The maximum hours billed shall be 16 hours.

C & D Canal Surcharge Surcharge for vessels transiting the Chesapeake and Delaware Canal shall be as follows:

For vessels of no more than 100 pilotage units	$551
For vessels of over 100 and up to 300 units, inclusive	$615
For vessels of over 300 and up to 500 units, inclusive	$679
For vessels of over 500 and up to 700 units, inclusive	$749
For vessels of over 700 pilotage units	$803

Commencement and Termination of Charges For vessels inbound to Baltimore, charges shall commence when the pilot boards and terminate at "Finished with Engines" if the vessel is anchored or docked by the Bay Pilot, or at such time as the Bay Pilot is relieved by a Docking Pilot. For other movements, charges shall commence at last line away and shall terminate at pilot away.

FY 1995 PLANNING GUIDANCE
DEEP DRAFT VESSEL COSTS
1 December 1994

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Deep Draft Vessel Costs

Introduction

The deep draft vessel costs shown herein are provided for use by Corps of Engineers planners in studies to determine the potential benefits of harbor improvement projects. It is the latest in a series of revised or updated vessel costs published more-or-less annually since the 1960's. This set of costs updates the previously published set dated, 18 December 1992.

The accompanying cost sheets show costs, dimensions, typical speeds and TPI for a large number of vessel types and sizes. For nominal vessel sizes, these sheets are for illustrative purposes only. Corps studies usually require determination of transportation costs for vessels of specific intermediate sizes. For that purpose the formulas for determining costs for a given deadweight, and for relating deadweight to draft and other dimensions are shown in Appendix A. Wherever possible standard errors of estimate have been provided to facilitate risk and uncertainty analysis. Vessel dimensions are in feet. All weights (deadweight, fuel consumption, tpi) are in metric tonnes.

FY 1995 Explanatory Notes

Basic Assumptions. Corps Studies contemplate investment in new harbor works, therefore, all vessels are priced as new and are amortized at the discount rate (7 3/4%) used to evaluate Corps harbor projects. This produces a cost of ownership that may be representative for average age. Prices and costs were adjusted to 1995 price levels using the U.S. Gross National Product Implicit Price Deflator. Most prices appeared to be linked to the value of the dollar, hence this GNP index was deemed a suitable proxy for multiple country-specific inflation rates. The base year used for this index has been revised from 1982 to 1987. Revised index numbers are as follows:

1981= 78.9	1985= 94.4	1989=108.6	1993=124.2
1982= 83.8	1986= 96.9	1990=113.2	1994=128.2
1983= 87.2	1987=100.0	1991=117.7	1995=132.5
1984= 91.1	1988=103.8	1992=120.3	

The 1994 and 1995 Implicit price Deflator Index numbers are based on projections provided by WEFA.

Vessel Capital Costs. Replacement costs for all types of vessels have been based on a ten year average to dampen any upward or downward shift in prices. The only exception to this rule is

double-hull tankers since they have a relatively short historical base. Since few U.S. flag vessels have been built in recent years, replacement costs for these vessels have been based on a cost differential applied to the replacement cost for foreign flag vessels. The regression model used to predict replacement costs has been changed from a linear to a log model since it fit better with a smaller error. The 1993-1994 Fairplay ship characteristic database was used for these cost estimations since it reports newbuilding prices whenever possible. This database also identified tankers by single-hull, double-sided, double-bottom, or double-hull characteristics. Since double-hull is the only configuration allowable by OPA 90, tankers were grouped into double-hull and nondouble-hull categories. Appendix B contains weighted average hourly at sea and in port costs for a mixed nondouble-hull double-hull fleet. The weights used to estimate these average costs represent the actual mixture as of 1993 and assume a linear progression towards a full double-hull fleet by the year 2010.

Fixed Operating Costs. These costs have been reanalyzed for 1995 price levels. Empirical data has been collected from a variety of ship operators and ship management companies. Many of the companies which responded to our data request provided data on actual administration costs so that a formula is now provided within the cost tables. Many companies also identified that they have shifted to cheaper crews from Malaysia thereby significantly reducing wage costs. Maintenance and repair costs have increased as the age of the fleet continues to grow older, however, these increases are still greatly over shadowed by the cheaper wage costs.

Vessel Dimensions. Vessel dimensions to include length, beam, draft, immersion rate, horsepower, and speed have not been changed from the previously published set of data. These dimensions are subject to future revisions from ongoing research.

Fuel Costs. Fuel consumption rates have not been revised for FY 1995 but are subject to future revisions based on ongoing research being conducted by IWR. Fuel prices used to produce the fuel costs shown on the cost sheets are based on the overall average of prices at nine bunkering locations, for the 36 month period ending June 1994. These fuel prices reflect the downward trend that has occurred in recent years and represent a decrease in fuel costs of approximately 17% from 1993 price levels. The bunkering locations, monthly prices and price adjustments are presented in Appendix C. Fuel costs for specific vessel itineraries and bunkering locations can be determined by use of Appendix C and/or other published prices.

ESTIMATED FOREIGN FLAG TANKER COSTS - NON-DOUBLE HULL (1995 PRICE LEVELS)

DWT	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	25,650	27,870	31,588	36,072	38,604	40,883	42,966
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	2,564,055	2,786,061	3,157,691	3,605,899	3,859,041	4,086,886	4,295,099
Wages,Benefits,Subsistence	745,492	747,723	752,186	758,881	763,343	767,806	772,269
Stores & Supplies	370,522	377,478	391,389	412,256	426,167	440,078	453,989
Maintenance & Repair	586,160	590,322	598,645	611,130	619,453	627,776	636,099
Insurance	222,215	233,904	257,283	292,352	315,731	339,110	362,489
Other	88,782	89,706	91,555	94,328	96,177	98,026	99,875
Administration	131,499	132,928	135,788	140,077	142,936	145,795	148,655
Fixed Annual Op Cost	2,144,669	2,172,062	2,226,846	2,309,022	2,363,807	2,418,591	2,473,375
Total Annual Fixed Costs	4,708,724	4,958,123	5,384,537	5,914,921	6,222,848	6,505,477	6,768,474
Total Daily Fixed Costs	13,453	14,166	15,384	16,900	17,780	18,587	19,338
Daily Fuel Costs							
At Sea	2,264	2,504	2,754	3,190	3,393	3,585	3,872
In Port	309	412	412	515	515	515	618
Daily Total Costs							
At Sea	15,718	16,670	18,138	20,089	21,173	22,172	23,210
In Port	13,762	14,578	15,796	17,415	18,295	19,102	19,956
Hourly Total Costs							
At Sea	655	695	756	837	882	924	967
In Port	573	607	658	726	762	796	832
Ship Characteristics							
Length (ft)	519	553	610	676	712	744	774
Beam (ft)	76	82	92	103	109	115	120
Draft (ft)	29.5	31.6	35.1	39.3	41.6	43.6	45.5
Immersion Rate (tonnes/inch)	81.3	92.2	112.0	138.5	154.6	169.9	184.5
Horsepower	10,000	12,000	13,000	14,000	15,000	16,500	18,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	22.4	24.0	26.9	30.7	33.0	35.2	37.3
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5	2.5	3.0
In Port	1.5	2.0	2.0	2.5	2.5	2.5	3.0

ESTIMATED FOREIGN FLAG TANKER COSTS - NON-DOUBLE HULL (1995 PRICE LEVELS)

DWT	90,000	120,000	150,000	175,000	200,000	265,000	325,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	44,891	49,964	54,290	57,495	60,424	67,095	72,390
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	4,487,543	4,994,619	5,427,073	5,747,496	6,040,312	6,707,177	7,236,434
Wages,Benefits,Subsistence	776,732	790,121	803,510	814,667	825,824	854,833	881,611
Stores & Supplies	467,900	509,633	551,367	586,145	620,922	711,345	794,811
Maintenance & Repair	644,422	669,392	694,361	715,169	735,977	790,078	840,017
Insurance	385,868	456,005	526,142	584,589	643,037	795,001	935,275
Other	101,723	107,270	112,816	117,438	122,060	134,077	145,169
Administration	151,514	160,092	168,670	175,819	182,967	201,553	218,709
Fixed Annual Op Cost	2,528,160	2,692,513	2,856,866	2,993,826	3,130,787	3,486,885	3,815,591
Total Annual Fixed Costs	7,015,703	7,687,131	8,283,938	8,741,323	9,171,099	10,194,063	11,052,026
Total Daily Fixed Costs	20,045	21,963	23,668	24,975	26,203	29,126	31,577
Daily Fuel Costs							
At Sea	4,048	4,540	5,096	5,450	5,788	6,606	7,303
In Port	618	618	721	721	721	721	721
Daily Total Costs							
At Sea	24,093	26,503	28,764	30,425	31,991	35,732	38,881
In Port	20,663	22,581	24,389	25,696	26,924	29,847	32,298
Hourly Total Costs							
At Sea	1,004	1,104	1,198	1,268	1,333	1,489	1,620
In Port	861	941	1,016	1,071	1,122	1,244	1,346
Ship Characteristics							
Length (ft)	800	869	927	969	1,007	1,092	1,158
Beam (ft)	125	137	148	155	162	178	190
Draft (ft)	47.2	51.6	55.3	58.1	60.5	66.1	70.4
Immersion Rate (tonnes/inch)	198.5	237.6	273.5	301.7	328.5	393.6	449.0
Horsepower	19,000	24,000	27,000	30,000	33,000	34,000	35,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	39.3	45.0	50.2	54.2	58.1	67.5	75.5
Auxiliary (at sea)	3.0	3.0	3.5	3.5	3.5	3.5	3.5
In Port	3.0	3.0	3.5	3.5	3.5	3.5	3.5

ESTIMATED FOREIGN FLAG TANKER COSTS - DOUBLE HULL (1995 PRICE LEVELS)

DWT	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	20,954	24,065	29,650	36,991	41,420	45,576	49,511
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	2,094,701	2,405,638	2,963,916	3,697,801	4,140,526	4,555,952	4,949,354
Wages,Benefits,Subsistence	745,492	747,723	752,186	758,881	763,343	767,806	772,269
Stores & Supplies	370,522	377,478	391,389	412,256	426,167	440,078	453,989
Maintenance & Repair	586,160	590,322	598,645	611,130	619,453	627,776	636,099
Insurance	222,215	233,904	257,283	292,352	315,731	339,110	362,489
Other	88,782	89,706	91,555	94,328	96,177	98,026	99,875
Administration	131,499	132,928	135,788	140,077	142,936	145,795	148,655
Fixed Annual Op Cost	2,144,669	2,172,062	2,226,846	2,309,022	2,363,807	2,418,591	2,473,375
Total Annual Fixed Costs	4,239,370	4,577,700	5,190,762	6,006,823	6,504,333	6,974,543	7,422,730
Total Daily Fixed Costs	12,112	13,079	14,831	17,162	18,584	19,927	21,208
Daily Fuel Costs							
At Sea	2,264	2,504	2,754	3,190	3,393	3,585	3,872
In Port	309	412	412	515	515	515	618
Daily Total Costs							
At Sea	14,377	15,583	17,584	20,352	21,977	23,513	25,080
In Port	12,421	13,491	15,243	17,677	19,099	20,442	21,826
Hourly Total Costs							
At Sea	599	649	733	848	916	980	1,045
In Port	518	562	635	737	796	852	909
Ship Characteristics							
Length (ft)	519	553	610	676	712	744	774
Beam (ft)	76	82	92	103	109	115	120
Draft (ft)	29.5	31.6	35.1	39.3	41.6	43.6	45.5
Immersion Rate (tonnes/inch)	81.3	92.2	112.0	138.5	154.6	169.9	184.5
Horsepower	10,000	12,000	13,000	14,000	15,000	16,500	18,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	22.4	24.0	26.9	30.7	33.0	35.2	37.3
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5	2.5	3.0
In Port	1.5	2.0	2.0	2.5	2.5	2.5	3.0

ESTIMATED FOREIGN FLAG TANKER COSTS - DOUBLE HULL (1995 PRICE LEVELS)

DWT	90,000	120,000	150,000	175,000	200,000	265,000	325,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	53,263	63,668	73,119	80,455	87,402	104,070	118,115
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	5,324,463	6,364,566	7,309,321	8,042,678	8,737,155	10,403,374	11,807,323
Wages,Benefits,Subsistence	776,732	790,121	803,510	814,667	825,824	854,833	881,611
Stores & Supplies	467,900	509,633	551,367	586,145	620,922	711,345	794,811
Maintenance & Repair	644,422	669,392	694,361	715,169	735,977	790,078	840,017
Insurance	385,868	456,005	526,142	584,589	643,037	795,001	935,275
Other	101,723	107,270	112,816	117,438	122,060	134,077	145,169
Administration	151,514	160,092	168,670	175,819	182,967	201,553	218,709
Fixed Annual Op Cost	2,528,160	2,692,513	2,856,866	2,993,826	3,130,787	3,486,885	3,815,591
Total Annual Fixed Costs	7,852,623	9,057,079	10,166,187	11,036,504	11,867,943	13,890,259	15,622,914
Total Daily Fixed Costs	22,436	25,877	29,046	31,533	33,908	39,686	44,637
Daily Fuel Costs							
At Sea	4,048	4,540	5,096	5,450	5,788	6,606	7,303
In Port	618	618	721	721	721	721	721
Daily Total Costs							
At Sea	26,484	30,417	34,142	36,983	39,696	46,293	51,940
In Port	23,054	26,495	29,767	32,254	34,629	40,407	45,358
Hourly Total Costs							
At Sea	1,103	1,267	1,423	1,541	1,654	1,929	2,164
In Port	961	1,104	1,240	1,344	1,443	1,684	1,890
Ship Characteristics							
Length (ft)	800	869	927	969	1,007	1,092	1,158
Beam (ft)	125	137	148	155	162	178	190
Draft (ft)	47.2	51.6	55.3	58.1	60.5	66.1	70.4
Immersion Rate (tonnes/inch)	198.5	237.6	273.5	301.7	328.5	393.6	449.0
Horsepower	19,000	24,000	27,000	30,000	33,000	34,000	35,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	39.3	45.0	50.2	54.2	58.1	67.5	75.5
Auxiliary (at sea)	3.0	3.0	3.5	3.5	3.5	3.5	3.5
In Port	3.0	3.0	3.5	3.5	3.5	3.5	3.5

ESTIMATED FOREIGN FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)

DWT	15,000	25,000	35,000	40,000	50,000	60,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	12,948	17,512	21,366	23,120	26,380	29,382
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	1,294,304	1,750,567	2,135,797	2,311,218	2,637,107	2,937,206
Wages,Benefits,Subsistence	559,481	565,805	572,128	575,290	581,613	587,936
Stores & Supplies	190,616	200,804	210,991	216,084	226,272	236,459
Maintenance & Repair	218,347	235,332	252,317	260,810	277,795	294,780
Insurance	188,472	208,707	228,942	239,060	259,295	279,530
Other	95,366	96,810	98,254	98,976	100,419	101,863
Administration	139,854	142,107	144,361	145,487	147,740	149,994
Fixed Annual Op Cost	1,392,137	1,449,565	1,506,992	1,535,706	1,593,134	1,650,561
Total Annual Fixed Costs	2,686,441	3,200,131	3,642,789	3,846,924	4,230,241	4,587,768
Total Daily Fixed Costs	7,676	9,143	10,408	10,991	12,086	13,108
Daily Fuel Costs						
At Sea	2,115	2,504	2,754	2,972	3,190	3,393
In Port	309	412	412	515	515	515
Daily Total Costs						
At Sea	9,791	11,647	13,161	13,963	15,276	16,501
In Port	7,985	9,555	10,820	11,506	12,601	13,623
Hourly Total Costs						
At Sea	408	485	548	582	637	688
In Port	333	398	451	479	525	568
Ship Characteristics						
Length (ft)	478	555	612	637	680	717
Beam (ft)	67	79	88	92	99	105
Draft (ft)	27.6	32.4	36.0	37.5	40.2	42.6
Cubic Capacity (000ft)	690	1,200	1,456	1,653	2,089	2,631
Immersion Rate (tonnes/inch)	62.8	86.7	107.5	117.1	135.3	152.2
Horsepower	9,000	11,000	12,000	13,000	14,000	15,000
Speed	14	14	14	14	14	14
Fuel Consumption(tonnes/day)						
Main (at sea)	20.7	24.0	26.9	28.2	30.7	33.0
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5	2.5
In Port	1.5	2.0	2.0	2.5	2.5	2.5

ESTIMATED FOREIGN FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)

DWT	80,000	100,000	120,000	150,000	175,000	200,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	34,829	39,740	44,263	50,504	55,322	59,866
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	3,481,689	3,972,618	4,424,697	5,048,593	5,530,251	5,984,472
Wages,Benefits,Subsistence	600,583	613,230	625,877	644,847	660,656	676,464
Stores & Supplies	256,833	277,208	297,582	328,144	353,612	379,080
Maintenance & Repair	328,750	362,720	396,690	447,646	490,109	532,571
Insurance	320,000	360,470	400,940	461,646	512,234	562,821
Other	104,750	107,637	110,525	114,855	118,464	122,073
Administration	154,500	159,006	163,513	170,272	175,905	181,538
Fixed Annual Op Cost	1,765,417	1,880,272	1,995,127	2,167,410	2,310,979	2,454,549
Total Annual Fixed Costs	5,247,106	5,852,890	6,419,824	7,216,003	7,841,231	8,439,021
Total Daily Fixed Costs	14,992	16,723	18,342	20,617	22,404	24,111
Daily Fuel Costs						
At Sea	3,872	4,217	4,540	5,096	5,450	5,788
In Port	618	618	618	721	721	721
Daily Total Costs						
At Sea	18,863	20,940	22,882	25,713	27,853	29,899
In Port	15,610	17,341	18,960	21,338	23,125	24,832
Hourly Total Costs						
At Sea	786	872	953	1,071	1,161	1,246
In Port	650	723	790	889	964	1,035
Ship Characteristics						
Length (ft)	780	833	879	938	981	1,020
Beam (ft)	115	123	131	140	147	154
Draft (ft)	46.5	49.9	52.8	56.6	59.4	62.0
Cubic Capacity (000ft)	3,300	4,176	4,951	5,977	6,973	7,969
Immersion Rate (tonnes/inch)	183.6	212.4	239.3	277.1	306.7	334.8
Horsepower	18,000	21,000	24,000	27,000	30,000	32,000
Speed	14	14	14	14	14	14
Fuel Consumption(tonnes/day)						
Main (at sea)	37.3	41.3	45.0	50.2	54.2	58.1
Auxiliary (at sea)	3.0	3.0	3.0	3.5	3.5	3.5
In Port	3.0	3.0	3.0	3.5	3.5	3.5

ESTIMATED FOREIGN FLAG CONTAINERSHIP COSTS (1995 PRICE LEVELS)

TEU	600	1,000	1,200	1,400	1,600	2,000	2,200
DWT	12,000	16,000	20,000	24,000	28,000	32,000	38,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost(1) (000)	21,084	26,396	31,422	36,231	40,866	45,359	51,875
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	2,107,627	2,638,644	3,141,053	3,621,781	4,085,197	4,534,291	5,185,662
Wages,Benefits,Subsistence	569,392	632,364	695,336	758,308	821,280	884,252	978,710
Stores & Supplies	169,429	199,234	229,038	258,842	288,646	318,451	363,157
Maintenance & Repair	553,384	639,655	725,925	812,196	898,467	984,738	1,114,145
Insurance	224,940	323,201	421,463	519,724	617,985	716,246	863,638
Other	34,082	40,032	45,982	51,932	57,882	63,832	72,757
Administration	143,080	157,919	172,758	187,598	202,437	217,276	239,535
Fixed Annual Op Cost	1,694,307	1,992,404	2,290,502	2,588,600	2,886,698	3,184,796	3,631,942
Total Annual Fixed Costs	3,801,933	4,631,049	5,431,556	6,210,381	6,971,895	7,719,086	8,817,604
Total Daily Fixed Costs	10,863	13,232	15,519	17,744	19,920	22,055	25,193
Daily Fuel Costs							
At Sea	2,613	3,026	3,508	4,428	4,825	5,306	6,699
In Port	412	412	515	515	515	618	618
Daily Total Costs							
At Sea	13,476	16,258	19,027	22,172	24,744	27,360	31,892
In Port	11,275	13,644	16,034	18,259	20,435	22,673	25,811
Hourly Total Costs							
At Sea	562	677	793	924	1,031	1,140	1,329
In Port	470	568	668	761	851	945	1,075
Ship Characteristics							
Length (ft)	482	541	591	636	676	713	764
Beam (ft)	73	80	85	90	94	98	103
Draft (ft)	26.7	29.1	31.1	32.9	34.4	35.8	37.7
Immersion Rate (tonnes/inch)	80.8	94.6	107.4	119.3	130.6	141.4	156.7
Horsepower	12,000	15,000	19,000	24,000	24,000	27,000	32,000
Speed	17	17	17	18	18	18	19
Fuel Consumption(tonnes/day)							
Main (at sea)	25.2	30.0	34.3	44.9	49.4	53.8	69.7
Auxiliary (at sea)	2.0	2.0	2.5	2.5	2.5	3.0	3.0
In Port	2.0	2.0	2.5	2.5	2.5	3.0	3.0

Note(1) Does not include cost of containers

ESTIMATED FOREIGN FLAG CONTAINERSHIP COSTS (1995 PRICE LEVELS)

TEU	2,500	2,800	3,000	3,500	4,000	LASH
DWT	42,000	48,000	50,000	55,000	53,000	40,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost(1) (000)	56,093	62,259	64,276	69,244	72,177	53,995
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	5,607,307	6,223,729	6,425,372	6,921,963	7,215,146	5,397,639
Wages,Benefits,Subsistence	1,041,682	1,136,140	1,167,626	1,246,341	1,293,570	1,010,196
Stores & Supplies	392,961	437,668	452,570	489,825	512,178	378,059
Maintenance & Repair	1,200,415	1,329,822	1,372,957	1,480,796	1,545,499	1,157,280
Insurance	961,899	1,109,291	1,158,422	1,281,248	1,354,944	912,769
Other	78,707	87,633	90,608	98,045	102,508	75,732
Administration	254,375	276,634	284,053	302,602	313,732	246,955
Fixed Annual Op Cost	3,930,040	4,377,187	4,526,236	4,898,858	5,122,431	3,780,991
Total Annual Fixed Costs	9,537,347	10,600,916	10,951,608	11,820,821	12,337,577	9,178,630
Total Daily Fixed Costs	27,250	30,288	31,290	33,774	35,250	26,225
Daily Fuel Costs						
At Sea	7,204	7,784	9,211	9,745	10,057	7,004
In Port	721	721	824	824	824	721
Daily Total Costs						
At Sea	34,454	38,073	40,501	43,518	45,307	33,229
In Port	27,971	31,009	32,114	34,598	36,074	26,946
Hourly Total Costs						
At Sea	1,436	1,586	1,688	1,813	1,888	1,385
In Port	1,165	1,292	1,338	1,442	1,503	1,123
Ship Characteristics						
Length (ft)	795	839	853	886	905	893
Beam (ft)	106	111	112	116	117	100
Draft (ft)	38.9	40.5	41.0	42.2	42.8	37.3
Immersion Rate (tonnes/inch)	166.4	180.5	185.1	196.3	202.8	161.6
Horsepower	35,000	45,000	48,000	53,000	56,000	32,000
Speed	19	19	20	20	20	19
Fuel Consumption(tonnes/day)						
Main (at sea)	74.3	81.0	96.2	102.3	105.9	72.1
Auxiliary (at sea)	3.5	3.5	4.0	4.0	4.0	3.5
In Port	3.5	3.5	4.0	4.0	4.0	3.5

Note(1) Does not include cost of containers

ESTIMATED FOREIGN FLAG GENERAL CARGO VESSEL COSTS (1995 PRICE LEVELS)

DWT	11,000	14,000	16,000	20,000	24,000	30,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	14,625	17,274	18,941	22,095	25,059	29,231
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	1,461,956	1,726,745	1,893,466	2,208,767	2,504,985	2,922,117
Wages,Benefits,Subsistence	588,890	590,594	591 730	594,002	596,274	599,682
Stores & Supplies	185,747	190,493	193,657	199,985	206,313	215,805
Maintenance & Repair	252,434	254,907	256,556	259,854	263,151	268,097
Insurance	206,436	210,807	213,720	219,547	225,374	234,115
Other	57,244	78,277	92,299	120,342	148,386	190,451
Administration	129,811	133,003	135,131	139,387	143,643	150,027
Fixed Annual Op Cost	1,420,563	1,458,081	1,483,093	1,533,118	1,583,142	1,658,178
Total Annual Fixed Costs	2,882,519	3,184,826	3,376,559	3,741,885	4,088,127	4,580,295
Total Daily Fixed Costs	8,236	9,100	9,647	10,691	11,680	13,087
Daily Fuel Costs						
At Sea	2,503	2,825	3,026	3,508	3,863	4,463
In Port	412	412	412	515	515	618
Daily Total Costs						
At Sea	10,739	11,924	12,673	14,200	15,543	17,550
In Port	8,648	9,512	10,059	11,206	12,195	13,705
Hourly Total Costs						
At Sea	447	497	528	592	648	731
In Port	360	396	419	467	508	571
Ship Characteristics						
Length (ft)	447	483	504	542	574	617
Beam (ft)	64	69	72	76	81	86
Draft (ft)	26.5	28.7	29.9	32.2	34.2	36.8
Cubic Capacity (000ft)	623	675	807	1082	1176	1470
Immersion Rate (tonnes/inch)	55.7	66.0	72.5	84.7	96.1	112.1
Horsepower	11,000	12,500	15,000	18,000	20,000	24,000
Speed	17	17	17	17	17	17
Fuel Consumption(tonnes/day)						
Main (at sea)	24.0	27.7	30.0	34.3	38.4	44.1
Auxiliary (at sea)	2.0	2.0	2.0	2.5	2.5	3.0
In Port	2.0	2.0	2.0	2.5	2.5	3.0

ESTIMATED U.S. FLAG TANKER COSTS - NON-DOUBLE HULL (1995 PRICE LEVELS)

DWT	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	64,124	69,676	78,970	90,179	96,510	102,208	107,415
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	6,410,143	6,965,159	7,894,233	9,014,755	9,647,611	10,217,222	10,737,755
Wages,Benefits,Subsistence	3,248,485	3,248,534	3,248,631	3,248,777	3,248,874	3,248,971	3,249,068
Stores & Supplies	323,522	326,222	331,622	339,722	345,122	350,523	355,923
Maintenance & Repair	1,624,498	1,636,209	1,659,630	1,694,763	1,718,184	1,741,606	1,765,027
Insurance	216,456	228,628	252,971	289,486	313,829	338,172	362,516
Other	315,587	313,362	308,912	302,236	297,786	293,336	288,885
Administration	573,010	575,491	580,453	587,895	592,857	597,819	602,781
Fixed Annual Op Cost	6,301,558	6,328,445	6,382,218	6,462,879	6,516,652	6,570,426	6,624,200
Total Annual Fixed Costs	12,711,701	13,293,604	14,276,451	15,477,634	16,164,264	16,787,648	17,361,955
Total Daily Fixed Costs	36,319	37,982	40,790	44,222	46,184	47,965	49,606
Daily Fuel Costs							
At Sea	2,264	2,504	2,754	3,190	3,393	3,585	3,872
In Port	309	412	412	515	515	515	618
Daily Total Costs							
At Sea	38,583	40,486	43,543	47,411	49,577	51,550	53,477
In Port	36,628	38,394	41,202	44,737	46,699	48,480	50,224
Hourly Total Costs							
At Sea	1,608	1,687	1,814	1,975	2,066	2,148	2,228
In Port	1,526	1,600	1,717	1,864	1,946	2,020	2,093
Ship Characteristics							
Length (ft)	519	553	610	676	712	744	774
Beam (ft)	76	82	92	103	109	115	120
Draft (ft)	29.5	31.6	35.1	39.3	41.6	43.6	45.5
Immersion Rate (tonnes/inch)	81.3	92.2	112.0	138.5	154.6	169.9	184.5
Horsepower	10,000	12,000	13,000	14,000	15,000	16,500	18,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	22.4	24.0	26.9	30.7	33.0	35.2	37.3
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5	2.5	3.0
In Port	1.5	2.0	2.0	2.5	2.5	2.5	3.0

ESTIMATED U.S. FLAG TANKER COSTS - NON-DOUBLE HULL (1995 PRICE LEVELS)

DWT	90,000	120,000	150,000	175,000	200,000	265,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	112,228	124,910	135,725	143,738	151,061	167,739
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	11,218,867	12,486,556	13,567,693	14,368,752	15,100,791	16,767,957
Wages,Benefits,Subsistence	3,249,165	3,249,457	3,249,748	3,249,991	3,250,234	3,250,866
Stores & Supplies	361,323	377,523	393,724	407,224	420,725	456,826
Maintenance & Repair	1,788,449	1,858,713	1,928,978	1,987,532	2,046,085	2,198,325
Insurance	386,859	459,889	532,918	593,776	654,635	812,866
Other	284,435	271,084	257,733	246,608	235,482	206,555
Administration	607,742	622,628	637,513	649,917	662,322	694,573
Fixed Annual Op Cost	6,677,973	6,839,294	7,000,615	7,135,048	7,269,482	7,619,011
Total Annual Fixed Costs	17,896,840	19,325,850	20,568,307	21,503,800	22,370,274	24,386,967
Total Daily Fixed Costs	51,134	55,217	58,767	61,439	63,915	69,677
Daily Fuel Costs						
At Sea	4,048	4,540	5,096	5,450	5,788	5,885
In Port	618	618	721	721	721	3,502
Daily Total Costs						
At Sea	55,181	59,757	63,862	66,889	69,703	75,562
In Port	51,752	55,835	59,488	62,160	64,636	73,179
Hourly Total Costs						
At Sea	2,299	2,490	2,661	2,787	2,904	3,148
In Port	2,156	2,326	2,479	2,590	2,693	3,049
Ship Characteristics						
Length (ft)	800	869	927	969	1,007	1,092
Beam (ft)	125	137	148	155	162	178
Draft (ft)	47.2	51.6	55.3	58.1	60.5	66.1
Immersion Rate (tonnes/inch)	198.5	237.6	273.5	301.7	328.5	393.6
Horsepower	19,000	24,000	27,000	30,000	33,000	34,000
Speed	14	14	14	14	14	14
Fuel Consumption(tonnes/day)						
Main (at sea)	39.3	45.0	50.2	54.2	58.1	67.5
Auxiliary (at sea)	3.0	3.0	3.5	3.5	3.5	0.0
In Port	3.0	3.0	3.5	3.5	3.5	17.0

ESTIMATED U.S. FLAG TANKER COSTS - DOUBLE HULL (1995 PRICE LEVELS)

DWT	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	52,386	60,162	74,124	92,478	103,550	113,939	123,778
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	5,236,753	6,014,095	7,409,790	9,244,503	10,351,316	11,389,881	12,373,386
Wages,Benefits,Subsistence	3,248,485	3,248,534	3,248,631	3,248,777	3,248,874	3,248,971	3,249,068
Stores & Supplies	323,522	326,222	331,622	339,722	345,122	350,523	355,923
Maintenance & Repair	1,624,498	1,636,209	1,659,630	1,694,763	1,718,184	1,741,606	1,765,027
Insurance	216,456	228,628	252,971	289,486	313,829	338,172	362,516
Other	315,587	313,362	308,912	302,236	297,786	293,336	288,885
Administration	573,010	575,491	580,453	587,895	592,857	597,819	602,781
Fixed Annual Op Cost	6,301,558	6,328,445	6,382,218	6,462,879	6,516,652	6,570,426	6,624,200
Total Annual Fixed Costs	11,538,311	12,342,540	13,792,009	15,707,382	16,867,968	17,960,307	18,997,586
Total Daily Fixed Costs	32,967	35,264	39,406	44,878	48,194	51,315	54,279
Daily Fuel Costs							
At Sea	2,264	2,504	2,754	3,190	3,393	3,585	3,872
In Port	309	412	412	515	515	515	618
Daily Total Costs							
At Sea	35,231	37,769	42,159	48,068	51,587	54,901	58,151
In Port	33,276	35,676	39,818	45,393	48,709	51,830	54,897
Hourly Total Costs							
At Sea	1,468	1,574	1,757	2,003	2,149	2,288	2,423
In Port	1,386	1,487	1,659	1,891	2,030	2,160	2,287
Ship Characteristics							
Length (ft)	519	553	610	676	712	744	774
Beam (ft)	76	82	92	103	109	115	120
Draft (ft)	29.5	31.6	35.1	39.3	41.6	43.6	45.5
Immersion Rate (tonnes/inch)	81.3	92.2	112.0	138.5	154.6	169.9	184.5
Horsepower	10,000	12,000	13,000	14,000	15,000	16,500	18,000
Speed	14	14	14	14	14	14	14
Fuel Consumption(tonnes/day)							
Main (at sea)	22.4	24.0	26.9	30.7	33.0	35.2	37.3
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5	2.5	3.0
In Port	1.5	2.0	2.0	2.5	2.5	2.5	3.0

ESTIMATED U.S. FLAG TANKER COSTS - DOUBLE HULL (1995 PRICE LEVELS)

DWT	90,000	120,000	150,000	175,000	200,000	265,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	133,159	159,170	182,798	201,138	218,506	260,176
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	13,311,157	15,911,416	18,273,303	20,106,694	21,842,888	26,008,435
Wages,Benefits,Subsistence	3,249,165	3,249,457	3,249,748	3,249,991	3,250,234	3,250,866
Stores & Supplies	361,323	377,523	393,724	407,224	420,725	455,826
Maintenance & Repair	1,788,449	1,858,713	1,928,978	1,987,532	2,046,085	2,198,325
Insurance	386,859	459,889	532,918	593,776	654,635	812,866
Other	284,435	271,084	257,733	246,608	235,482	206,555
Administration	607,742	622,628	637,513	649,917	662,322	694,573
Fixed Annual Op Cost	6,677,973	6,839,294	7,000,615	7,135,048	7,269,482	7,619,011
Total Annual Fixed Costs	19,989,130	22,750,709	25,273,918	27,241,743	29,112,371	33,627,445
Total Daily Fixed Costs	57,112	65,002	72,211	77,834	83,178	96,078
Daily Fuel Costs						
At Sea	4,048	4,540	5,096	5,450	5,788	5,885
In Port	618	618	721	721	721	3,502
Daily Total Costs						
At Sea	61,159	69,542	77,307	83,283	88,966	101,963
In Port	57,730	65,620	72,932	78,555	83,899	99,580
Hourly Total Costs						
At Sea	2,548	2,898	3,221	3,470	3,707	4,248
In Port	2,405	2,734	3,039	3,273	3,496	4,149
Ship Characteristics						
Length (ft)	800	869	927	969	1,007	1,092
Beam (ft)	125	137	148	155	162	178
Draft (ft)	47.2	51.6	55.3	58.1	60.5	66.1
Immersion Rate (tonnes/inch)	198.5	237.6	273.5	301.7	328.5	393.6
Horsepower	19,000	24,000	27,000	30,000	33,000	34,000
Speed	14	14	14	14	14	14
Fuel Consumption(tonnes/day)						
Main (at sea)	39.3	45.0	50.2	54.2	58.1	67.5
Auxiliary (at sea)	3.0	3.0	3.5	3.5	3.5	0.0
In Port	3.0	3.0	3.5	3.5	3.5	17.0

ESTIMATED U.S. FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)

DWT	15,000	25,000	35,000	40,000	50,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	31,074	42,028	51,277	55,489	63,313
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	3,106,330	4,201,360	5,125,912	5,546,923	6,329,057
Wages,Benefits,Subsistence	2,920,435	2,920,533	2,920,631	2,920,680	2,920,778
Stores & Supplies	320,822	326,222	331,622	334,322	339,722
Maintenance & Repair	1,282,278	1,298,678	1,315,079	1,323,279	1,339,679
Insurance	171,874	190,097	208,320	217,431	235,654
Other	229,718	226,428	223,137	221,491	218,201
Administration	491,323	494,388	497,453	498,985	502,050
Fixed Annual Op Cost	5,416,450	5,456,346	5,496,241	5,516,189	5,556,084
Total Annual Fixed Costs	8,522,780	9,657,706	10,622,153	11,063,112	11,885,141
Total Daily Fixed Costs	24,351	27,593	30,349	31,609	33,958
Daily Fuel Costs					
At Sea	2,269	2,721	3,025	3,269	3,534
In Port	309	412	412	515	515
Daily Total Costs					
At Sea	26,620	30,315	33,374	34,878	37,492
In Port	24,660	28,005	30,761	32,124	34,473
Hourly Total Costs					
At Sea	1,109	1,263	1,391	1,453	1,562
In Port	1,027	1,167	1,282	1,338	1,436
Ship Characteristics					
Length (ft)	478	555	612	637	680
Beam (ft)	67	79	88	92	99
Draft (ft)	27.6	32.4	36.0	37.5	40.2
Cubic Capacity (000ft)	690	1,200	1,456	1,653	2,089
Immersion Rate (tonnes/inch)	62.8	86.7	107.5	117.1	135.3
Horsepower	9,000	11,000	12,000	13,000	14,000
Speed	15	15	15	15	15
Fuel Consumption(tonnes/day)					
Main (at sea)	22.5	26.5	30.0	31.6	34.6
Auxiliary (at sea)	1.5	2.0	2.0	2.5	2.5
In Port	1.5	2.0	2.0	2.5	2.5

ESTIMATED U.S. FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)

DWT	60,000	80,000	100,000	120,000	130,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	70,518	83,590	95,376	106,230	111,377
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	7,049,295	8,356,054	9,534,283	10,619,273	11,133,811
Wages,Benefits,Subsistence	2,920,876	2,921,071	2,921,267	2,921,463	2,921,561
Stores & Supplies	345,122	355,923	366,723	377,523	382,924
Maintenance & Repair	1,356,080	1,388,881	1,421,681	1,454,482	1,470,883
Insurance	253,877	290,323	326,769	363,215	381,438
Other	214,910	208,328	201,747	195,165	191,874
Administration	505,114	511,244	517,373	523,503	526,567
Fixed Annual Op Cost	5,595,979	5,675,770	5,755,561	5,835,352	5,875,247
Total Annual Fixed Costs	12,645,275	14,031,824	15,289,844	16,454,624	17,009,058
Total Daily Fixed Costs	36,129	40,091	43,685	47,013	48,597
Daily Fuel Costs					
At Sea	3,782	4,343	4,764	5,158	5,449
In Port	515	618	618	618	721
Daily Total Costs					
At Sea	39,912	44,434	48,449	52,171	54,047
In Port	36,644	40,709	44,303	47,631	49,318
Hourly Total Costs					
At Sea	1,663	1,851	2,019	2,174	2,252
In Port	1,527	1,696	1,846	1,985	2,055
Ship Characteristics					
Length (ft)	717	780	833	879	899
Beam (ft)	105	115	123	131	134
Draft (ft)	42.6	46.5	49.9	52.8	54.2
Cubic Capacity (000ft)	2,631	3,300	4,176	4,951	5,977
Immersion Rate (tonnes/inch)	152.2	183.6	212.4	239.3	252.2
Horsepower	15,000	18,000	21,000	24,000	25,000
Speed	15	15	15	15	15
Fuel Consumption(tonnes/day)					
Main (at sea)	37.5	42.7	47.5	52.1	54.2
Auxiliary (at sea)	2.5	3.0	3.0	3.0	3.5
In Port	2.5	3.0	3.0	3.0	3.5

ESTIMATED U.S. FLAG CONTAINERSHIP COSTS - DOMESTIC TRADES (1995 PRICE LEVELS)

TEU	600	1,000	1,200	1,400	1,600	2,000
DWT	12,000	16,000	20,000	24,000	28,000	32,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost(1) (000)	57,980	72,588	86,409	99,634	112,383	124,737
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	5,795,973	7,256,272	8,637,897	9,959,898	11,234,292	12,469,299
Wages,Benefits,Subsistence	3,077,214	3,177,736	3,278,258	3,378,781	3,479,303	3,579,826
Stores & Supplies	237,792	253,999	270,207	286,415	302,623	318,831
Maintenance & Repair	338,945	428,374	517,803	607,231	696,660	786,089
Insurance	224,940	323,201	421,463	519,724	617,985	716,246
Other	264,712	293,378	322,044	350,710	379,376	408,042
Administration	621,411	671,405	721,399	771,392	821,386	871,380
Fixed Annual Op Cost	4,765,013	5,148,094	5,531,174	5,914,254	6,297,334	6,680,414
Total Annual Fixed Costs	10,560,987	12,404,365	14,169,070	15,874,152	17,531,626	19,149,713
Total Daily Fixed Costs	30,174	35,441	40,483	45,355	50,090	54,713
Daily Fuel Costs						
At Sea	2,613	3,026	3,508	4,428	4,825	5,306
In Port	412	412	515	515	515	618
Daily Total Costs						
At Sea	32,788	38,467	43,991	49,783	54,915	60,019
In Port	30,586	35,853	40,998	45,870	50,605	55,331
Hourly Total Costs						
At Sea	1,366	1,603	1,833	2,074	2,288	2,501
In Port	1,274	1,494	1,708	1,911	2,109	2,305
Ship Characteristics						
Length (ft)	482	541	591	636	676	713
Beam (ft)	73	80	85	90	94	98
Draft (ft)	26.7	29.1	31.1	32.9	34.4	35.8
Immersion Rate (tonnes/inch)	80.8	94.6	107.4	119.3	130.6	141.4
Horsepower	12,000	15,000	19,000	24,000	24,000	27,000
Speed	17	17	17	18	18	18
Fuel Consumption(tonnes/day)						
Main (at sea)	25.2	30.0	34.3	44.9	49.4	53.8
Auxiliary (at sea)	2.0	2.0	2.5	2.5	2.5	3.0
In Port	2.0	2.0	2.5	2.5	2.5	3.0

Note(1) Does not include cost of containers

ESTIMATED U.S. FLAG CONTAINERSHIP COSTS - FOREIGN TRADES (1995 PRICE LEVELS)

TEU	600	1,000	1,200	1,400	1,600	2,000	2,200
DWT	12,000	16,000	20,000	24,000	28,000	32,000	38,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost(1) (000)	21,084	26,396	31,422	36,231	40,866	45,359	51,875
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	2,107,627	2,638,644	3,141,053	3,621,781	4,085,197	4,534,291	5,186,662
Wages,Benefits,Subsistence	3,077,214	3,177,736	3,278,258	3,378,781	3,479,303	3,579,826	3,730,609
Stores & Supplies	237,792	253,999	270,207	286,415	302,623	318,831	343,143
Maintenance & Repair	338,945	428,374	517,803	607,231	696,660	786,089	920,232
Insurance	224,940	323,201	421,463	519,724	617,985	716,246	863,638
Other	264,712	293,378	322,044	350,710	379,376	408,042	451,041
Administration	621,411	671,405	721,399	771,392	821,386	871,380	946,371
Fixed Annual Op Cost	4,765,013	5,148,094	5,531,174	5,914,254	6,297,334	6,680,414	7,255,034
Total Annual Fixed Costs	6,872,640	7,786,738	8,672,227	9,536,035	10,382,531	11,214,705	12,440,696
Total Daily Fixed Costs	19,636	22,248	24,778	27,246	29,664	32,042	35,545
Daily Fuel Costs							
At Sea	2,613	3,026	3,508	4,428	4,825	5,306	6,699
In Port	412	412	515	515	515	618	618
Daily Total Costs							
At Sea	22,250	25,274	28,286	31,674	34,489	37,348	42,243
In Port	20,048	22,660	25,293	27,761	30,179	32,660	36,163
Hourly Total Costs							
At Sea	927	1,053	1,179	1,320	1,437	1,556	1,760
In Port	835	944	1,054	1,157	1,257	1,361	1,507
Ship Characteristics							
Length (ft)	482	541	591	636	676	713	764
Beam (ft)	73	80	85	90	94	98	103
Draft (ft)	26.7	29.1	31.1	32.9	34.4	35.8	37.7
Immersion Rate (tonnes/inch)	80.8	94.6	107.4	119.3	130.6	141.4	156.7
Horsepower	12,000	15,000	19,000	24,000	24,000	27,000	32,000
Speed	17	17	17	18	18	18	19
Fuel Consumption(tonnes/day)							
Main (at sea)	25.2	30.0	34.3	44.9	49.4	53.8	69.7
Auxiliary (at sea)	2.0	2.0	2.5	2.5	2.5	3.0	3.0
In Port	2.0	2.0	2.5	2.5	2.5	3.0	3.0

Note(1) Does not include cost of containers

ESTIMATED U.S. FLAG CONTAINERSHIP COSTS - FOREIGN TRADES (1995 PRICE LEVELS)

TEU	2,500	2,800	3,000	3,500	4,000	LASH
DWT	42,000	48,000	50,000	55,000	58,000	40,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost(1) (000)	56,093	62,259	64,276	69,244	72,177	53,995
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	5,607,307	6,223,729	6,425,372	6,921,963	7,215,146	5,397,639
Wages,Benefits,Subsistence	3,831,132	3,981,915	4,032,176	4,157,829	4,233,221	3,780,870
Stores & Supplies	359,351	383,663	391,767	412,027	424,182	351,247
Maintenance & Repair	1,009,661	1,143,804	1,188,519	1,300,305	1,367,376	964,947
Insurance	961,899	1,109,291	1,158,422	1,281,248	1,354,944	912,769
Other	479,707	522,706	537,039	572,872	594,371	465,374
Administration	996,365	1,071,355	1,096,352	1,158,845	1,196,340	971,368
Fixed Annual Op Cost	7,638,114	8,212,735	8,404,275	8,883,125	9,170,435	7,446,574
Total Annual Fixed Costs	13,245,422	14,436,464	14,829,647	15,805,088	16,385,581	12,844,213
Total Daily Fixed Costs	37,844	41,247	42,370	45,157	46,816	36,698
Daily Fuel Costs						
At Sea	7,204	7,784	9,211	9,745	10,057	7,004
In Port	721	721	824	824	824	721
Daily Total Costs						
At Sea	45,048	49,031	51,581	54,902	56,873	43,702
In Port	38,565	41,968	43,194	45,981	47,640	37,419
Hourly Total Costs						
At Sea	1,877	2,043	2,149	2,288	2,370	1,821
In Port	1,607	1,749	1,800	1,916	1,985	1,559
Ship Characteristics						
Length (ft)	795	839	853	886	905	893
Beam (ft)	106	111	112	116	117	100
Draft (ft)	38.9	40.5	41.0	42.2	42.8	40.8
Immersion Rate (tonnes/inch)	166.4	180.5	185.1	196.3	202.8	161.6
Horsepower	35,000	45,000	48,000	53,000	56,000	32,000
Speed	19	19	20	20	20	19
Fuel Consumption(tonnes/day)						
Main (at sea)	74.3	81.0	96.2	102.3	105.9	72.1
Auxiliary (at sea)	3.5	3.5	4.0	4.0	4.0	3.5
In Port	3.5	3.5	4.0	4.0	4.0	3.5

Note(1) Does not include cost of containers

ESTIMATED U.S. FLAG GENERAL CARGO VESSEL COSTS (1995 PRICE LEVELS)

DWT	11,000	14,000	16,000	20,000	24,000	30,000
Machinery	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Replacement Cost (000)	40,218	47,502	52,089	60,763	68,911	80,387
CRF: 7.75%, 20 yrs	0.09996	0.09996	0.09996	0.09996	0.09996	0.09996
Annual Capital Cost	4,020,379	4,748,549	5,207,031	6,074,110	6,888,709	8,035,823
Wages,Benefits,Subsistence	3,051,838	3,127,326	3,177,651	3,278,302	3,378,953	3,529,929
Stores & Supplies	175,222	184,385	190,494	202,712	214,930	233,257
Maintenance & Repair	237,212	287,522	321,062	388,142	455,221	555,841
Insurance	206,436	210,807	213,720	219,547	225,374	234,115
Other	231,909	251,167	264,005	289,683	315,360	353,876
Administration	390,154	406,077	416,692	437,923	459,154	491,000
Fixed Annual Op Cost	4,292,771	4,467,284	4,583,626	4,816,309	5,048,993	5,398,018
Total Annual Fixed Costs	8,313,150	9,215,833	9,790,656	10,890,419	11,937,701	13,433,841
Total Daily Fixed Costs	23,752	26,331	27,973	31,115	34,108	38,382
Daily Fuel Costs						
At Sea	2,503	2,825	3,026	3,508	3,863	4,463
In Port	412	412	412	515	515	618
Daily Total Costs						
At Sea	26,255	29,156	30,999	34,624	37,971	42,846
In Port	24,164	26,743	28,385	31,630	34,623	39,000
Hourly Total Costs						
At Sea	1,094	1,215	1,292	1,443	1,582	1,785
In Port	1,007	1,114	1,183	1,318	1,443	1,625
Ship Characteristics						
Length (ft)	447	483	504	542	574	617
Beam (ft)	64	69	72	76	81	86
Draft (ft)	26.5	28.7	29.9	32.2	34.2	36.8
Cubic Capacity (000ft)	623	675	807	1,082	1,176	1,470
Immersion Rate (tonnes/inch)	55.7	66.0	72.5	84.7	96.1	112.1
Horsepower	11,000	12,500	15,000	18,000	20,000	24,000
Speed	17	17	17	17	17	17
Fuel Consumption(tonnes/day)						
Main (at sea)	24.0	27.7	30.0	34.3	38.4	44.1
Auxiliary (at sea)	2.0	2.0	2.0	2.5	2.5	3.0
In Port	2.0	2.0	2.0	2.5	2.5	3.0

APPENDIX A

DEEP DRAFT VESSEL COST FORMULAS

ESTIMATED FOREIGN FLAG TANKER COSTS (1995 PRICE LEVELS)		STANDARD ERRORS
Replacement Cost (NON-DH) (000)	(643472*DWT^0.372132)/1000	0.114541 (Log)
Replacement Cost (DH) (000)	(45037.05666*DWT^0.620248)/1000	0.199132 (Log)
Wages,Benefits,Subsistence	(736565.9525+0.446292*DWT)	11286.1967
Stores & Supplies	(342699.9416+1.391112*DWT)	82382.3799
Maintenance & Repair	(569513.7115+0.832317*DWT)	41005.1659
Insurance	(175456.75+2.337901*DWT)	11477.3365
Other	(85084.44767+0.184876*DWT)	9376.31533
Administration	(125779.8898+0.285935*DWT)	15173.2032
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.287829)*30.00611	NA
Beam (ft)	DWT^(0.326658)*3.010018	NA
Draft (ft)	DWT^(0.312067)*1.341759	NA
Immersion Rate (tonnes/inch)	(DWT^(2/3)*0.092135)+13.44076	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.87)*6.83E-06)+12.623	NA
Auxiliary (at sea)	Rounded from: DWT^(0.296892)*0.094112	NA

ESTIMATED FOREIGN FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)		
Replacement Cost (000)	(44010.87469*DWT^0.591134)/1000	0.116272 (Log)
Wages,Benefits,Subsistence	549996.0993+0.63234*DWT	32679.9009
Stores & Supplies	175335.461+1.018723*DWT	30041.9541
Maintenance & Repair	192869.1489+1.698511*DWT	49010.3517
Insurance	158119.1489+2.023511*DWT	54702.8525
Other	93201.06383+0.144362*DWT	12364.2867
Administration	136474.4681+0.225319*DWT	17317.2464
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.293006)*28.5457	NA
Beam (ft)	DWT^(0.317888)*3.175143	NA
Draft (ft)	(DWT/0.361325)^(0.3120393)	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.096757+3.945307	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.87)*6.83E-06)+12.623	NA
Auxiliary (at sea)	Rounded from: DWT^(0.296892)*0.094112	NA

ESTIMATED FOREIGN FLAG CONTAINERSHIP COSTS (1995 PRICE LEVELS)		
Replacement Cost (000)	13733.46105*DWT^0.78108/1000	0.100279 (Log)
Wages,Benefits,Subsistence	380475.4916+15.743012*DWT	80708.303
Stores & Supplies	80016.76483+7.451061*DWT	6006.86508
Maintenance & Repair	(294570.8766+21.567729*DWT)	160015.925
Insurance	(-69843.4452+24.565299*DWT)	89637.228
Other	(16231.59141+1.48752*DWT)	1153.80424
Administration	(98561.99558+3.709825*DWT)	39961.8456
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.400133)*11.23633	NA
Beam (ft)	DWT^(0.302059)*4.273258	NA
Draft (ft)	DWT^(0.299923)*1.596097	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.125263+15.09527	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3))*(Speed^(2.93))*(1.06E-05)+2.86	NA
Auxiliary (at sea)	Rounded from: DWT^(0.463926)*0.024418	NA

ESTIMATED FOREIGN FLAG GENERAL CARGO VESSEL COSTS (1995 PRICE LEVELS)

Replacement Cost (000)	23741.05423*DWT^0.690254/1000	0.196777 (Log)
Wages,Benefits,Subsistence	582642.47311+0.568*DWT	0.2654357
Stores & Supplies	168344.452+1.582029*DWT	374.474899
Maintenance & Repair	243366.2355+0.82437*DWT	334.635532
Insurance	190411.8448+1.456773*DWT	968.355683
Other	-19875.42546+7.010892*DWT	571.027283
Administration	118106.8754+1.063989*DWT	287.592291
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.320724)*22.61026	NA
Beam (ft)	DWT^(0.287796)*4.423672	NA
Draft (ft)	DWT^(0.327701)*1.255115	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.119696-3.50922	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.93)*1.06E-05)+2.86	NA
Auxiliary (at sea)	Rounded from: DWT^(0.463926)*0.024418	NA

ESTIMATED U.S. FLAG TANKER COSTS (1995 PRICE LEVELS)

Replacement Cost (NON-DH) (000)	(643472.513*DWT^0.372132/1000)*2.5	0.114541 (Log)
Replacement Cost (DH) (000)	(45037.05666*DWT^0.620248/1000)*2.5	0.199132 (Log)
Wages,Benefits,Subsistence	3248290.672+0.009718*DWT	205.42821
Stores & Supplies	312721.4294+0.540016*DWT	27427.2642
Maintenance & Repair	1577655.212+2.342151*DWT	342.631191
Insurance	167769.6084+2.434325*DWT	1689.18414
Other	324487.4986+(-0.445028*DWT)	11493.4146
Administration	563086.5396+0.496175*DWT	2808.81164
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.287829)*30.00611	NA
Beam (ft)	DWT^(0.326658)*3.010018	NA
Draft (ft)	DWT^(0.312067)*1.341759	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.092135+13.44076	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	DWT^(2/3)*Speed^(2.87)*6.83E-06+12.623	NA
Auxiliary (at sea)	Rounded from: DWT^(0.296892)*0.094112	NA

ESTIMATED U.S. FLAG BULK CARRIER COSTS (1995 PRICE LEVELS)

Replacement Cost (000)	(44010.87469*DWT^0.591134/1000)*2.4	0.116272 (Log)
Wages,Benefits,Subsistence	2920288.214+0.00978899*DWT	898.617913
Stores & Supplies	312721.4294+0.540016*DWT	27427.2642
Maintenance & Repair	1257677.303+1.640041*DWT	303.309927
Insurance	144539.2005+1.822302*DWT	13832.7138
Other	234654.6577+(-0.329079*DWT)	316.796887
Administration	486726.3682+0.306468*DWT	1270.60138
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.293006)*28.5457	NA
Beam (ft)	DWT^(0.317888)*3.175143	NA
Draft (ft)	(DWT/0.361325)^(0.3120393)	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.096757+3.945307	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.87)*6.83E-06)+12.623	NA
Auxiliary (at sea)	Rounded from: DWT^(0.296892)*0.094112	NA

APPENDIX A

ESTIMATED U.S. FLAG CONTAINERSHIP COSTS (1995 PRICE LEVELS)

Replacement Cost (000)		
Domestic Trade Service	(13733.46105*DWT^0.78108/1000)*2.75	0.100279 (Log)
Foreign Trade Service	(13733.46105*DWT^0.78108/1000)	0.100279 (Log)
Wages,Benefits,Subsistence	2775646.443+25.130597*DWT	252.758919
Stores & Supplies	189167.8041+4.051977*DWT	278.418859
Maintenance & Repair	70658.59587+22.357203*DWT	321.228594
Insurance	-69843.4452+24.565299*DWT	89637.228
Other	178714.3747+7.166495*DWT	280.114917
Administration	471429.3727+12.498458*DWT	13489.0924
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.400133)*11.23633	NA
Beam (ft)	DWT^(0.302059)*4.273258	NA
Draft (ft)	DWT^(0.299923)*1.596097	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.125263+15.09527	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.93)*1.06E-05)+2.86	NA
Auxiliary (at sea)	Rounded from: DWT^(0.463926)*0.024418	NA

ESTIMATED U.S. FLAG GENERAL CARGO VESSEL COSTS (1995 PRICE LEVELS)

Replacement Cost (000)	(23741.05423*DWT^0.690254/1000)*2.75	0.196777 (Log)
Wages,Benefits,Subsistence	2775048.332+25.162696*DWT	252.758919
Stores & Supplies	141622.8727+3.054459*DWT	389.620262
Maintenance & Repair	52743.36283+16.769912*DWT	304.828401
Insurance	190411.8448+1.456773*DWT	968.355683
Other	161296.1198+6.419333*DWT	265.435666
Administration	331769.2308+5.307692*DWT	196.116135
Daily Fuel Cost at Sea	(Main Tonnes/Day*HVO Fuel Cost)+(Aux. Tonnes/Day*MDO Fuel Cost)	NA
Daily Fuel Cost in Port	Auxiliary Tonnes/Day*MDO Fuel Cost	NA
Length (ft)	DWT^(0.320724)*22.61026	NA
Beam (ft)	DWT^(0.287796)*4.423672	NA
Draft (ft)	DWT^(0.327701)*1.255115	NA
Immersion Rate (tonnes/inch)	DWT^(2/3)*0.119696-3.50922	NA
Fuel Consumption(tonnes/day)		
Main (at sea)	(DWT^(2/3)*Speed^(2.93)*1.06E-05)+2.86	NA
Auxiliary (at sea)	Rounded from: DWT^(0.463926)*0.024418	NA

APPENDIX B
WEIGHTED AVERAGE HOURLY AT SEA COSTS FOR FOREIGN FLAG TANKERS

Deadweight	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Non-Double Hull Hourly At Sea Costs	655	695	756	837	882	924	967
Double-Hull Hourly At Sea Costs	599	649	733	848	916	980	1045

Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	639	682	749	840	892	940	989
1994	67.4%	32.6%	637	680	748	841	893	942	992
1995	63.2%	36.8%	634	678	747	841	895	944	996
1996	59.0%	41.0%	632	676	746	842	896	947	999
1997	54.8%	45.2%	630	674	745	842	897	949	1002
1998	50.6%	49.4%	627	672	744	842	899	951	1006
1999	46.4%	53.7%	625	670	743	843	900	954	1009
2000	42.1%	57.9%	623	668	742	843	902	956	1012
2001	37.9%	62.1%	620	666	741	844	903	959	1015
2002	33.7%	66.3%	618	665	740	844	904	961	1019
2003	29.5%	70.5%	616	663	739	845	906	963	1022
2004	25.3%	74.7%	613	661	739	845	907	966	1025
2005	21.1%	78.9%	611	659	738	846	909	968	1029
2006	16.9%	83.1%	608	657	737	846	910	970	1032
2007	12.7%	87.3%	606	655	736	847	911	973	1035
2008	8.5%	91.5%	604	653	735	847	913	975	1038
2009	4.3%	95.8%	601	651	734	848	914	977	1042
2010	0.0%	100.0%	599	649	733	848	916	980	1045

Deadweight	90,000	120,000	150,000	175,000	200,000	265,000	325,000
Non-Double Hull Hourly At Sea Costs	1004	1104	1198	1268	1333	1489	1620
Double-Hull Hourly At Sea Costs	1103	1267	1423	1541	1654	1929	2164

Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	1032	1151	1262	1345	1424	1614	1775
1994	67.4%	32.6%	1036	1157	1272	1357	1438	1632	1797
1995	63.2%	36.8%	1041	1164	1281	1368	1451	1651	1820
1996	59.0%	41.0%	1045	1171	1290	1380	1465	1669	1843
1997	54.8%	45.2%	1049	1178	1300	1391	1478	1688	1866
1998	50.6%	49.4%	1053	1185	1309	1403	1492	1706	1889
1999	46.4%	53.7%	1057	1192	1319	1414	1505	1725	1912
2000	42.1%	57.9%	1062	1199	1328	1426	1519	1743	1935
2001	37.9%	62.1%	1066	1206	1338	1437	1532	1762	1958
2002	33.7%	66.3%	1070	1212	1347	1449	1546	1780	1981
2003	29.5%	70.5%	1074	1219	1356	1460	1559	1799	2004
2004	25.3%	74.7%	1078	1226	1366	1472	1573	1818	2027
2005	21.1%	78.9%	1082	1233	1375	1483	1586	1836	2049
2006	16.9%	83.1%	1087	1240	1385	1495	1600	1855	2072
2007	12.7%	87.3%	1091	1247	1394	1506	1613	1873	2095
2008	8.5%	91.5%	1095	1254	1404	1518	1627	1892	2118
2009	4.3%	95.8%	1099	1260	1413	1529	1640	1910	2141
2010	0.0%	100.0%	1103	1267	1423	1541	1654	1929	2164

WEIGHTED AVERAGE HOURLY
IN PORT COSTS FOR
FOREIGN FLAG TANKERS

Deadweight			20,000	25,000	35,000	50,000	60,000	70,000	80,000
Non-Double Hull Hourly In Port Costs			573	607	658	726	762	796	832
Double-Hull Hourly In Port Costs			518	562	635	737	796	852	909
Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	558	595	652	729	772	812	854
1994	67.4%	32.6%	555	593	651	729	773	814	857
1995	63.2%	36.8%	553	591	650	730	775	816	860
1996	59.0%	41.0%	551	589	649	730	776	819	863
1997	54.8%	45.2%	548	587	648	731	777	821	867
1998	50.6%	49.4%	546	585	647	731	779	824	870
1999	46.4%	53.7%	543	583	646	731	780	826	873
2000	42.1%	57.9%	541	581	645	732	782	828	877
2001	37.9%	62.1%	539	579	644	732	783	831	880
2002	33.7%	66.3%	536	577	643	733	784	833	883
2003	29.5%	70.5%	534	575	642	733	786	835	886
2004	25.3%	74.7%	532	574	641	734	787	838	890
2005	21.1%	78.9%	529	572	640	734	789	840	893
2006	16.9%	83.1%	527	570	639	735	790	842	896
2007	12.7%	87.3%	525	568	638	735	792	845	900
2008	8.5%	91.5%	522	566	637	736	793	847	903
2009	4.3%	95.8%	520	564	636	736	794	849	906
2010	0.0%	100.0%	518	562	635	737	796	852	909

Deadweight			90,000	120,000	150,000	175,000	200,000	265,000	325,000
Non-Double Hull Hourly In Port Costs			861	941	1016	1071	1122	1244	1346
Double-Hull Hourly In Port Costs			961	1104	1240	1344	1443	1684	1890
Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	889	987	1080	1148	1213	1369	1500
1994	67.4%	32.6%	893	994	1089	1160	1227	1387	1523
1995	63.2%	36.8%	898	1001	1099	1171	1240	1406	1546
1996	59.0%	41.0%	902	1008	1108	1183	1254	1424	1569
1997	54.8%	45.2%	906	1015	1118	1194	1267	1443	1592
1998	50.6%	49.4%	910	1022	1127	1206	1281	1461	1615
1999	46.4%	53.7%	914	1028	1136	1217	1294	1480	1638
2000	42.1%	57.9%	919	1035	1146	1229	1308	1498	1661
2001	37.9%	62.1%	923	1042	1155	1240	1321	1517	1684
2002	33.7%	66.3%	927	1049	1165	1252	1335	1535	1706
2003	29.5%	70.5%	931	1056	1174	1263	1348	1554	1729
2004	25.3%	74.7%	935	1063	1184	1275	1362	1572	1752
2005	21.1%	78.9%	940	1070	1193	1286	1375	1591	1775
2006	16.9%	83.1%	944	1076	1202	1298	1389	1609	1798
2007	12.7%	87.3%	948	1083	1212	1309	1402	1628	1821
2008	8.5%	91.5%	952	1090	1221	1321	1416	1646	1844
2009	4.3%	95.8%	956	1097	1231	1332	1429	1665	1867
2010	0.0%	100.0%	961	1104	1240	1344	1443	1684	1890

WEIGHTED AVERAGE HOURLY
AT SEA COSTS FOR
US FLAG TANKERS

Deadweight	20,000	25,000	35,000	50,000	60,000	70,000	80,000
Non-Double Hull Hourly At Sea Costs	1608	1687	1814	1975	2066	2148	2228
Double-Hull Hourly At Sea Costs	1468	1574	1757	2003	2149	2288	2423

Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	1568	1655	1798	1983	2089	2188	2284
1994	67.4%	32.6%	1562	1650	1796	1984	2093	2193	2292
1995	63.2%	36.8%	1556	1645	1793	1986	2097	2199	2300
1996	59.0%	41.0%	1550	1640	1791	1987	2100	2205	2308
1997	54.8%	45.2%	1544	1636	1788	1988	2104	2211	2316
1998	50.6%	49.4%	1539	1631	1786	1989	2107	2217	2324
1999	46.4%	53.7%	1533	1626	1783	1990	2111	2223	2333
2000	42.1%	57.9%	1527	1621	1781	1991	2114	2229	2341
2001	37.9%	62.1%	1521	1617	1779	1992	2118	2235	2349
2002	33.7%	66.3%	1515	1612	1776	1994	2121	2240	2357
2003	29.5%	70.5%	1509	1607	1774	1995	2125	2246	2365
2004	25.3%	74.7%	1503	1602	1771	1996	2128	2252	2374
2005	21.1%	78.9%	1497	1598	1769	1997	2132	2258	2382
2006	16.9%	83.1%	1492	1593	1766	1998	2135	2264	2390
2007	12.7%	87.3%	1486	1588	1764	1999	2139	2270	2398
2008	8.5%	91.5%	1480	1583	1762	2001	2142	2276	2406
2009	4.3%	95.8%	1474	1579	1759	2002	2146	2282	2415
2010	0.0%	100.0%	1468	1574	1757	2003	2149	2288	2423

Deadweight	90,000	120,000	150,000	175,000	200,000	265,000
Non-Double Hull Hourly At Sea Costs	2299	2490	2661	2787	2904	3148
Double-Hull Hourly At Sea Costs	2548	2898	3221	3470	3707	4248

Study Yea	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	2370	2606	2820	2981	3132	3461
1994	67.4%	32.6%	2380	2623	2844	3010	3166	3507
1995	63.2%	36.8%	2391	2640	2867	3038	3200	3553
1996	59.0%	41.0%	2401	2657	2891	3067	3234	3600
1997	54.8%	45.2%	2412	2674	2914	3096	3267	3646
1998	50.6%	49.4%	2422	2691	2938	3125	3301	3692
1999	46.4%	53.7%	2433	2709	2961	3154	3335	3739
2000	42.1%	57.9%	2443	2726	2985	3182	3369	3785
2001	37.9%	62.1%	2454	2743	3009	3211	3402	3831
2002	33.7%	66.3%	2464	2760	3032	3240	3436	3878
2003	29.5%	70.5%	2475	2777	3056	3269	3470	3924
2004	25.3%	74.7%	2485	2794	3079	3297	3504	3970
2005	21.1%	78.9%	2496	2812	3103	3326	3538	4016
2006	16.9%	83.1%	2506	2829	3127	3355	3571	4063
2007	12.7%	87.3%	2517	2846	3150	3384	3605	4109
2008	8.5%	91.5%	2527	2863	3174	3412	3639	4155
2009	4.3%	95.8%	2538	2880	3197	3441	3673	4202
2010	0.0%	100.0%	2548	2898	3221	3470	3707	4248

WEIGHTED AVERAGE HOURLY
IN PORT COSTS FOR
US FLAG TANKERS

Deadweight			20,000	25,000	35,000	50,000	60,000	70,000	80,000
Non-Double Hull Hourly In Port Costs			1526	1600	1717	1864	1946	2020	2093
Double-Hull Hourly In Port Costs			1386	1487	1659	1891	2030	2160	2287
Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	1487	1568	1700	1872	1970	2060	2148
1994	67.4%	32.6%	1481	1563	1698	1873	1973	2065	2156
1995	63.2%	36.8%	1475	1558	1696	1874	1977	2071	2164
1996	59.0%	41.0%	1469	1553	1693	1875	1980	2077	2173
1997	54.8%	45.2%	1463	1549	1691	1876	1984	2083	2181
1998	50.6%	49.4%	1457	1544	1688	1878	1987	2089	2189
1999	46.4%	53.7%	1451	1539	1686	1879	1991	2095	2197
2000	42.1%	57.9%	1445	1534	1683	1880	1994	2101	2205
2001	37.9%	62.1%	1439	1529	1681	1881	1998	2107	2214
2002	33.7%	66.3%	1434	1525	1679	1882	2001	2113	2222
2003	29.5%	70.5%	1428	1520	1676	1883	2005	2118	2230
2004	25.3%	74.7%	1422	1515	1674	1884	2008	2124	2238
2005	21.1%	78.9%	1416	1510	1671	1886	2012	2130	2246
2006	16.9%	83.1%	1410	1506	1669	1887	2015	2136	2254
2007	12.7%	87.3%	1404	1501	1666	1888	2019	2142	2263
2008	8.5%	91.5%	1398	1496	1664	1889	2022	2148	2271
2009	4.3%	95.8%	1392	1491	1662	1890	2026	2154	2279
2010	0.0%	100.0%	1386	1487	1659	1891	2030	2160	2287

Deadweight			90,000	120,000	150,000	175,000	200,000	265,000
Non-Double Hull Hourly In Port Costs			2156	2326	2479	2590	2693	3049
Double-Hull Hourly In Port Costs			2405	2734	3039	3273	3496	4149
Study Year	Non-Double Hull Weight	Double-HuWt. Weight	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost	Avg. Wt. Cost
1993	71.6%	28.4%	2227	2442	2638	2784	2921	3361
1994	67.4%	32.6%	2238	2459	2661	2813	2955	3408
1995	63.2%	36.8%	2248	2477	2685	2841	2989	3454
1996	59.0%	41.0%	2258	2494	2708	2870	3022	3500
1997	54.8%	45.2%	2269	2511	2732	2899	3056	3547
1998	50.6%	49.4%	2279	2528	2756	2928	3090	3593
1999	46.4%	53.7%	2290	2545	2779	2956	3124	3639
2000	42.1%	57.9%	2300	2562	2803	2985	3158	3686
2001	37.9%	62.1%	2311	2580	2826	3014	3191	3732
2002	33.7%	66.3%	2321	2597	2850	3043	3225	3778
2003	29.5%	70.5%	2332	2614	2874	3072	3259	3825
2004	25.3%	74.7%	2342	2631	2897	3100	3293	3871
2005	21.1%	78.9%	2353	2648	2921	3129	3327	3917
2006	16.9%	83.1%	2363	2665	2944	3158	3360	3963
2007	12.7%	87.3%	2374	2683	2968	3187	3394	4010
2008	8.5%	91.5%	2384	2700	2991	3215	3428	4056
2009	4.3%	95.8%	2395	2717	3015	3244	3462	4102
2010	0.0%	100.0%	2405	2734	3039	3273	3496	4149

APPENDIX C

HVO MARINE FUEL PRICES

		ACTUAL PRICES									OVERALL	GNP	GNP	ADJUSTED
		ROTDAM	MED	DURBAN	JEDDAH	SINGPOR	TOKYO	LOSANG	HOUSTN	NEWYORK	AVG	INDEX	ADJMNT	AVG
JUL	1991	73.0	80.0			80.0	100.0	72.0	79.0	74.0	79.7	118.2	1.121	89.4
AUG		68.0	82.0			79.0	103.0	67.0	64.0	72.0	76.4	118.2	1.121	85.7
SEP		69.4	79.1			74.2	99.2	65.4	67.2	82.9	76.8	118.2	1.121	86.1
OCT		81.1	83.6			82.5	81.4	83.5	72.3	84.8	81.3	118.9	1.114	90.6
NOV		90.8	92.5			86.0	91.0	78.0	78.3	87.5	86.3	118.9	1.114	96.2
DEC		77.3	83.8			77.8	109.2	72.0	69.0	81.3	81.5	118.9	1.114	90.8
JAN	1992	66.9	66.8			70.3	88.0	60.6	54.4	58.6	66.5	120.0	1.104	73.4
FEB		63.5	67.6			65.8	75.5	59.4	56.8	65.5	64.9	120.0	1.104	71.6
MAR		74.7	78.8		69.4	72.3	84.8	60.3	57.8	64.7	70.4	120.0	1.104	77.7
APR		75.0	77.0		69.4	81.0	93.7	70.7	69.0	72.7	76.1	120.8	1.097	83.4
MAY		77.5	78.0		80.3	85.0	100.5	92.5	77.5	86.5	84.7	120.8	1.097	92.9
JUN		90.7	84.7		95.8	90.0	109.2	84.7	85.3	94.2	91.8	120.8	1.097	100.7
JUL		89.2	88.3		95.8	89.2	105.5	106.8	89.5	96.5	95.1	121.2	1.093	104.0
AUG		89.8	89.0		94.2	95.1	108.3	101.5	92.8	100.8	97.5	121.2	1.093	106.6
SEP		91.8	93.5		95.4	104.5	119.0	94.0	92.3	97.0	98.4	121.2	1.093	107.6
OCT		106.3	102.7			105.3	120.3	94.7	94.3	104.0	104.0	122.2	1.084	112.7
NOV		94.1	100.7		94.3	87.9	112.8	94.0	94.4	105.4	98.0	122.2	1.084	106.2
DEC		77.3	87.5	62.8	40.0	62.5	84.0	81.5	92.5	97.0	76.1	122.2	1.084	82.5
JAN	1993	72.3	80.5		79.9	76.8	84.8	80.0	78.8	98.0	81.4	123.3	1.075	87.4
FEB		70.6	79.5		76.3	84.8	89.5	80.0	75.0	88.5	80.5	123.3	1.075	86.5
MAR		78.7	81.3		76.3	82.7	98.2	78.7	74.3	86.3	82.1	123.3	1.075	88.2
APR		80.5	83.0		83.6	86.4	101.8	79.8	79.3	92.0	85.8	124.0	1.069	91.7
MAY		73.7	82.3		86.1	83.7	103.3	102.3	77.0	90.0	87.3	124.0	1.069	93.3
JUN		62.4	67.6		86.1	75.1	98.3	88.0	68.3	82.8	78.6	124.0	1.069	83.9
JUL		58.0	62.0		82.3	65.8	85.1	70.5	60.8	75.0	69.9	124.4	1.065	74.5
AUG		62.7	65.7		71.5	72.3	81.3	67.7	72.7	78.7	71.3	124.4	1.065	76.0
SEP		62.3	65.0		74.1	73.0	80.0	65.8	70.5	74.1	70.6	124.4	1.065	75.2
OCT		64.5	64.0			74.0	81.3	74.0	71.5	75.8	72.1	124.8	1.062	76.6
NOV		62.4	64.0			58.6	78.6	63.6	61.8	69.4	65.5	124.8	1.062	69.5
DEC		54.0	59.7			58.3	61.5	57.7	58.7	68.7	59.8	124.8	1.062	63.5
JAN	1994	63.8	66.8			73.0	79.7	66.1	66.0	75.9	70.2	125.6	1.055	74.0
FEB		78.5	83.5			68.3	84.3	71.5	66.3	75.9	75.4	125.6	1.055	79.6
MAR		78.0	83.8			62.0	83.0	74.8	63.3	80.8	75.1	125.6	1.055	79.2
APR		76.7	71.3			83.0	95.5	80.0	74.0	74.7	79.3	126.4	1.048	83.1
MAY		82.3	88.2	89.5		92.2	105.4	84.2	77.0	84.4	87.9	126.4	1.048	92.1
JUN		87.8	88.9			125.0	140.7	98.5	84.4	87.0	101.7	126.4	1.048	106.6
									36 MONTH INFLATION ADJUSTED AVERAGE					87.2

IFO MARINE FUEL PRICES

		ACTUAL PRICES									OVERALL	GNP	GNP	ADJUSTED
		ROTDAM	MED	DURBAN	JEDDAH	SINGPOR	TOKYO	LOSANG	HOUSTN	NEWYORK	AVG	INDEX	ADJMNT	AVG
JUL	1991	79.0	88.0	90.0	94.0	89.0	106.0	76.0	82.0	78.0	86.8	118.2	1.121	97.3
AUG		74.0	90.0	84.0	93.0	82.0	106.0	71.0	68.0	77.0	82.8	118.2	1.121	92.8
SEP		75.0	88.1	86.8	99.1	78.6	102.4	72.5	70.7	88.5	84.6	118.2	1.121	94.9
OCT		87.5	92.0	83.6	99.1	88.5	86.3	89.0	76.9	90.1	88.1	118.9	1.114	98.2
NOV		95.5	100.0	84.0	98.7	91.0	96.3	82.5	82.8	95.5	91.7	118.9	1.114	102.2
DEC		84.0	90.5	72.8	98.6	79.8	112.3	76.8	73.8	87.3	86.2	118.9	1.114	96.1
JAN	1992	73.4	74.4	66.3	84.9	73.8	92.0	66.5	58.4	65.9	72.8	120.0	1.104	80.4
FEB		69.9	77.8	64.3	78.8	69.6	79.9	64.8	61.0	72.3	70.9	120.0	1.104	78.3
MAR		82.3	86.8	64.5	82.6	76.8	87.5	67.3	62.7	71.8	75.8	120.0	1.104	83.7
APR		81.7	85.0	91.7	84.6	86.2	98.7	78.3	75.3	81.0	84.7	120.8	1.097	92.9
MAY		84.0	84.5	82.5	88.3	88.5	104.5	99.5	81.0	90.5	89.3	120.8	1.097	97.9
JUN		94.0	94.3	90.0	105.0	93.3	112.8	91.3	89.3	98.3	96.5	120.8	1.097	105.8
JUL		94.8	98.2	117.5	106.0	91.2	109.0	112.0	94.0	104.3	102.9	121.2	1.093	112.5
AUG		93.0	96.0	120.3	103.3	96.8	112.3	110.5	96.3	114.3	104.7	121.2	1.093	114.5
SEP		95.1	100.0	90.3	101.5	106.5	122.0	99.5	95.5	102.0	101.4	121.2	1.093	110.8
OCT		110.0	111.7	104.5	108.8	106.8	125.0	99.7	97.7	109.3	106.2	122.2	1.084	117.3
NOV		98.5	108.5	103.5	109.2	91.8	117.2	98.9	98.4	110.0	104.0	122.2	1.084	112.8
DEC		82.0	96.0	126.0	95.6	67.0	87.0	86.5	95.3	103.0	93.2	122.2	1.084	101.0
JAN	1993	79.0	90.3	93.0	92.0	82.0	89.3	87.5	82.5	103.8	88.8	123.3	1.075	95.4
FEB		76.4	90.3	75.4	87.5	86.3	93.4	85.8	79.0	94.3	85.4	123.3	1.075	91.7
MAR		85.3	89.3	74.5	87.5	86.2	102.0	85.0	79.0	92.3	86.8	123.3	1.075	93.3
APR		85.8	92.0		91.5	91.9	106.0	85.0	83.5	97.0	91.6	124.0	1.069	97.9
MAY		80.0	89.0		92.9	87.7	107.7	107.3	81.7	95.3	92.7	124.0	1.069	99.0
JUN		69.8	75.0		92.9	79.5	102.0	94.8	72.8	89.3	84.5	124.0	1.069	90.3
JUL		65.0	70.8	67.0	89.5	68.3	89.8	82.3	66.0	78.5	75.2	124.4	1.065	80.1
AUG		70.0	73.7	65.7	80.2	75.3	85.7	74.7	76.7	81.7	75.9	124.4	1.065	80.9
SEP		68.8	73.8	75.3	80.3	76.3	84.5	71.5	74.3	79.4	76.0	124.4	1.065	80.9
OCT		69.8	73.5	86.5	83.0	77.0	86.8	79.3	75.5	81.0	79.1	124.8	1.062	84.0
NOV		68.2	72.8	65.8	80.6	60.5	81.8	69.4	66.6	74.4	71.1	124.8	1.062	75.5
DEC		60.3	68.2	55.3	73.8	62.0	66.5	65.3	62.3	74.0	65.3	124.8	1.062	69.3
JAN	1994	69.5	77.4	64.8	77.4	75.0	83.3	71.3	70.8	81.3	74.5	125.8	1.055	78.6
FEB		83.0	90.8	70.5	88.0	70.5	88.4	76.3	70.8	83.0	80.1	125.8	1.055	84.5
MAR		81.5	90.5	88.0	89.2	65.8	85.8	80.5	68.0	85.3	81.6	125.8	1.055	86.1
APR		81.0	79.0	81.7	86.3	85.3	102.0	85.0	77.0	80.3	84.2	126.4	1.048	88.2
MAY		86.7	93.6	82.0	97.0	95.8	110.0	88.8	80.8	90.4	91.7	126.4	1.048	96.1
JUN		92.3	95.8	100.5	102.8	97.5	109.3	104.3	87.4	92.6	98.0	126.4	1.048	102.8
									36 MONTH INFLATION ADJUSTED AVERAGE					93.4

MDO MARINE FUEL PRICES

		ACTUAL PRICES									OVERALL	GNP	GNP	ADJUSTED
		ROTDAM	MED	DURBAN	JEDDAH	SINGPOR	TOKYO	LOSANG	HOUSTN	NEWYOR	AVG	INDEX	ADJMNT	AVG
JUL	1991	148.0	198.0	220.0	198.0	170.0	240.0	190.0	157.0	187.0	189.8	118.2	1.121	212.7
AUG		143.0	207.0	208.0	198.0	164.0	235.0	185.0	155.0	185.0	186.7	118.2	1.121	209.2
SEP		153.1	199.0	214.0	217.5	174.8	226.8	197.2	165.2	193.0	193.4	118.2	1.121	216.8
OCT		178.4	220.3	215.6	221.1	178.0	226.4	203.0	174.5	199.5	201.9	118.9	1.114	225.0
NOV		183.8	224.8	226.8	234.3	186.3	233.0	197.5	183.8	210.5	209.0	118.9	1.114	232.9
DEC		156.8	193.8	224.5	237.9	178.0	242.5	189.5	170.0	201.3	200.5	118.9	1.114	223.4
JAN	1992	159.9	177.9	219.5	237.9	173.3	235.1	178.9	153.1	180.8	190.7	120.0	1.104	210.6
FEB		164.3	183.3	212.0	237.9	163.3	230.3	190.0	154.0	181.4	190.7	120.0	1.104	210.6
MAR		154.0	165.8	208.0	237.9	152.7	227.3	189.2	150.7	175.0	184.5	120.0	1.104	203.7
APR		157.3	174.0	208.0	237.9	162.3	227.7	187.5	155.7	178.7	187.7	120.8	1.097	205.9
MAY		165.5	184.0	206.0	237.9	168.0	226.0	202.0	161.5	188.5	193.3	120.8	1.097	212.0
JUN		175.0	192.0	207.5	237.9	175.0	229.7	204.7	171.7	190.0	198.2	120.8	1.097	217.4
JUL		172.5	194.3	212.8	237.9	166.3	225.5	200.0	175.0	194.7	197.7	121.2	1.093	216.1
AUG		163.5	184.0	211.0	237.9	160.0	226.5	201.8	173.0	199.5	195.2	121.2	1.093	213.4
SEP		168.3	190.0	206.7	237.9	165.5	231.3	200.0	175.8	196.0	196.8	121.2	1.093	215.2
OCT		166.7	203.3	224.5	237.9	169.3	230.0	200.0	178.0	201.7	201.3	122.2	1.084	218.2
NOV		157.2	193.9	209.5	237.9	166.8	229.4	200.5	182.2	204.0	197.9	122.2	1.084	214.6
DEC		148.5	183.0	209.0	222.2	154.0	196.0	201.5	182.0	197.0	188.1	122.2	1.084	204.0
JAN	1993	148.5	182.5	176.5	237.9	166.0	227.0	200.0	164.8	196.3	188.8	123.3	1.075	202.9
FEB		149.3	179.5	206.3	237.9	163.8	231.8	190.5	162.8	191.5	190.3	123.3	1.075	204.6
MAR		158.7	180.3	204.0	237.9	162.7	238.0	185.0	160.7	193.0	191.1	123.3	1.075	205.4
APR		167.8	185.0		237.9	163.8	240.0	192.5	161.8	195.0	193.0	124.0	1.069	206.2
MAY		162.0	187.3		237.9	166.7	241.0	201.0	160.0	194.3	193.8	124.0	1.069	207.1
JUN		152.4	171.2		237.9	158.8	235.6	205.0	159.8	191.8	189.1	124.0	1.069	202.0
JUL		144.5	164.5	200.0	237.9	148.0	232.8	206.5	159.0	186.8	186.7	124.4	1.065	198.8
AUG		145.0	168.0	199.7	237.9	148.3	234.3	208.7	159.7	186.0	187.5	124.4	1.065	199.7
SEP		142.3	167.3	197.9	237.9	144.5	235.0	208.8	158.3	184.9	186.3	124.4	1.065	198.4
OCT		147.1	179.3	203.3	237.9	148.3	234.8	206.3	158.8	183.8	188.8	124.8	1.062	200.4
NOV		144.8	176.4	200.2	237.9	142.6	232.8	208.8	157.8	180.8	186.9	124.8	1.062	198.4
DEC		137.3	162.3	194.3	237.9	141.7	242.0	205.7	157.7	174.7	183.7	124.8	1.062	195.1
JAN	1994	133.5	155.0	191.3	237.9	145.5	229.0	208.1	152.0	176.0	180.9	125.6	1.055	190.9
FEB		129.5	151.5	190.0	237.9	135.0	227.4	211.3	150.5	177.1	178.9	125.6	1.055	188.7
MAR		124.8	143.0	190.0	237.9	169.8	211.3	208.9	149.5	174.1	178.8	125.6	1.055	188.6
APR		132.0	150.3	187.3	237.9	138.3	231.5	210.0	148.7	175.0	179.0	126.4	1.048	187.6
MAY		137.6	157.8	190.1	237.9	142.2	233.8	200.0	160.0	175.0	181.6	126.4	1.048	190.4
JUN		136.3	154.0	187.0	237.9	139.3	233.0	210.0	146.8	176.6	180.1	126.4	1.048	188.8
									36 MONTH INFLATION ADJUSTED AVERAGE					206.0

APPENDIX C

VESSEL CLASS ARRIVAL PATTERNS

APPENDIX C
Vessel Class Arrival Patterns

Proportion of Total Traffic

Class	2000	2010	2020	2030
AA	.11	.09	.09	.09
AB	.02	.01	.01	.01
A1	.03	.04	.05	.06
A2	.23	.22	.20	.19
A3	.06	.07	.09	.09
A4	.03	.06	.09	.12
AE	.16	.17	.16	.15
AF	.01	.01	.01	.01
DA	.05	.06	.09	.03
DB	.06	.06	.06	.05
DC	.03	.03	.02	.02
DD	.01	.01	.01	.01
DE	.02	.01	.04	.04
EC	.01	.01	.01	.01
ED	.01	.01	.01	.01
FA	.01	.01	.01	.01
FB	.01	.01	.01	.01
FC	.01	.01	.01	.01
FD	.01	.01	.01	.01
HB	.08	.08	.08	.08
PA	.01	.01	.01	.01
PB	.01	.01	.01	.01
PC	.01	.01	.01	.01
PD	.01	.01	.01	.01

CHANNEL SIMULATION

A User's Manual

simulation designed and developed by

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OUTLINE

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I. Introduction

The Galveston Corps of Engineers began exploring the possibility of modifications of the Houston and Galveston Ship Channels in the late 1980's. In the Fall of 1989, the Galveston Corps of Engineers contacted Dr. Michael Racer of the Industrial and Systems Engineering Program at Memphis State University to assist in the analysis. To aid the Galveston Corps of Engineers (GCOE) in this task, a simulation program was written. This program simulates vessel traffic in the channel to a very detailed level. Using this simulation, the impact of any of a number of decisions can be addressed. These include:

- channel modifications (width and depth)
- traffic changes (e.g. alternate vessel types)
- policy changes (e.g. passing/meeting protocol)
- port usage changes (e.g. addition/deletion of a facility, increase/decrease in utilization)
- flexibility to model other channel environments

Modifications required by the Baltimore District Corps of Engineers were for the purposes of modeling the value of anchorage modifications and branch channel improvements. This led to the introduction of the following into the simulation:

- anchorage definition
- pilot costs
- dispatch and demurrage costs
- maneuvering times in branch channels
- berthing, deberthing and loading/offloading times in docks

Section II develops the essential concepts of simulation. Section III provides an overview of the environment under consideration. Section IV presents the simulation model,

including a rationale for the approach taken. Section V outlines the data requirements of the model, while Section VI discusses some possible extensions of the model.

Appendices are included on input format and description, sample output, and installation/execution steps. If additional guidance is necessary, directions for receiving additional assistance are also in an appendix.

This document was prepared and modified with the assistance of a number of reviewers, provided under the Baltimore Anchorages Study. I would like to acknowledge these reviewers for their assistance in improving this document, where possible, and for suggestions on future improvements when appropriate:

Dr. Michael Bronzini
Dr. Paul Schonfeld
Dr. Jan Berg-Andreassen
Dr. Ambrose Goicoechea

[The following documentation/resources were used in developing the simulation model:

- *VTS Houston/Galveston Information*, Rev. 3/89
- *The Ports of Galveston and Texas City, Texas*, Port Series #23, Rev. 1985, U.S. Army Corps of Engineers
- *The Port of Houston, Texas*, Port Series #24, Rev. 1989, U.S. Army Corps of Engineers
- *Final Feasibility Report and Environmental impact Statement*
  Galveston Bay Area Navigation Study
  Volume 3 Appendix
  C. Navigation Economics
- Vessel/Tow Traffic Data (1989)
- discussions with Frank Incaprera
- discussions with Gloria Appell
- discussions with Clifford Kidd]

II. Fundamentals of Simulation

In this section, we present a synopsis of the concept of simulation, and relate that to channel functionality. Through the use of simulation we may better understand some aspect of the real world.

The use of simulation is usually required in those situations which possess a great deal of complexity and some level of uncertainty or variability. The problem posed by the GCOE certainly possesses these features. There are a large number of ports in the system. The channel is large and non-homogeneous - over sixty miles of channel and subchannel, varying in width and depth. There are a great many of variable elements in the channel system. From the system-wide viewpoint, vessel traffic is highly variable. The simulation models the departure of vessels from ports. Those elements of a given vessel trip which are determined according to probabilistic distributions are:

time of departure
class of vessel
destination

Departure rates for the ports were determined from historical data. It was found that the exponential distribution provided a good fit to the observed rates. Vessel class and destination are also chosen with regard to a port-specific distribution, supplied by the user.

It is important to point out that the program simulates traffic movement; it does not mimic traffic. That is, a run of the program will produce vessel flows that have characteristics similar to that observed in the real world. The <u>average</u> number of simulated departures from a given port will be close to that of the actual port. The <u>average</u> number of vessels in

the simulated channel system at any point in time will be similar to that observed. By simulating the environment in this manner, we may analyze the effect of alternate scenarios on the system effectiveness, without physically implementing the changes. Using the simulation code for the problem faced by GCOE, we can assess the impact of widening and deepening parts of the channel. Using forecasts of vessel types, channel traffic was simulated over a fifty year period.

To develop a meaningful simulation analysis, it is important for the user to have a very thorough understanding of the system being simulated. The user must identify those characteristics which significantly influence the system, and in particular the questions to be addressed in the analysis. In the HSC/GC effort, it was found that seasonalities did exist, with respect to channel traffic. In addition, because the modifications are long term efforts, it was necessary to analyze traffic patterns well into the future. To accommodate these, data was collected on traffic in each of four seasons. (Channel seasons are closely related to natural seasons. In other environments, it may be necessary to model fewer, or more, seasons.)

The Corps of Engineers also developed a forecast of future vessel classes and volumes for the channel. Using this information, and current seasonal data, future seasonal forecasts were created.

One further issue of importance in simulation modeling is to remember that a single run of the simulation does not provide the definitive answer. Within each environment, the user must make several simulation runs of several days. The number of days and number of runs can be determined by the user as he collects results. As an example, suppose that the

evaluation measure is total system cost. The user must make several runs to determine the variability present. From this, the user may choose the number of runs and period simulated so as to bring the observed variance down to an acceptable level.

III. Essential Elements of the Environment

A number of factors are potentially influential in simulating channel operations. These may include the following:

- vessel data (size,origin,destination, etc.)
- channel configuration (depth, width, shape, presence of subchannels, etc.)
- port location/operation
- operating policies
- weather
- accidents

In the current application, the primary factors are the first four. No attempt is made to account for weather conditions, and casualty effects are not critical for the problem at hand.

Since the essence of the channel simulation problem is to assess the impact of system modifications, it is very important to understand the traffic moving through the channel and various subchannels, as well as to represent realistically that channel structure. Port operations are important only in that this dictates the supply of vessels traveling the channel. (The program has been structured in a modular fashion, as to allow for future extensions as needed. This will be discussed later.)

The simulation has the capability to model channel traffic from two different perspectives, dependent on the needs of the user. In the first instance, in which the focus of the analysis is on channel modifications, the creation of traffic flows may be accomplished by

specifying departure rates for the various docks and source points in the system. While this ignores the relationship between vessels inbound to a specific port and those outbound from that port, it does essentially capture the vessel movement levels. This is the methodology applied to the Galveston Channel Study.

The second methodology, applied to the Baltimore Anchorages Study, allows for the creation of vessels only at source points (e.g. from the ocean). These vessels are that managed throughout the system, coordinating inbound, port service, and outbound actions.

We discuss each of the major entities in the model below, providing detailed data requirements in a later section. Each entity has a set of attributes. These attributes are utilized in the simulation to guide the actions and interactions of the entities. We classify these attributes as follows:

input: provided by the user, or determined from user-defined inputs
dynamic: changing as the simulation progresses; these attributes are generally internally required, and of no general use to the operator
calculated: performance statistics

Vessel Class Model

At a high level, it can be recognized that there exist some commonalities among vessels. In order to simplify the modeling process, the program allows any number of vessel classes to be defined. The number defined will depend on the user: how much diversity is necessary to answer the questions to be addressed? The reasons for discriminating between vessel classes are numerous, and situation-dependent. In the Houston/Galveston model, it is necessary to distinguish vessels primarily on structure - draft and width in

particular. However, in another environment it may be more important to distinguish based on operating costs. (Such may be the case when preparing an analysis for channel port operators, for instance.) By allowing the user to define he/she has the capability to investigate a wide range of issues.

Each vessel class has the following attributes:

a cls.ident,	"class identifier (input)
a cls.draft,	"operating draft of this class (input)
a cls.speed,	"max speed of class (input)
a cls.turn.speed,	"turning speed of class (input)
a cls.cost,	"hourly operating cost (input)
a cls.pilot.cost,	"hourly pilotage cost (input)
a cls.miles,	"total mileage for the class (calculated)
a cls.tot.cost,	"total cost for boats of this class (calculated)
a cls.tot.time,	"total time in system for this class (calculated)
a cls.trip.ct,	"#trips of this class (calculated)
a cls.unf.miles,	"total mileage for the class - unfinished trips (calculated)
a cls.unf.tot.cost,	"total cost for boats of this class - unf. trips (calculated)
a cls.unf.trip.ct,	"#trips of this class - unf.trips (calculated)
a cls.bm.width, and	"beam width (input)
a cls.length, and	"length of class (input)
a cls.prior,	"prioritization scheme (input)
a cls.disp.cost,	"cost of dispatch/demurrage for this class (input)
a cls.dock.size,	"#dock slots required (input)
a cls.disp.time,	"time period from which disp/demur calculated (input)
a cls.acc.disp.demur,	"accumulated disp/demurrage costs for the class (calculated)
a cls.acc.pilot.cost,	"total costs of pilotage in the cell (calculated)

Vessel Model

The second level of vessel definition is port-specific. That is, the vessel must be defined with respect to its origin and destination. Internally, the vessel is also linked to a particular vessel class, and the information pertinent to that class.

Each vessel has the following attributes:

a bt.new,	"0=new, 1=old (dynamic)

a bt.ident,	"identifier for boat (input)
a bt.init.time,	"time at which boat began trip (calculated)
a bt.tot.miles,	"miles traveled (calculated)
a bt.speed,	"current boat speed (dynamic)
a bt.locn,	"distance into cell (dynamic)
a bt.heading,	"heading at present (dynamic)
a bt.back.flag,	""true" if backing up, "false" otherwise (dynamic)
a bt.back.width,	"if backing,cell width required for pass; else 0 (dynamic)
a bt.pres.cell,	"present cell location (dynamic)
a bt.next.cell,	"next cell location (dynamic)
a bt.dest,	"destination port (input)
a bt.orig,	"origination port (input)
a bt.class,	"type of boat (input)
a bt.genl.head.ew,	"a E/W heading indicator (dynamic)
a bt.genl.head.ns,	"a N/S heading indicator (dynamic)
a bt.nxt.event.time,	"time of boat's next event (dynamic)
a bt.next.turn,	"pointer into bt.set (dynamic)
a bt.update.time,	"time boat position was last updated (dynamic)
a bt.destroy.flag,	"flags whether a boat has been in casualty (dynamic)
a bt.idle.time,	"idle time of vessel (calculated)
a bt.dispatch.cut,	"time from which dispatch/demurrage is counted (calculated)
a bt.priority,	"vessel priority (input)
a bt.posn,	"status flag (dynamic)
a bt.ult.dest,	"ultimate destination of the vessel (input)
a bt.ult.orig,	"first vessel origination of the vessel (input)
a bt.cl.start,	"time at which the vessel started in the current cell (dynamic)
a bt.anc.arrival,	"time of arrival at anchorage, if applicable (calculated)
a bt.dd.arrive,	"time from which to allocate dispatch/demurrage rate (calculated)
owns a bt.set,	"itinerary (input)

Structure Model- Cell

There are essentially two components in describing the physical character of the channel. These are the development of a cell structure, and the definition of wide spots. We first discuss the cells.

There may be long stretches of the channel in which the appearance of the channel is constant. Recognition of this facilitated the development of the simulation, and increases the efficiency of the run-time. The channel is defined with respect to a major axis - primarily north-south, or primarily east-west. By defining the other cells adjacent to each cell, we can represent the entire channel structure, including sub-channels and turns without requiring excessive modeling of ship maneuvers.

Each cell has the following attributes:

a cl.ident,	"cell identifier (input)
a cl.level,	"level off of main channel (calculated)
a cl.length,	"length of cell (input)
a cl.width,	"width of cell (input)
a cl.depth,	"depth of cell (input)
a cl.spd.limit,	"cell speed limit (input)
a cl.intersec,	""true" if at an intersection;"false" otherwise (input)
a cl.level.dist,	"distance to next level from cell edge (input)
a cl.level.joiner,	"cell connecting this one to next lower level (input)
a cl.label.dir,	"direction to main channel (input)
a cl.north,	"cell N of this one (input)
a cl.east,	"cell E of this one (input)
a cl.south,	"cell S of this one (input)
a cl.west,	"cell W of this one (input)
a cl.casualty.rate,	"rate of casualties in this cell (input)
a cl.tot.miles,	"total mileage of ships departing ports in this cell (calculated)
a cl.tot.time,	"total operation time of ship departing this cell (calculated)
a cl.unf.tot.miles,	"total unfinished mileage of ships departing ports in t (calculated)
a cl.unf.tot.time,	"total unfinished operation time of ship departing this cell (calculated)
a cl.tow.tow.mt.casualty,	"#tow/tow meet casualties in this cell (calculated)
a cl.tow.ship.mt.casualty,	"
a cl.ship.ship.mt.casualty,	"
a cl.tow.tow.ps.casualty,	#tot/tow pass casualties in this cell (calculated)
a cl.tow.ship.ps.casualty,	"
a cl.ship.ship.ps.casualty,	"
a cl.tow.tow.mt.count,	"#tow/tow meetings in this cell (calculated)
a cl.tow.ship.mt.count,	"

a cl.ship.ship.mt.count,	"
a cl.tow.tow.ps.count,	"#tow/tow passings in this cell (calculated)
a cl.tow.ship.ps.count,	"
a cl.ship.ship.ps.count,	"
a cl.depart.ct,	"# departures from ports in the cell (calculated)
a cl.depart.delay,	"total of delay times for departures (calculated)
a cl.branch.flag,	"indicates whether a cell is a branch channel (input)
a cl.capacity,	"if branch, this is capacity, else INF (input)
a cl.pilot.flag,	"1 if cell must be piloted, 0 otherwise (input)

Structure - Wide.Spot

In situations for which a stretch of the channel may be fairly homogeneous, but spotted by vessel turnouts, we include the modeling of wide spots in each cell. These are locations at which a vessel may wait for other vessels to pass before continuing. Such waiting is necessary when passing and meeting rules restrict such events.

Each wide spot has the following attributes:

a ws.cell,	"cell in which spot is located (input)
a ws.locn	"distance of wide.spot into cell (input)

Port Model

The ports in the system drive the activities in the simulation. A port may be truly a functioning operation, or may represent some other source of vessels. For instance, in the Houston/Galveston model, two additional ports were modeled - one for the sea, and a second one for the anchorage area. A port is defined with respect to its location, and characteristics of departing vessels.

Each port has the following attributes:

a pt.cell,	"cell in which port is located (input)
a pt.locn,	"distance of port from cell's leading edge (input)

a pt.name,	"name of port (input)
a pt.depart.ct,	"#boats departed port (dynamic)
a pt.class.ct,	"# classes of boats in port (input)
a pt.dest.ct,	"# ports served (input)
a pt.class.type.ptr,	"pointer to array-class ID (calcualted)
a pt.class.frac.ptr,	"pointer to array -fraction of each class (calculated)
a pt.class.num.dest.ptr,	"pointer to array - #destinations served by each class (calculated)
a pt.class.freq.ptr,	"pointer to array-departure frequency of class (calculated)
a pt.class.dest.ptr,	"pointer to array-destinations of class (calculated)
a pt.class.dest.frac.ptr,	"pointer to array-fraction of class with destination (calculated)
a pt.rate.p1,	"departure rate parameter 1 from port (input)
a pt.rate.p2,	''not used
a pt.svc.time,	"time to complete service in dock (input)
a pt.capac,	"#slots in the port (input)
a pt.usage,	"#slots in the port being utilized (dynamic)
a pt.anc.flag,	"flag indicating whether a port is an anchorage (input)
a pt.deberth,	"time to deberth (input)
a pt.berth,	"time to berth (input)
a pt.maneuver,	"time to maneuver into dock (input)
a pt.lay.cost,	"cost to layover in dock (input)
a pt.idle.cost,	"cost to sit idle (input)
a pt.depart,	"# departures from port (calculated)
a pt.arrive,	"# arrivals to port (calculated)

Anchorage Model

This new element in the simulation model captures the essential characteristics of an anchorage, for the purpose of allowing a vessel to wait. A wait may be necessitated when a dock is full, or channel traffic precludes the movement of the vessel. (The characteristics deemed necessary under the environment within the Baltimore Harbor System were determined in agreement with personnel in the Baltimore District Corps of Engineers.)

Each anchorage has the following attributes:

an anc.port,	"port with which anchorage is associated (input)
an anc.index,	"anchorage ID (input)
an anc.num.slots,	"# anchor positions (input)

an anc.type,	"normal or overflow (input)
an anc.depth,	"depth in anchorage (input)
an anc.prior.flag,	"prioritization scheme (input)
an anc.wait.lim,	"wait limit (input)

Within each anchorage, there are then a number of tie-ups, each with its own set of attributes. These specific attributes of the tie-up are:

an atu.usage,	"current user of the slot (dynamic)
an atu.depth, and	"depth of the tie.up (input)
an atu.length	"max allowable legth in the slot (input)

IV. The Simulation Model

The simulation consists of roughly 4000 lines of computer code. This program has been written to execute on an IBM-compatible PC, and has been tested on an Pentium machine.

A. Events

The activity of the simulation is driven by the creation of event routines within the code. The following ten events form the core of the channel simulation model:

E.BT.ARRIVE	arrival of a vessel to its destination port
E.BT.BACKUP	initiation of a vessel backup
E.BT.BEGIN	departure of a vessel from a port
E.BT.MEET	meeting of two vessels in a channel
E.BT.MOVE	change in movement of a vessel
E.BT.PASS	passing of one vessel by another in a channel
E.BT.TURN	turn of a vessel from one channel to another
E.DOCK.DONE	completion of dock utilization
E.LAYOVER.DONE	completion of a layover
E.STOP.SIM	termination of the simulation

Each event is described in more detail below.

<u>E.BT.ARRIVE (71 lines)</u>

This event essentially identifies the arrival of a vessel at the appropriate destination port. A variety of trip statistics are collected. (These statistics will be discussed in detail in a later section.) If the vessel is a tow, a new assignment is determined, and a departure is scheduled for the tow.

E.BT.BACKUP (44 lines)

This routine marks the time at which a vessel must begin traveling in the reverse direction, to allow for a legal passing. Once this is done, the next action of the vessel is determined.

E.BT.BEGIN (289 lines)

When a vessel initiates a port departure, a number of actions must be taken. This routine scans the local channel area to make sure that the vessel can safely exit from the port, avoiding oncoming traffic. If this is not the case, departure is delayed until the appropriate time. Once a safe departure is determined, the next event involving this vessel is determined.

E.BT.MEET (225 lines)

The following inputs are provided by the user, with respect to the function of two vessels meeting in a channel:

meet_margin distance, in feet, at which vessels must initiate meeting protocol
draft_ratio_limit_1,
draft_ratio_limit_2,
width_ratio_limit limits on draft ratios of the two vessels
speed_reduction_matrix_size
number of elements in speed reduction array
ratio_array(i),
reduc_array(i) speed reduction array elements, i = 1...array size

The inputs reflect the discussion of meeting protocol described in Section 7.4.3.6.2 of the *Galveston Bay Area Navigation Study*. Draft ratio limits and the beam width ratio limit are used to define those situations in which a meeting is not possible, and a backup must occur. When a meeting is allowed, the (ratio_array,reduc_array) determine the amount by which the vessels must slow down for a proper meeting. The procedure followed simulates the Texas Chicken Maneuver.

When two vessels are scheduled to meet, a number of statistics are collected. Casualty probabilities are modeled in a very rudimentary fashion. For each cell, the probability of a casualty occurring during an encounter has been determined. Random casualties are marked, based on this distribution. Since this was not considered to be of much concern with respect to the Houston Ship Channel problem, and detailed data was unavailable, little attention was paid to this aspect. (The code has the capability to be expanded to more accurately reflect casualty concerns.)

When two vessels are scheduled to meet, the combined beam width ratio of the vessels is calculated. If this exceeds the maximum allowable ratio, the vessel of smaller beam is backed up. Otherwise, the appropriate speed reduction for meeting is determined, via a table look-up. Vessel speeds are reduced accordingly. If either boat had previously been backing up, and is now allowed to continue forward motion, then this is done. The next event for each vessel is determined, at the conclusion of the meeting.

<u>E.BT.MOVE (123 lines)</u>

A variety of movements are considered in this routine. These are:

- initiation of a turn
- completion of a turn
- completion of travel in a cell

If a turn is being initiated, an E.BT.TURN event is scheduled.

If a cell completion of turn completion is scheduled, the transition is marked. Vessel speed is revised if necessary. If the vessel is backing up, and has found a wide enough place to wait, the vessel is stopped; otherwise, it continues to back up.

E.BT.PASS (224 lines)

Vessel passing protocol is similar to that of the meeting, discussed earlier. Inputs are similar. Statistics are collected, and casualties are modeled to a limited degree.

E.BT.TURN (372 lines)

When a turn is identified, this event recognizes the cell into which the vessel is moving, and changes the course of the vessel appropriately. If other vessels are near the intersection and the vessel is currently in a subchannel, the vessel waits until that time at which it is safe to make the transition. If the turn is allowed, the routine then determines the time at which the turn will be completed.

E.DOCK.DONE (166 lines)

This event marks the conclusion of a dock service. The event initiates the departure of the vessel, either to its ultimate destination, or an intermediate one (anchorage or layover).

E.LAYOVER.DONE (49 lines)

This event marks the conclusion of a layover. The conclusion may be either voluntary - in that the vessel is moving to its ultimate destination or an anchorage - or it may be involuntary - in which case the layover is being terminated and the vessel must locate a new layover point.

E.STOP.SIM (86 lines)

E.STOP.SIM terminates an iteration of the simulation at a time specified by the user.

B. Functions

The simulation consists of one function - OPPOSITE (25 lines) - which is used to reverse the direction of travel which must back up.

C. Routines

The simulation consists of a number of routines, which provide support to the main activities, as dictated by the events. These routines are:

MAIN	driver
R.BT.CASUALTY	handles casualties
R.BT.DEPART	supports vessel port departure
R.CLEAN.UP	supports simulation termination
R.END.BOAT.EVENTS	cancels all events for a vessel when necessary
R.FINAL.STATS	calculates and prints final statistics
R.INITIALIZE	initializes all data and variables
R.NXT.MOVE	supports determination of next vessel activity
R.RD.DATA	data input
R.RTE.CREATOR	determines route for a vessel, from origin to destination
R.START.TOWS	starts all tow activities in the simulation
R.UPDATE.BOAT	re-evaluates vessel location
R.VERIFY	verifies vessel characteristics
SNAP.R	debug aid

MAIN (86 lines)

This routine is the driver for the entire simulation. The user is prompted to define the length of time for each simulation, as well as the number of simulation runs to be done. Data is input. An E.STOP.SIM is scheduled. Vessel departures are scheduled for each port in the system. Tow movements are initiated. When the simulation is terminated, statistics are collected, and all arrays reinitialized as necessary.

R.BT.CASUALTY (166 lines)

When a casualty has occurred, this routine collects statistics. Casualties are defined with respect to vessel types, as well as locations. Activities for both vessels involved are ceased.

R.BT.DEPART (88 lines)

It was determined that vessel departures were exponentially distributed. This routine supports the departure of a vessel from a port. The vessel class is determined, using the characterizes of the port provided by the user. In the same fashion, an destination port is selected. The route for the vessel is determined, and the first activity - an E.BT.BEGIN - is scheduled according to the departure rate of vessels from the port.

R.CLEAN.UP (31 lines)

This routine simply releases all storage utilized by the routine during the simulation.

R.END.BOAT.EVENTS (101 lines)

When the simulation determines that a new event will preempt the previously calculated activity of a vessel, this routine is called to cancel all relevant events. Activities of other vessels may also be impacted; in this case, new activities are determined for those vessels.

R.FINAL.STATS (239 lines)

The following statistics are compiled and displayed:

- passing
  - by cell of encounter
    - tow_tow
    - tow_ship
    - ship_ship
  - summary
- meeting
  - by cell of encounter
    - tow_tow
    - tow_ship
    - ship_ship
  - summary
- system costs (finished trips)
  - by vessel class
    - total expense($)
    - number of trips
    - number of miles
    - cost/trip
    - cost/mile
  - summary
- system costs (unfinished trips)
  - by vessel class
    - total expense($)
    - number of trips
    - number of miles
    - cost/trip
    - cost/mile
  - summary
- delays
  - by cell of departure

average delay (hours)
number of departures
summary

- casualties
  by cell of encounter
    tow_tow
    tow_ship
    ship_ship
  summary

- travel (finished trips)
  by cell of departure
    miles traveled
    time traveled (hours)
    average rate (miles/hour)
  summary

- travel (unfinished trips)
  by cell of departure
    miles traveled
    time traveled (hours)
    average rate (miles/hour)
  summary

Statistics were collected independently on finished and unfinished trips, to accommodate the determination of annual system costs. Finished trip data is dependent heavily on the length of time simulated; unfinished trips, on the other hand, represent a snapshot of system activity.

R.INITIALIZE (13 lines)

This routine initializes some variables.

R.NXT.MOVE (342 lines)

This routine is one of the most substantive in the entire simulation. This routine determines the next activity that will involve a vessel at any point in time. When called,

the routine determines which of the six events - E.BT.ARRIVE, E.BT.BACKUP, E.BT.MEET, E.BT.MOVE, E.BT.PASS, E.BT.TURN - will occur next. In addition, for a vessel currently backing up, this routine will identify the nearest wide spot in the channel. The appropriate event is then scheduled.

R.RD.DATA (353 lines)

All data input - except for number of runs, and simulation period - are read via this routine.

R.RTE.CREATOR (188 lines)

When a vessel departure is scheduled, this routine determines the path to be followed by the vessel, including all turns. A route file is created, storing all relevant information for the vessel.

R.START.TOWS (34 lines)

The user specifies the number of tows operating in the system, and the expected amount of idle time between assignments for a tow. This routine starts tows in accordance with the user-supplied information.

R.SUMMARY.STATS (122) lines)

This routine provides a summary printout of the per iteration finished trip costs. Average results over the run are also calculated.

R.UPDATE.BOAT (64 lines)

This routine updates the location when necessary. Vessel travel distance is increased, and vessel speed is modified when appropriate.

R.VERIFY (54 lines)

This routine verifies that the position of a vessel is a valid one.

SNAP.R (47 lines)

This routine provides debug support, and can be modified with regard to the particular debug needs.

V. Data Requirements

There are two input files required. The first input file describes the structure of the system, containing all static information. The second file is used to define the traffic pattern. By separating the data in this fashion, a variety of dynamic issues can be explored:

seasonal influences
traffic forecasting issues
etc.

{Anything in **bold** characters is considered a key word, and must be entered as shown.}

{inputs shown in outline form indicate numbers supplied by the user.}

We begin by developing the contents of file one - the <u>structure file</u>

<u>Structure File Format</u>

1. *Header line:* The file begins with a header line(s). This is included to allow the user to included a detailed descriptor of the file contents. The header is echoed in the output.

format:

< header information <

The program looks for the opening '<'. Everything lying between the '<'s is considered as comment.

2. *Seeds*: There are 5 random number strings used in the simulation. These are tied to 5 different random event types occurring in the program. The user may allow the simulation to select the seeds, or may supply his own.

format (all integers; unformatted):

old.seeds

or

new.seeds
seed1 seed2 seed3 seed4 seed5

3. *Sensitivity Analysis Parameters*: (These are not currently used, but were part of preliminary analysis.)

format (all reals; unformatted):

1.0 1.0 0.0 1.0

4. *System Configuration*: These two parameters provide the general structure of the system. The first parameter indicates the number of cells in the network; the second identifies the major axis of orientation of the system.

format (2 integers; unformatted):

num_cells orient (0=north-south, 1=east-west)

5. *Cell information*: There are a number of parameters specified for each cell. Each cell is numbered sequentially, up to num_cells. Each cell is given a name, chosen by the user. The remainder of the cell input defines the cell speed limit (knots), the cell casualty rate (probability of occurrence/meeting), and the cells adjacent to the cell. In addition, the user

provides the cell depth (feet), the length (miles), and the width (feet). Two flags indicate whether the cell must be piloted ("1"=yes), and whether the cell is a branch channel ("1" = yes).

format (type as shown; unformatted):

cell_id (integer)	cell_name (text)
cell_speed_limit (real)	cell_casualty_rate (real)
cell_north_neighbor (integer)	cell_eastern_neighbor (integer)
cell_southern_neighbor (integer)	cell_western_neighbor (integer)
cell_depth (integer)	cell_length (real)
cell_width (integer)	cell_pilot_flag (integer)
cell_branch_flag (integer)	

6. *Number of vessel classes*: Following the input of all cell information, the user provides the number of vessel classes to be defined.

format (integer, unformatted):

num_class

7. *Vessel class information*: For each vessel class, the user supplies information about the vessels of this class: identifier, vessel dimensions (feet), maximum speed (knots), turning speed (knots), operating cost ($/hour), pilotage cost ($/hour), dispatch cost($/hour prior to the agreed upon time limit), dispatch time (hours).

format (type as shown;unformatted):

class_ID (text)	class_beam_width (integer)
class_draft (integer)	class_length (integer)
class_speed (integer)	class_turn_speed (integer)
class_cost (real)	class_disp_cost (integer)
class_disp_time (integer)	

NOTE:The class_ID of tow vessels must be "TOW".

8. *Wide spots*: The software allows for the introduction of a wide spot into an otherwise homogeneous cell. Each wide spot is defined by location (cell number and distance into the cell), and may include a descriptor.

format: (integer, real, text; unformatted; one wide spot per line):

wide_spot_cellwide_spot_dist descriptor(optional)

9. *Passing information*: As discussed earlier, in the section on E.BT.PASS, the passing policy is reflected in the data input.

format (type as shown, unformatted):

pass.margin (integer)
comb_bm_width_ratio_pass (real)
passer_draft_ratio_limit (real)
passee_draft_ratio_limit (real)
pass_array_dimension (integer)
pass_beam_width(i)(real) pass_speed_reduction(i) (real)
i = 1...pass_array_dimension

NOTE: pass_beam_width(1) must be 0.0, and pass_beam_width(pass_array_dimension) must be 1.0.

10. *Meeting information*: As discussed earlier, in the section on E.BT.MEET, the passing policy is reflected in the data input. There is also an additional parameter - casualty_reduc - which allows the user to investigate the impact of scaling up and down the casualty rates.

format (type as shown, unformatted):

meet.margin (integer)
draft_ratio_backup_limit1 (real)
draft_ratio_backup_limit2 (real)
width_ratio_backup_limit (real)
casualty_reduc (real)
meet_array_dimension (integer)
meet_beam_width(i)(real) meet_speed_reduction(i) (real)

i = 1...meet_array_dimension

NOTE: meet_beam_width(1) must be 0.0, and

meet_beam_width(meet_array_dimension) must be 1.0.

11. *Turning information*: Two parameters influence turning - a distance limit and a time limit. If there is no vessel within a certain distance, in miles, of the turning point and no vessels will arrive at that point within the allotted time, in minutes, the turn is allowed; otherwise the vessel must wait.

format (2 reals; unformatted):

turn_dist_limit turn_time_limit

12. Anchorage information

The user must specify information concerning each of the defined anchorages in the system. Because of the operational similarities between a port and an anchorage, the two share some characteristics, and each anchorage is defined in the seasonal file with respect to these characteristics. Following are the charaacteristics specific to an anchorage. Each anchorage has two identifiers, a number and a textual name. For each anchorage, the user defines the number of tie-ups and the depth (in feet). Note that all tie-ups in a single anchorage are of the same depth. For each tie-up, a length (in feet) is entered. This length is the length of the longest possible vessel that could use this anchorage. Priority and wait limits are in-place but not utilized currently.

format(as indicated, unformatted)

anc_ID (integer) anc_name (text)

anc_num_slots(integer) anc_depth (integer)
anc_length_array (integer) anc_priorities (integer)
anc_wait.lim (integer)

13. Run information

Two parameters define the run, number of replications and number of days simulated

format(as indicated, unformatted)

num_runs (integer) run_length (integer)

Seasonal File Format

The seasonal file contains information that may vary while a particular structure is held constant. this variation may be due to forecasting with respect to the current environment, or modeling of seasonal attributes.

1. *Header line:* The file begins with a header line(s). This is included to allow the user to included a detailed descriptor of the file contents. The header is echoed in the output.

format:

< header information <

The program looks for the opening '<'. Everything lying between the '<'s is considered as comment.

2. *Seasonal tow information*: Since tow operations may vary, we have included here two parameters indicating the number of tows in the system, as well as the average time between dispatch (in minutes), once a task has been completed.

format (integer,real; unformatted):

tow_count tow_departure_rate

3. *Port count*: The user must specify the number of ports in the system.

format (integer; unformatted):

port_count

4. *Port information*: For each port the user must define a number of parameters. These include information about the port's location, as well as the activity from that port - vessel departure rate, number of destinations served, vessel types. It was determined through analysis of the Galveston VTS data that the exponential distribution is a very close approximation to the true departure pattern of vessels.

format (type as shown; unformatted):

port_name (text)	defined by the user
port_cell (integer)	cell in which port is located
port_dist (integer)	distance into the cell of the port
port_departure_rate (real)	average number of days between departures
port_classes_used (integer)	number of vessels exiting this port
port_dests (integer)	number of destinations served by this port
for each class of vessel repeat the following:	
pt_cls_id(i) (text)	vessel class exiting the port; name must match with one in the structure file
pt_cls_frac(i) (real)	proportion of vessels from this port of this class
pt_cls_dest(i) (integer)	number of destinations served by this class from this port
for each (port,class) pair repeat the following:	
pt_cls_dest(i,j) (text)	destination port; name must match with one in the structure file
pt_cls_frac(i,j) (real)	proportion of vessels of this class departing from this port for this destination

VI. Possible Extensions

There are a number of extensions possible for the model; the attractiveness of these extensions is dependent on the analysis needs. One enhancement, which has been previously mentioned, is a detailed analysis of casualty occurrences. Currently, casualties are modeled solely in terms of probability per encounter. Future studies may be directed at identifying relationships between vessel configuration and/or channel structure/traffic patterns. Extending the code to this would require very little effort.

Currently, all ports are modeled in terms of generating departures, without regard to the arrival of vessels to that port. Future modifications could provide a detailed look at landside operations.

In concert with that, there is a need to model some arrival/departure points as intermediaries, rather than ports. Such will be the case with the project under consideration by the Baltimore Corps of Engineers. Anchorages identify temporary holding stops, while a vessel is awaiting access to a port. There will be a very distinct link between arrivals and departures, as well as some development of the managerial aspects underlying those operations.

There is the possibility of modeling weather influences. This will require some understanding of recognizing these relationships, and then determining the most plausible way of modeling them. The Baltimore Corps of Engineers has also expressed an interest on this aspect.

The reviewers of the model and manual have suggested that a number of elements would be useful to readers. At the time of development, this manual was intended primarily as background information for potential users, rather than personnel who might be interested in refining the simulation or probing its functionality. Because of time and budgetary restraints, some of these modifications have been deferred:

- provision of flowcharts, identifying functional linkages between routines in the simulation
- additional statistical capabilities (historically, these are developed on an "as needed" basis)

A. Sample Input/Baltimore Harbor - seasonal

```
<SMOOTH Baltimore p5 condition 2000<
TOW.INFO  0  .25
39
   AGRICO
      26  .57     0.0
      0  0
      1
      24  .75  .5
      0.0
      0.0
   AMSTAR
      26  2.08    0.0
      0   0
      1
      24  .75  .5
      0.0
      0.0
   APEX
      26  2.84     0.0
      0   0
      1
      24  .75  .5
      0.0
      0.0
   ATLTERM
      26  2.84    0.0
      0   0
      2
      24  .75  .5
      0.0
      0.0
   ATT
      23  1.32     0.0
      0   0
      2
      24  .75  .5
      0.0
      0.0
   BAYSIDE
      26  2.08    0.0
      0   0
      1
      24  .75  .5
      0.0
      0.0
   CANTGRN
      22  .1      0.0
      0   0
      1
      24  .75  .5
```

```
  0.0
  0.0
CBORE
  18  1.95    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
CHESA
  18  1.95    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
CLINTON
  26  .95    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
CONOCO
  26  2.27    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
CONSOL
  22  .1    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
CURTISBAY
  26  2.65    0.0
  0  0
  1
  24  .75  .5
  0.0
  0.0
DMT
  20  .6    0.0
  0  0
  13
  24  .34  .5
  0.0
  0.0
HAWKINS
  18  2.08    0.0
  0  0
```

```
    1
    24  .75  .5
    0.0
    0.0
 HESS
    26  1.7     0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
 LAZA
    26  .76     0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
 LPT
    26  2.08    0.0
    0   0
    6
    24  .75  .5
    0.0
    0.0
 NATGYP
    26  .38     0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
 NAVAL
    26  2.65    0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
 NLPT
    26  2.46    0.0
    0   0
    1
    24  .75  .5
    0.0
    0.0
 PERIDOT
    18  1.95    0.0
    0   0
    2
    24  .75  .5
    0.0
    0.0
 SEAGIRT
```

22 .4 0.0
0 0
4
24 .34 .5
0.0
0.0
SEALAND
8 .05 0.0
0 0
1
24 .75 .5
0.0
0.0
SLPT
23 .95 0.0
0 0
5
24 .55 .5
0.0
0.0
SPPT
3 1.5 0.0
0 0
4
24 .75 .5
0.0
0.0
STT
26 2.84 0.0
0 0
1
24 .75 .5
0.0
0.0
TOYOTA
26 3.03 0.0
0 0
1
24 .75 .5
0.0
0.0
USGYP
18 .95 0.0
0 0
1
24 .75 .5
0.0
0.0
VISTA
12 .01 0.0
0 0
1
24 .75 .5
0.0

```
  0.0
WWALL
  26  3.41    0.0
  0   0
  1
  24  .75  .5
  0.0
  0.0
SEA
  1   .01  .106
  24  15
  A1  .03  6
    DMT     9
    SLPT    8
    SPPT    2
    LPT     1
    SEALAND  1
    CANTGRN  1
  A2  .23  4
    SEAGIRT  49
    SLPT    32
    DMT     65
    USGYP    1
  A3  .07  3
    SEAGIRT  22
    DMT     13
    SPPT     1
  A4  .03  2
    DMT     18
    SEAGIRT  1
  AA  .11  8
    DMT     46
    LPT     11
    SLPT    43
    LAZA     4
    AMSTAR   5
    NLPT     4
    SEAGIRT  7
    STT      1
  AB  .02  9
    DMT      6
    CANTGRN  2
    LAZA     4
    AMSTAR   2
    CLINTON  2
    SLPT     3
    WWALL    3
    CBORE    1
    CONSOL   1
  AE  .16  6
    DMT     112
    ATLTERM  12
    SLPT    31
    TOYOTA  14
```

CHESA 5
USGYP 1
AF .01 1
DMT 18
DA .05 10
SLPT 4
USGYP 22
NATGYP 6
DMT 6
SPPT 5
AMSTAR 2
CLINTON 2
NLPT 3
CONSOL 1
AGRICO 1
DB .06 15
CANTGRN 8
LPT 13
SLPT 5
HAWKINS 6
CLINTON 8
DMT 36
AMSTAR 5
SPPT 6
BAYSIDE 21
CONSOL 7
ATT 4
NLPT 1
CHESA 1
CBORE 1
USGYP 1
DC .03 12
SPPT 24
AMSTAR 1
CONSOL 13
SLPT 1
NLPT 8
STT 1
BAYSIDE 6
CLINTON 1
DMT 1
USGYP 2
HAWKINS 1
LPT 1
DD .01 2
CONSOL 2
SPPT 3
DE .02 3
CONSOL 11
BAYSIDE 2
SPPT 1
EC .01 5
CONSOL 3
CLINTON 1

```
        BAYSIDE  1
        DMT      1
        HESS     1
    ED  .01 2
        CONSOL   6
        BAYSIDE  2
    FA  .01 2
        STT      1
        USGYP    1
    FB  .01 1
        DMT      1
    FC  .01 5
        APEX     2
        HESS     7
        STT      3
        NLPT     1
        LPT      1
    FD  .01 4
        APEX     3
        CLINTON  3
        LPT      1
        HESS     1
    HB  .08 5
        TOYOTA   19
        SEAGIRT  6
        DMT      42
        ATLTERM  11
        CHESA    6
    PA  .01 6
        SLPT     3
        STT      10
        NLPT     2
        DMT      1
        PERIDOT  5
        VISTA    8
    PB  .01 3
        STT      1
        DMT      1
        PERIDOT  1
    PC  .01 6
        NLPT     3
        HESS     2
        LAZA     1
        STT      2
        VISTA    1
        CONOCO   1
    PD  .01 2
        DMT      1
        HESS     1
    9999
    0   .75 .5
    0.0
    0.0
ANC1_LOCN
```

```
   10  1.05  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANC2_LOCN
   10  .8  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANC3_LOCN
   10  .4  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANC4_LOCN
   8  .05  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANC5_LOCN
   6  .2  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANC6_LOCN
   6  .1  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
ANNAP_LOCN
   1  .1  -10
   0 0
   1
   999.0 0.0 0.0
   0.0
   0.0
```

B. Sample Input/Baltimore Harbor -static

```
<p5 condition rand1<

new.seeds
103235  99267  24680  53178  12345
1.0  1.  0.  1.

26  0
1   cape_henry
    15  0.0
    2   0   0   0
    50  54  1000
    1  0
2   junc_1
    15  0.0
    3   17  1   0
    50  .1  1000
    1  0
3   brewerton
    12  0.0
    4   0   2   0
    50  2   600
    1  0
4   fm1
    8   0.0
    5   0   3   0
    50  .29 700
    0  0
5   junc_2
    3   0.0
    6   0   4   18
    50  .40 700
    0  0
6   fm2
    3   0.0
    7   0   5   0
    50  .29 700
    0  0
7   junc_3
    3   0.0
    8   19  6   0
    50  .21 700
    0  0
8   fm3
    3   0.0
    9   0   7   0
    50  .21 700
    0  0
9   junc_4
    3   0.0
    10  20  8   0
```

```
   50  .12  700
   0  0
10  fm4
   3   0.0
   11  0   9   0
   50  1.15 700
   0  0
11  junc_5
   3   0.0
   12  22  10  0
   50  .17  700
   0  0
12  fm5
   3   0.0
   13  0   11  0
   50  .21  700
   0  0
13  junc_6
   3   0.0
   14  0   12  23
   50  .23  700
   0  0
14  tunnel
   3   0.0
   15  0   13  0
   50  .81  600
   0  0
15  junc_7
   3   0.0
   16  0   14  26
   50  .15  600
   0  0
16  east
   3   0.0
   0   0   15  0
   50  .35  600
   0  0
17  c&d
   12  0.0
   0   0   15  0
   50  12   600
   0  0
18  curtis_bay
   3   0.0
   0   5   0   0
   50  2.3  400
   0  0
19  e_dundalk
   3   0.0
   0   0   0   7
   38  .69  300
   0  0
20  w_dundalk
   3   0.0
```

```
   0   21  0   9
   42  .81  350
   0 0
21  sd_connect
   3   0.0
   0   0   0   20
   42  .46  350
   0 0
22  w_seagirt
   3   0.0
   0   0   0   11
   42  .58  500
   0 0
23  ferry_bar
   3   0.0
   0   13  0   24
   42  2  600
   0 0
24  j_fb
   3   0.0
   25  23  0   0
   42  .17  600
   0 0
25  slpt
   3   0.0
   0   0   24  0
   50   .29  600
   0 0
26  west
   3   0.0
   0   15  0   0
   50   3.5 600
   0 0
```

```
25
A1  73  25  482 17  17  738 140      0  72
A2  94  34  676 18  18  1270 141.4    0  72
A3  112 41  853 20  20  1492 142.12   0  72
A4  117 43  905 20  20  1664 142.12   0  72
AA  76  32  542 17  17  751  141.4   417  72
AB  64  25  447 17  17  576  140     417  72
AE  76  32  542 17  17  751  141.4    0  72
AF  64  25  447 17  17  576  140      0  72
DA  67  28  478 14  14  564  140     417  72
DB  83  34  583 14  14  692  141.4   417  72
DC  105 43  717 14  14  888  142.12  417  72
DD  119 49  780 14  14  1049 142.12  417  72
DE  136 55  910 14  14  1233 142.6   417  72
EC  109 42  585 14  14  1158 141.4   417  72
ED  125 47  800 14  14  1293 142.12  417  72
FA  76  30  519 14  14  891  141.4   417  72
FB  87  34  585 14  14  971  141.4   417  72
```

```
FC  109 42  585 14  14  1158 141.4   417 72
FD  125 47  800 14  14  1293 142.12  417 72
HB  64  25  447 17  17  576  140     417 72
PA  76  30  519 14  14  891  141.4   417 72
PB  87  34  585 14  14  971  141.4   417 72
PC  109 42  585 14  14  1158 141.4   417 72
PD  125 47  800 14  14  1293 142.12  417 72
TOW 150 25  800 15  15  0    0       0 72

0

1000  .5  .5  .95
5
  0    1.0
  .25  1.0
  .38  .5
  .53  .375
  1.0  .375
1000  .95  .75  .50
1.0
5
  0    1.0
  .25  1.0
  .38  .500
  .53  .333
 1.00  .333

2. 4.


1   anc1 2
    35
    550 550
    0
    9999
2   anc2 1
    42
    890
    0
    9999
3   anc3 3
    35
    550  550  550
    0
    9999
4   anc4 1
    42
    690
    0
    9999
5   anc5 3
    20
    550  550  550
    0
```

```
   9999
6  anc6 3
   25
   550  550  550
   0
   9999
7  annap    9999

   1  150
   5  73
```

A. Sample Output/Baltimore Harbor

Two output files are provided, depending on the needs of the user.
The outputs are exxplained in **bold** text.

Output File - Unit 7

SMOOTH Baltimore g1 condition 2000 **headers echoed**
p5 condition rand1

today is 01/28/1997 **run information**
time is 18:51:42

seed1	103235	**seeds for the run**
seed2	99267	
seed3	24680	
seed5	53178	
seed10	12345	

FINAL STATISTICS FOR THE RUN

---

passing counts, by type of encounter. counts are only provided in those cells for which there was at least one passing

PASSING STATISTICS

cell	tow.tow.passes	tow.ship.passes	ship.ship.passes
cape_henry	0	0	10
fm1	0	0	52
fm2	0	0	1
fm5	0	0	4
TOTALS	0	0	67

meeting counts, by type of encounter. counts are only provided in those cells for which there was at least one meeting

MEETING STATISTICS

cell	tow.tow.meetings	tow.ship.meetings	ship.ship.meetings
cape_henry	0	0	1450
brewerton	0	0	77
fm1	0	0	16
junc_2	0	0	69
fm2	0	0	53
junc_3	0	0	46
fm3	0	0	43

junc_4	0	0	9
fm4	0	0	55
junc_5	0	0	2
fm5	0	0	10
junc_6	0	0	6
tunnel	0	0	6
w_dundalk	0	0	5
w_seagirt	0	0	2
ferry_bar	0	0	1
west	0	0	16
TOTALS	0	0	1866

for each vessel class, information on total costs, #trips, # of miles, and unit costs are provided. this section addresses only those trips which were completed.

SYSTEM COSTS

finished trips

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
A1	1033722.625	41	4825.420	25212.747	214.22
A2	13943340.000	323	38066.176	43168.235	366.29
A3	4946578.500	98	11554.090	50475.291	428.12
A4	2176489.750	39	4539.580	55807.429	479.45
AA	3737968.750	143	17020.734	26139.642	219.61
AB	589934.500	29	3505.429	20342.569	168.29
AE	5868198.500	220	25994.945	26673.630	225.74
AF	327270.125	17	1975.060	19251.184	165.70
DA	1508151.000	73	8592.464	20659.603	175.52
DB	2806920.000	107	12804.222	26232.897	219.22
DC	1796759.250	46	5359.051	39059.984	335.28
DD	782128.938	19	2164.740	41164.681	361.30
DE	2600566.250	30	3532.549	86685.542	736.17
EC	942822.688	20	2406.520	47141.134	391.78
ED	1100778.750	14	1661.680	78627.054	662.45
FA	421556.313	12	1436.980	35129.693	293.36
FB	397179.125	12	1435.548	33098.260	276.67
FC	731075.625	16	1991.560	45692.227	367.09
FD	739180.000	15	1866.380	49278.667	396.05
HB	2760257.750	123	14877.499	22441.120	185.53
PA	645071.875	19	2305.517	33951.151	279.79
PB	619869.125	18	2153.760	34437.174	287.81
PC	527182.813	11	1368.800	47925.710	385.14
PD	656078.562	14	1664.420	46862.754	394.18
TOW	0.	0	0.	0.	0.
TOTAL	$ 51659080.813	1459	173103.	125 35407.18	298.43

for each vessel class, information on total costs, #trips, # of miles, and unit costs are provided. this section addresses only those trips which were not completed.

unfinished trips

CLASS	COSTS	#TRIPS	#MILES	cost/trip	cost/mile
A1	0.	0	0.	0.	0.
A2	7953570.000	9	468.555	883730.000	16974.67
A3	0.	0	0.	0.	0.
A4	0.	0	0.	0.	0.
AA	8291.161	1	58.090	8291.161	142.73
AB	0.	0	0.	0.	0.
AE	21394.424	1	58.090	21394.424	368.30
AF	10971.703	1	58.090	10971.703	188.87

DA	17965.107	1	60.670	17965.107	296.11
DB	22517.961	1	64.340	22517.961	349.98
DC	0.	0	0.	0.	0.
DD	0.	0	0.	0.	0.
DE	0.	0	0.	0.	0.
EC	0.	0	0.	0.	0.
ED	0.	0	0.	0.	0.
FA	0.	0	0.	0.	0.
FB	0.	0	0.	0.	0.
FC	0.	0	0.	0.	0.
FD	0.	0	0.	0.	0.
HB	33986.250	1	63.210	33986.250	537.67
PA	0.	0	0.	0.	0.
PB	31037.033	1	62.670	31037.033	495.25
PC	0.	0	0.	0.	0.
PD	0.	0	0.	0.	0.
TOW	0.	0	0.	0.	0.
TOTALS	8099733.640	16	893.715	506233.352	9062.99

this section provides information on the average delay time for a vessel which completed a trip. Information is only provided for those cells which originated finished trips.

SYSTEM DELAYS

CELL	AVE. DELAYS(hrs.)	#DEPARTURES
cape_henry	1.40681	1526
brewerton	29.94513	48
fm3	27.03810	2
fm4	25.49917	60
fm5	36.06461	5
curtis_bay	32.95547	69
w_dundalk	29.58659	602
w_seagirt	38.03356	277
ferry_bar	30.60020	183
west	35.48377	280
TOTALS	16.8755	3052

not used

SYSTEM CASUALTIES

	MEETINGS			PASSINGS		
CELL	tow.tow	tow.ship	ship.ship	tow.tow	tow.ship	ship
TOTALS	0	0	0	0	0	0

information for finished trips, on total travel, time in system, and rate. information is only provided on those cells which originated a complete trip.

TRAVEL(by cell departed)

finished trips

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
brewerton	5336.661	1602.733	3.330
fm3	114.660	33.666	3.406

fm5	589.400	201.685	2.922
curtis_bay	7783.501	2477.433	3.142
w_dundalk	69750.117	20090.850	3.472
w_seagirt	32802.820	11703.626	2.803
ferry_bar	21882.488	6384.108	3.428
west	34843.383	11368.689	3.065
TOTALS	173103.031	53862.790	3.214

information for unfinished trips, on total travel, time in system, and rate. information is only provided on those cells which originated an incomplete trip.

~~~~~~~~~~~~~~~~ unfinished trips ~~~~~~~~~~~~~~~~

CELL	MILES TRAVELED	TIME TRAVELED	AVE RATE
cape_henry	523.485	6260.510	.084
~~~~~~~~~~~~~~~~

fm4	63.210	59.004	1.071
curtis_bay	123.340	63.817	1.933
w_dundalk	58.090	29.721	1.955
ferry_bar	61.250	30.998	1.976
west	64.340	32.540	1.977
TOTALS	893.715	6476.590	.138

Output File - Unit 9

This file is an excerpt from the unit 7 output.

SMOOTH Baltimore g1 condition 2000
p5 condition rand1

doing 1 runs, each of 150 days

~~~~~~~~~~~~~~~ SYSTEM COSTS ~~~~~~~~~~~~~~~

CLASS	TRIPS	TIME (HRS)	OP.COST ($)	PIL.COST ($)	D.D.COST ($)	TOTAL
A1	41	1401.	1033723.	44495.	0.	1078218.
A2	323	10979.	13943340.	279544.	0.	14222884.
A3	98	3315.	4946578.	85920.	0.	5032498.
A4	39	1308.	2176490.	32269.	0.	2208758.
AA	143	4977.	3737969.	125108.	-1236183.	2626893.
AB	29	1024.	589935.	24806.	-249317.	365423.
AE	220	7814.	5868198.	179281.	0.	6047480.
AF	17	568.	327270.	15051.	0.	342322.
DA	73	2674.	1508151.	94159.	-603252.	999059.
DB	107	4056.	2806920.	103825.	-844847.	2065899.
DC	46	2023.	1796759.	109533.	-250386.	1655907.
DD	19	746.	782129.	55236.	-133156.	704208.
DE	30	2109.	2600566.	31612.	99522.	2731700.
EC	20	814.	942823.	16268.	-142598.	816493.
ED	14	851.	1100779.	10485.	-7334.	1103929.
FA	12	473.	421556.	11209.	-92694.	340071.
FB	12	409.	397179.	9340.	-105645.	300874.
FC	16	631.	731076.	13271.	-123942.	620404.
FD	15	572.	739180.	13248.	-121369.	631059.
HB	123	4792.	2760258.	98000.	-953131.	1905126.
PA	19	724.	645072.	13108.	-153162.	505017.
PB	18	638.	619869.	16906.	-154361.	482414.
PC	11	455.	527183.	7584.	-78950.	455817.
PD	14	507.	656079.	10708.	-116389.	550398.
TOW	0	0.	0.	0.	0.	0.
TOTAL	1459	53863.	51659081.	1400965.	-5267195.	47792851.
~~~~~~~~~~~~~~~

D. Running The Simulation

1. The simulation must be run within the SIMLAB environment. Once in SIMLAB, enter:

sel channel

This will select the channel subdirectory. This subdirectory is the location of the executable modules.

2. The first step in executing the system is to assign the logical units. There are 3 files required, as discussed earlier:

unit 2 - seasonal data file

unit 3 - structure file

unit 7 - output file

unit 9 - secondary output file

```
assi 3 < hsc40.dat
assi 2 < nov4019.inp
assi 7 > nov4019.out
assi 9 > nov4019s.out
```

3. After the logical units have been assigned, at the prompt type:

run

The program will begin execution, and prompt for the number of iterations to be done, and the number of days to be simulated within each iteration.

Memphis. is performed.

E. Technical Assistance

To report any problems with the simulation code, or suggestions for upgrades, please call the developer:

Dr. Michael Racer
Industrial and Systems Engineering
University of Memphis
Memphis, TN 38152
mracer@cc.memphis.edu
(901)678-3285.

ALTERNATIVES CONSIDERED DURING THE BALTIMORE HARBOR ANCHORAGES AND CHANNELS FEASIBILITY STUDY

EXAMPLES OF BENEFIT DETERMINATION

BRANCH CHANNEL ALTERNATIVES

ANCHORAGE ALTERNATIVES

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

B-1

BRANCH CHANNEL ALTERNATIVES
SOUTH LOCUST POINT- WIDEN TO 400-FT
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,638,699	1459	$71,038,296	2017	$225,907,753	3093	$304,687,490	4193	$304,687,490	4193	$304,687,490	4193
RUN 2	$44,603,662	1366	$68,127,177	1963	$229,105,444	3027	$323,681,853	4206	$323,681,853	4206	$323,681,853	4206
RUN 3	$42,499,372	1403	$71,395,208	1968	$227,889,724	3065	$330,082,871	4138	$330,082,871	4138	$330,082,871	4138
RUN 4	$41,972,783	1303	$66,410,762	1867	$177,400,001	2992	$315,202,502	4129	$315,202,502	4129	$315,202,502	4129
RUN 5	$46,771,935	1401	$72,898,428	1960	$217,749,578	2959	$312,748,121	4100	$312,748,121	4100	$312,748,121	4100
AVERAGE	$44,897,290	1386	$69,973,974	1955	$215,610,500	3027	$317,280,567	4153	$317,280,567	4153	$317,280,567	4153
CHANGE	$553,663		$101,108		$318,461		$3,036,188		$3,036,188		$3,036,188	
BENEFIT	$1,347,246		$246,028		$774,922		$7,388,057		$7,388,057		$7,388,057	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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BRANCH CHANNEL ALTERNATIVES
EAST DUNDALK – WIDEN TO 400-FT
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,475,822	1458	$70,114,658	2017	$225,801,495	3094	$339,542,587	4074	$339,542,587	4074	$339,542,587	4074
RUN 2	$44,542,628	1367	$67,948,629	1963	$227,599,913	3027	$329,956,829	4137	$329,956,829	4137	$329,956,829	4137
RUN 3	$44,825,290	1403	$71,236,285	1968	$227,616,849	3065	$286,488,295	4068	$286,488,295	4068	$286,488,295	4068
RUN 4	$41,894,246	1303	$66,193,902	1866	$181,192,133	2992	$310,886,264	4085	$310,886,264	4085	$310,886,264	4085
RUN 5	$46,656,543	1401	$72,600,483	1960	$215,730,218	3025	$308,469,995	3952	$308,469,995	3952	$308,469,995	3952
AVERAGE	$45,278,906	1386	$69,618,791	1955	$215,588,122	3041	$315,068,794	4063	$315,068,794	4063	$315,068,794	4063
CHANGE	$172,047		$456,290		$340,840		$5,247,961		$5,247,961		$5,247,961	
BENEFIT	**$418,648**		**$1,110,307**		**$829,376**		**$12,770,039**		**$12,770,039**		**$12,770,039**	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,353	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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BRANCH CHANNEL ALTERNATIVES
SEAGIRT, CONN. CHANNEL, EAST DUNDALK-400-FT
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,096,014	1460	$70,200,915	2017	$223,502,645	3094	$339,385,641	4076	$339,385,641	4076	$339,385,641	4076
RUN 2	$44,239,932	1368	$67,216,272	1963	$225,778,313	3029	$326,740,061	4139	$326,740,061	4139	$326,740,061	4139
RUN 3	$44,552,616	1402	$70,399,628	1970	$225,895,537	3066	$287,559,089	4070	$287,559,089	4070	$287,559,089	4070
RUN 4	$41,503,933	1302	$65,160,822	1866	$174,218,322	2994	$309,803,504	4089	$309,803,504	4089	$309,803,504	4089
RUN 5	$46,083,959	1401	$71,589,152	1961	$216,875,415	3024	$318,711,998	3952	$318,711,998	3952	$318,711,998	3952
AVERAGE	$44,895,291	1387	$68,913,358	1955	$213,254,046	3041	$316,440,059	4065	$316,440,059	4065	$316,440,059	4065
CHANGE	$555,662		$1,161,724		$2,674,915		$3,876,697		$3,876,697		$3,876,697	
BENEFIT	$1,352,111		$2,826,862		$6,508,959		$9,433,295		$9,433,295		$9,433,295	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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BRANCH CHANNEL ALTERNATIVES
SEAGIRT, CONN. CHANNEL, WEST DUNDALK-400-FT
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,279,575	1460	$70,517,384	2017	$223,915,776	3093	$339,648,473	4073	$339,648,473	4073	$339,648,473	4073
RUN 2	$44,293,084	1367	$67,537,825	1963	$228,897,371	3027	$325,153,651	4137	$325,153,651	4137	$325,153,651	4137
RUN 3	$44,634,344	1402	$70,898,892	1969	$226,585,085	3064	$285,738,025	4069	$285,738,025	4069	$285,738,025	4069
RUN 4	$41,625,340	1302	$65,544,326	1866	$176,129,163	2992	$310,554,830	4086	$310,554,830	4086	$310,554,830	4086
RUN 5	$46,227,720	1401	$72,187,042	1960	$218,732,277	3021	$319,935,279	3950	$319,935,279	3950	$319,935,279	3950
AVERAGE	$45,012,013	1386	$69,337,094	1955	$214,851,934	3039	$316,206,052	4063	$316,206,052	4063	$316,206,052	4063
CHANGE	$438,940		$737,988		$1,077,027		$4,110,704		$4,110,704		$4,110,704	
BENEFIT	$1,068,088		$1,795,771		$2,620,765		$10,002,712		$10,002,712		$10,002,712	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

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WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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BRANCH CHANNEL ALTERNATIVES
SEAGIRT, CONN. CHANNEL, WEST DUNDALK-500-FT
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,174,388	1460	$70,383,652	2018	$204,994,705	3126	$333,003,404	4205	$333,003,404	4205	$333,003,404	4205
RUN 2	$44,158,873	1367	$67,336,295	1963	$223,241,950	3093	$338,287,542	4074	$338,287,542	4074	$338,287,542	4074
RUN 3	$44,428,286	1403	$70,750,902	1969	$226,880,504	3027	$330,998,743	4136	$330,998,743	4136	$330,998,743	4136
RUN 4	$41,545,604	1303	$65,342,206	1866	$205,844,872	3015	$287,791,991	4068	$287,791,991	4068	$287,791,991	4068
RUN 5	$46,128,099	1402	$71,949,905	1960	$205,662,063	3018	$321,865,548	3951	$321,865,548	3951	$321,865,548	3951
AVERAGE	$44,887,050	1387	$69,152,592	1955	$213,324,819	3056	$322,389,446	4087	$322,389,446	4087	$322,389,446	4087
CHANGE	$563,903		$922,490		$2,604,142		($2,072,690)		($2,072,690)		($2,072,690)	
BENEFIT	$1,372,163		$2,244,725		$6,336,747		($5,043,546)		($5,043,546)		($5,043,546)	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

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WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1969	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 620'; DEPTH 36'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,648,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$355,701,789	4080	$355,701,789	4080	$355,701,789	4080
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 5	$46,738,059	1401	$71,847,046	1960	$201,604,312	3034	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
AVERAGE	$45,274,792	1386	$69,136,627	1955	$209,775,857	3042	$403,734,716	4129	$403,734,716	4129	$403,734,716	4129
CHANGE	$176,160		$938,454		$6,153,104		($83,417,960)		($83,417,960)		($83,417,960)	
BENEFIT	$428,657		$2,283,572		$14,972,553		($202,983,704)		($202,983,704)		($202,983,704)	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 800'; DEPTH 40'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,648,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
RUN 5	$46,738,059	1401	$71,847,046	1960	$217,769,899	2960	$310,212,285	4101	$310,212,285	4101	$310,212,285	4101
AVERAGE	$45,274,792	1386	$69,136,627	1955	$213,008,975	3028	$394,636,815	4133	$394,636,815	4133	$394,636,815	4133
CHANGE	$176,160		$938,454		$2,919,987		($74,320,060)		($74,320,060)		($74,320,060)	
BENEFIT	**$428,657**		**$2,283,572**		**$7,105,301**		**($180,845,479)**		**($180,845,479)**		**($180,845,479)**	

NOTE: CHANGES SHOWN ARE BASED ON A 150-DAY SIMULATION OF DAILY VESSEL MOVEMENTS IN THE PORT OF BALTIMORE. THE RESULTANT OPERATING COST CHANGES ARE CONVERTED TO A 365-DAY BASIS TO REFLECT ANNUAL BENEFITS FROM THE IMPROVEMENT.

WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$46,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 920'; DEPTH 36'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$46,646,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
RUN 5	$46,738,059	1401	$71,847,046	1960	$217,769,899	2960	$310,212,285	4101	$310,212,285	4101	$310,212,285	4101
AVERAGE	$45,274,792	1386	$69,136,627	1955	$213,008,975	3028	$394,636,815	4133	$394,636,815	4133	$394,636,815	4133
CHANGE	$176,160		$938,454		$2,919,987		($74,320,060)		($74,320,060)		($74,320,060)	
BENEFIT	**$428,657**		**$2,283,572**		**$7,105,301**		**($180,845,479)**		**($180,845,479)**		**($180,845,479)**	

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WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,649	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 900'; DEPTH 40'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,648,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
RUN 5	$46,738,059	1401	$71,847,046	1960	$217,769,899	2960	$310,212,285	4101	$310,212,285	4101	$310,212,285	4101
AVERAGE	$45,274,792	1386	$69,136,627	1955	$213,008,975	3028	$394,636,815	4133	$394,636,815	4133	$394,636,815	4133
CHANGE	$176,160		$938,454		$2,919,987		($74,320,060)		($74,320,060)		($74,320,060)	
BENEFIT	**$428,657**		**$2,283,572**		**$7,105,301**		**($180,845,479)**		**($180,845,479)**		**($180,845,479)**	

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WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,697,105	4137	$330,697,105	4137	$330,697,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$226,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$176,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 1020'; DEPTH 36'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,648,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
RUN 5	$46,738,059	1401	$71,847,046	1960	$217,769,899	2960	$310,212,285	4101	$310,212,285	4101	$310,212,285	4101
AVERAGE	$45,274,792	1386	$69,136,627	1955	$213,008,975	3028	$394,636,815	4133	$394,636,815	4133	$394,636,815	4133
CHANGE	$176,160		$938,454		$2,919,987		($74,320,060)		($74,320,060)		($74,320,060)	
BENEFIT	$428,657		$2,283,572		$7,105,301		($180,845,479)		($180,845,479)		($180,845,479)	

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WITHOUT PROJECT CONDITION
SYSTEM OPERATING COSTS
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,710,769	1459	$71,159,552	2017	$226,316,363	3093	$330,897,105	4137	$330,897,105	4137	$330,897,105	4137
RUN 2	$44,671,334	1366	$68,222,643	1963	$229,457,244	3026	$312,699,516	4086	$312,699,516	4086	$312,699,516	4086
RUN 3	$44,976,301	1402	$71,491,084	1968	$228,061,025	3065	$317,353,645	4130	$317,353,645	4130	$317,353,645	4130
RUN 4	$42,054,849	1303	$66,477,635	1867	$178,021,316	2992						
RUN 5	$46,841,511	1401	$73,024,495	1960	$217,788,858	2959						
AVERAGE	$45,450,953	1386	$70,075,082	1955	$215,928,961	3027	$320,316,755	4118	$320,316,755	4118	$320,316,755	4118

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ANCHORAGE 3 ALTERNATIVE
LOA 1000'; DEPTH 40'
(1995 PRICES)

	YEAR 2000	VESSEL CALLS	YEAR 2010	VESSEL CALLS	YEAR 2020	VESSEL CALLS	YEAR 2030	VESSEL CALLS	YEAR 2040	VESSEL CALLS	YEAR 2050	VESSEL CALLS
RUN 1	$48,648,982	1459	$70,704,184	2017	$220,456,714	3093	$297,516,851	4301	$297,516,851	4301	$297,516,851	4301
RUN 2	$44,451,782	1366	$67,293,550	1963	$226,968,623	3026	$327,772,406	4138	$327,772,406	4138	$327,772,406	4138
RUN 3	$44,713,741	1402	$70,573,215	1969	$224,461,471	3066	$740,616,248	3996	$740,616,248	3996	$740,616,248	3996
RUN 4	$41,821,398	1303	$65,265,142	1867	$175,388,166	2993	$297,066,285	4129	$297,066,285	4129	$297,066,285	4129
RUN 5	$46,738,059	1401	$71,847,046	1960	$217,769,899	2960	$310,212,285	4101	$310,212,285	4101	$310,212,285	4101
AVERAGE	$45,274,792	1386	$69,136,627	1955	$213,008,975	3028	$394,636,815	4133	$394,636,815	4133	$394,636,815	4133
CHANGE	$176,160		$938,454		$2,919,987		($74,320,060)		($74,320,060)		($74,320,060)	
BENEFIT	**$428,657**		**$2,283,572**		**$7,105,301**		**($180,845,479)**		**($180,845,479)**		**($180,845,479)**	

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BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives	Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
	Existing	New						

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives	Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
	Existing	New						

I. South Locust Point

A. 1	Deepen/Widen Spur	n/a	350	27			
2	Deepen/Widen Spur	n/a	350	28			
3	Deepen/Widen Spur	n/a	350	29			
4	Deepen/Widen Spur	n/a	350	30			
5	Deepen/Widen Spur	n/a	350	31			
6	Deepen/Widen Spur	n/a	350	32			
7	Deepen/Widen Spur	n/a	350	33			
8	Deepen/Widen Spur	n/a	350	34	106,000	$5.33	$564,980
9	Deepen/Widen Spur	n/a	350	35	126,100	$5.28	$665,808
10	Deepen/Widen Spur	n/a	350	36	146,800	$5.36	$786,848
B. 1	Deepen/Widen Spur	n/a	400	27			
2	Deepen/Widen Spur	n/a	400	28			
3	Deepen/Widen Spur	n/a	400	29			
4	Deepen/Widen Spur	n/a	400	30			
5	Deepen/Widen Spur	n/a	400	31			
6	Deepen/Widen Spur	n/a	400	32			
7	Deepen/Widen Spur	n/a	400	33			
8	Deepen/Widen Spur	n/a	400	34	130,600	$5.41	$706,546
9	Deepen/Widen Spur	n/a	400	35	153,600	$5.39	$827,904

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
	10	Deepen/Widen Spur	n/a	400	36	216,800	$5.31	$1,151,208		
C.	1	Widen Spur/ Deepen Loop	n/a	350	37					
	2	Widen Spur/ Deepen Loop	n/a	350	38					
D.	1	Widen Spur/ Deepen Loop	n/a	400	37					
	2	Widen Spur/ Deepen Loop	n/a	400	38					
II.	West Dundalk									
A.	1	Maintain Existing Cond. - West Dundalk	350	350	42	51,300	$5.09	$261,117		
B.	1	Widen West Dundalk Channel	350	400	42	19,800	$4.71	$93,258		
	2	Widen West Dundalk Channel	350	450	42	77,600	$5.05	$391,880		
	3	Widen West Dundalk Channel	350	500	42	144,200	$4.92	$709,464		
C.	1	Deepen/Widen West Dundalk Channel	350	400	43	55,600	$4.67	$259,652		
	2	Deepen/Widen West Dundalk Channel	350	400	44	106,800	$4.63	$494,484		
	3	Deepen/Widen West Dundalk Channel	350	400	45	170,800	$4.66	$795,928		
	4	Deepen/Widen West Dundalk Channel	350	400	46	239,800	$4.65	$1,115,070		
	5	Deepen/Widen West Dundalk Channel	350	400	47	310,500	$4.65	$1,443,825		
	6	Deepen/Widen West Dundalk Channel	350	400	48	382,200	$4.65	$1,777,230		
	7	Deepen/Widen West Dundalk Channel	350	400	49	454,800	$4.65	$2,114,820		
	8	Deepen/Widen West Dundalk Channel	350	400	50	528,500	$4.68	$2,473,380		
D.	1	Deepen/Widen West Dundalk Channel	350	450	43	120,900	$4.67	$564,603		
	2	Deepen/Widen West Dundalk Channel	350	450	44	179,800	$4.67	$839,666		
	3	Deepen/Widen West Dundalk Channel	350	450	45	251,300	$4.66	$1,171,058		
	4	Deepen/Widen West Dundalk Channel	350	450	46	327,800	$4.66	$1,527,548		
	5	Deepen/Widen West Dundalk Channel	350	450	47	405,900	$4.65	$1,887,435		
	6	Deepen/Widen West Dundalk Channel	350	450	48	484,900	$4.66	$2,259,634		
	7	Deepen/Widen West Dundalk Channel	350	450	49	564,800	$4.67	$2,637,616		

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Channel Width Existing	Channel Width New	Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
8	Deepen/Widen West Dundalk Channel	350	450	50	645,700	$4.68	$3,021,876		
E. 1	Deepen/Widen West Dundalk Channel	350	500	43	194,700	$4.62	$899,514		
2	Deepen/Widen West Dundalk Channel	350	500	44	260,600	$4.63	$1,206,578		
3	Deepen/Widen West Dundalk Channel	350	500	45	339,000	$4.64	$1,572,960		
4	Deepen/Widen West Dundalk Channel	350	500	46	422,300	$4.65	$1,963,695		
5	Deepen/Widen West Dundalk Channel	350	500	47	507,200	$4.66	$2,363,552		
6	Deepen/Widen West Dundalk Channel	350	500	48	593,000	$4.66	$2,763,380		
7	Deepen/Widen West Dundalk Channel	350	500	49	679,800	$4.67	$3,174,666		
8	Deepen/Widen West Dundalk Channel	350	500	50	767,400	$4.67	$3,583,758		
III.	East Dundalk								
A. 1	Maintain Existing Cond. - East Dundalk	300	300	38					
B. 1	Widen East Dundalk Channel	300	350	38					
2	Widen East Dundalk Channel	300	400	38	38,800	$4.81	$186,628		
3	Widen East Dundalk Channel	300	450	38	90,600	$4.95	$448,470		
4	Widen East Dundalk Channel	300	500	38	157,900	$4.97	$784,763		
C. 1	Deepen/Widen East Dundalk Channel	300	400	39	25,400	$4.58	$116,332		
2	Deepen/Widen East Dundalk Channel	300	400	40	61,700	$4.58	$282,586		
3	Deepen/Widen East Dundalk Channel	300	400	41	108,400	$4.58	$496,472		
4	Deepen/Widen East Dundalk Channel	300	400	42	166,100	$4.59	$762,399		
5	Deepen/Widen East Dundalk Channel	300	400	43	232,000	$4.59	$1,064,880		
6	Deepen/Widen East Dundalk Channel	300	400	44	304,700	$4.60	$1,401,620		
7	Deepen/Widen East Dundalk Channel	300	400	45	382,700	$4.61	$1,764,247		
8	Deepen/Widen East Dundalk Channel	300	400	46	463,600	$4.61	$2,137,196		
9	Deepen/Widen East Dundalk Channel	300	400	47	546,200	$4.62	$2,523,444		
10	Deepen/Widen East Dundalk Channel	300	400	48	629,900	$4.62	$2,910,138		
11	Deepen/Widen East Dundalk Channel	300	400	49	714,700	$4.63	$3,309,061		
12	Deepen/Widen East Dundalk Channel	300	400	50	800,500	$4.63	$3,706,315		

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Channel Width Existing	Channel Width New	Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
D. 1	Deepen/Widen East Dundalk Channel	300	450	39	32,300	$4.37	$141,151		
2	Deepen/Widen East Dundalk Channel	300	450	40	75,600	$4.40	$332,640		
3	Deepen/Widen East Dundalk Channel	300	450	41	129,700	$4.50	$583,650		
4	Deepen/Widen East Dundalk Channel	300	450	42	194,800	$4.55	$886,340		
5	Deepen/Widen East Dundalk Channel	300	450	43	268,300	$4.61	$1,236,863		
6	Deepen/Widen East Dundalk Channel	300	450	44	348,500	$4.61	$1,606,585		
7	Deepen/Widen East Dundalk Channel	300	450	45	433,900	$4.61	$2,000,279		
8	Deepen/Widen East Dundalk Channel	300	450	46	522,200	$4.61	$2,407,342		
9	Deepen/Widen East Dundalk Channel	300	450	47	612,100	$4.61	$2,821,781		
10	Deepen/Widen East Dundalk Channel	300	450	48	703,200	$4.61	$3,241,752		
11	Deepen/Widen East Dundalk Channel	300	450	49	795,300	$4.61	$3,666,333		
12	Deepen/Widen East Dundalk Channel	300	450	50	888,400	$4.61	$4,095,524		
E. 1	Deepen/Widen East Dundalk Channel	300	500	39	38,600	$4.57	$176,402		
2	Deepen/Widen East Dundalk Channel	300	500	40	88,600	$4.60	$407,560		
3	Deepen/Widen East Dundalk Channel	300	500	41	149,500	$4.63	$692,185		
4	Deepen/Widen East Dundalk Channel	300	500	42	221,600	$4.65	$1,030,440		
5	Deepen/Widen East Dundalk Channel	300	500	43	302,100	$4.67	$1,410,807		
6	Deepen/Widen East Dundalk Channel	300	500	44	389,500	$4.67	$1,818,965		
7	Deepen/Widen East Dundalk Channel	300	500	45	482,100	$4.67	$2,251,407		
8	Deepen/Widen East Dundalk Channel	300	500	46	577,600	$4.67	$2,697,392		
9	Deepen/Widen East Dundalk Channel	300	500	47	674,700	$4.67	$3,150,849		
10	Deepen/Widen East Dundalk Channel	300	500	48	772,800	$4.67	$3,608,976		
11	Deepen/Widen East Dundalk Channel	300	500	49	871,900	$4.67	$4,071,773		
12	Deepen/Widen East Dundalk Channel	300	500	50	972,000	$4.67	$4,539,240		
IV.	Connecting Channel								
A. 1	Maintain Existing Condition	350	350	42	18,000	$4.65	$83,700		
B. 1	Widen Connecting Channel	350	400	42	53,200	$4.65	$247,380		

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
	2	Widen Connecting Channel	350	450	42	152,200	$4.65	$707,730		
	3	Widen Connecting Channel	350	500	42	258,400	$4.65	$1,201,560		
C.	1	Deepen/Widen Connecting Channel	350	400	43	95,600	$4.62	$441,672		
	2	Deepen/Widen Connecting Channel	350	400	44	149,700	$4.63	$693,111		
	3	Deepen/Widen Connecting Channel	350	400	45	209,200	$4.64	$970,688		
	4	Deepen/Widen Connecting Channel	350	400	46	270,400	$4.64	$1,254,656		
	5	Deepen/Widen Connecting Channel	350	400	47	332,600	$4.65	$1,546,590		
	6	Deepen/Widen Connecting Channel	350	400	48	395,600	$4.65	$1,839,540		
	7	Deepen/Widen Connecting Channel	350	400	49	459,400	$4.65	$2,136,210		
	8	Deepen/Widen Connecting Channel	350	400	50	524,000	$4.65	$2,436,600		
D.	1	Deepen/Widen Connecting Channel	350	450	43	201,900	$4.63	$934,797		
	2	Deepen/Widen Connecting Channel	350	450	44	263,200	$4.65	$1,223,880		
	3	Deepen/Widen Connecting Channel	350	450	45	329,600	$4.65	$1,532,640		
	4	Deepen/Widen Connecting Channel	350	450	46	397,300	$4.67	$1,855,391		
	5	Deepen/Widen Connecting Channel	350	450	47	465,800	$4.67	$2,175,286		
	6	Deepen/Widen Connecting Channel	350	450	48	535,000	$4.68	$2,503,800		
	7	Deepen/Widen Connecting Channel	350	450	49	605,000	$4.68	$2,831,400		
	8	Deepen/Widen Connecting Channel	350	450	50	675,700	$4.68	$3,162,276		
E.	1	Deepen/Widen Connecting Channel	350	500	43	313,700	$4.67	$1,464,979		
	2	Deepen/Widen Connecting Channel	350	500	44	381,000	$4.67	$1,779,270		
	3	Deepen/Widen Connecting Channel	350	500	45	453,700	$4.66	$2,114,242		
	4	Deepen/Widen Connecting Channel	350	500	46	527,800	$4.66	$2,459,548		
	5	Deepen/Widen Connecting Channel	350	500	47	602,600	$4.66	$2,808,116		
	6	Deepen/Widen Connecting Channel	350	500	48	678,300	$4.66	$3,160,878		
	7	Deepen/Widen Connecting Channel	350	500	49	754,600	$4.67	$3,523,982		
	8	Deepen/Widen Connecting Channel	350	500	50	831,600	$4.67	$3,883,572		

V. Seagirt West Channel

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
A.	1	Maintain Existing Condition	500	500	42	209,100	$4.65	$972,315		
B.	1	Deepen Seagirt West Channel	500	400	43	102,500	$5.00	$512,500		
	2	Deepen Seagirt West Channel	500	400	44	204,900	$4.95	$1,014,255		
	3	Deepen Seagirt West Channel	500	400	45	307,400	$4.95	$1,521,630		
	4	Deepen Seagirt West Channel	500	400	46	409,900	$4.95	$2,029,005		
	5	Deepen Seagirt West Channel	500	400	47	512,300	$4.93	$2,525,639		
	6	Deepen Seagirt West Channel	500	400	48	614,800	$4.93	$3,030,964		
	7	Deepen Seagirt West Channel	500	400	49	717,200	$4.93	$3,535,796		
	8	Deepen Seagirt West Channel	500	400	50	819,700	$4.93	$4,041,121		
C.	1	Deepen Seagirt West Channel	500	450	43	113,100	$5.00	$565,500		
	2	Deepen Seagirt West Channel	500	450	44	226,200	$4.95	$1,119,690		
	3	Deepen Seagirt West Channel	500	450	45	339,200	$4.95	$1,679,040		
	4	Deepen Seagirt West Channel	500	450	46	452,300	$4.93	$2,229,839		
	5	Deepen Seagirt West Channel	500	450	47	565,400	$4.93	$2,787,422		
	6	Deepen Seagirt West Channel	500	450	48	678,500	$4.93	$3,345,005		
	7	Deepen Seagirt West Channel	500	450	49	791,500	$4.94	$3,910,010		
	8	Deepen Seagirt West Channel	500	450	50	904,600	$4.94	$4,468,724		
D.	1	Deepen Seagirt West Channel	500	500	43	117,600	$4.95	$582,120		
	2	Deepen Seagirt West Channel	500	500	44	235,100	$4.95	$1,163,745		
	3	Deepen Seagirt West Channel	500	500	45	352,700	$4.96	$1,749,392		
	4	Deepen Seagirt West Channel	500	500	46	470,300	$4.96	$2,332,688		
	5	Deepen Seagirt West Channel	500	500	47	587,800	$4.96	$2,915,488		
	6	Deepen Seagirt West Channel	500	500	48	705,400	$495.00	$349,173,000		
	7	Deepen Seagirt West Channel	500	500	49	823,000	$4.94	$4,065,620		
	8	Deepen Seagirt West Channel	500	500	50	940,500	$4.95	$4,655,475		

VI. Seagirt/Dundalk Loop Configurations

Seagirt, Conn. Ch., and East Dundalk Loop

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
A.	1	Widen Seagirt + Conn Ch + E. Dund. Loop	varies	400	42	219,300	$4.67	$1,024,131		
	2	Widen Seagirt + Conn Ch + E. Dund. Loop	varies	450	42	347,000	$4.68	$1,623,960		
	3	Widen Seagirt + Conn Ch + E. Dund. Loop	varies	500	42	480,000	$4.67	$2,241,600		
B.	1	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	43	430,100	$4.68	$2,012,868		
	2	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	44	659,300	$4.68	$3,085,524		
	3	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	45	899,300	$4.68	$4,208,724		
	4	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	46	1,143,900	$4.68	$5,353,452		
	5	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	47	1,391,100	$4.67	$6,496,437		
	6	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	48	1,640,300	$4.67	$7,660,201		
	7	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	49	1,891,300	$4.67	$8,832,371		
	8	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	400	50	2,144,200	$4.67	$10,013,414		
C.	1	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	43	583,300	$4.66	$2,718,178		
	2	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	44	837,900	$4.66	$3,904,614		
	3	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	45	1,102,700	$4.66	$5,138,582		
	4	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	46	1,371,800	$4.66	$6,392,588		
	5	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	47	1,643,300	$4.66	$7,657,778		
	6	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	48	1,916,700	$4.66	$8,931,822		
	7	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	49	2,191,800	$4.66	$10,213,788		
	8	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	450	50	2,468,700	$4.66	$11,504,142		
D.	1	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	43	733,400	$4.67	$3,424,978		
	2	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	44	1,005,600	$4.67	$4,696,152		
	3	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	45	1,288,500	$4.67	$6,017,295		
	4	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	46	1,575,700	$4.67	$7,358,519		
	5	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	47	1,865,100	$4.67	$8,710,017		
	6	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	48	2,156,500	$4.67	$10,070,855		
	7	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	49	2,449,500	$4.67	$11,439,165		
	8	Deepen/Widen Seagirt+ Conn Ch + E. Dund.	varies	500	50	2,744,100	$4.66	$12,787,506		

Seagirt, Conn. Ch., and West Dundalk Loop

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
E.	1	Widen Seagirt+ Conn Ch+ W. Dund. Loop	varies	400	42	73,000	$4.86	$354,780		
	2	Widen Seagirt+ Conn Ch+ W. Dund. Loop	varies	450	42	229,800	$4.96	$1,139,808		
	3	Widen Seagirt+ Conn Ch+ W. Dund. Loop	varies	500	42	402,600	$4.92	$1,980,792		
F.	1	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	43	253,700	$4.93	$1,250,741		
	2	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	44	461,400	$4.93	$2,274,702		
	3	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	45	687,400	$4.94	$3,395,756		
	4	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	46	920,100	$4.94	$4,545,294		
	5	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	47	1,155,400	$4.93	$5,696,122		
	6	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	48	1,392,600	$4.93	$6,865,518		
	7	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	49	1,631,400	$4.93	$8,042,802		
	8	Deepen/Widen Seagirt+Conn+ West Dund.	varies	400	50	1,872,200	$4.94	$9,248,668		
G.	1	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	43	435,900	$4.93	$2,148,987		
	2	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	44	669,200	$4.93	$3,299,156		
	3	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	45	920,100	$4.93	$4,536,093		
	4	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	46	1,177,400	$4.93	$5,804,582		
	5	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	47	1,437,100	$4.94	$7,099,274		
	6	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	48	1,698,400	$4.94	$8,390,096		
	7	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	49	1,961,300	$4.93	$9,669,209		
	8	Deepen/Widen Seagirt+Conn+ West Dund.	varies	450	50	2,226,000	$4.93	$10,974,180		
H.	1	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	43	626,000	$4.92	$3,079,920		
	2	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	44	876,700	$4.93	$4,322,131		
	3	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	45	1,145,400	$4.94	$5,658,276		
	4	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	46	1,420,400	$4.94	$7,016,776		
	5	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	47	1,697,600	$4.94	$8,386,144		
	6	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	48	1,976,700	$4.94	$9,764,898		
	7	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	49	2,257,400	$4.94	$11,151,556		
	8	Deepen/Widen Seagirt+Conn+ West Dund.	varies	500	50	2,539,500	$4.93	$12,519,735		

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Channel Width		Depth	Volume	Unit Cost	Sub-Total	Mob/Demob	Total Cost
			Existing	New						
		Seagirt + Conn + East +West Dundalk								
I.	1	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	42	624,200	$4.93	$3,077,306		
	2	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	43	928,100	$4.93	$4,575,533		
	3	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	44	1,266,200	$4.94	$6,255,028		
	4	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	45	1,627,500	$4.94	$8,039,850		
	5	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	46	1,998,000	$4.93	$9,850,140		
	6	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	47	2,372,300	$4.93	$11,695,439		
	7	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	48	2,749,500	$4.94	$13,582,530		
	8	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	49	3,129,300	$4.94	$15,458,742		
	9	Deepen/Widen Seagirt+Conn+E.+ W. Dund	varies	500	50	3,511,500	$4.93	$17,311,695		
VII.		Cut-Off Angles								
A.	1	Deepen Angle at Connecting Ch./Dundalk	n/a	n/a	42	140,000	$4.92	$688,800		
B.	1	Deepen Angle at West Dundalk Ch.	n/a	n/a	42	75,000	$4.92	$369,000		
VIII.		Authorized Project Implementation								
A.	1	Fort McHenry - Widen to Authorized Width	700	800	50	839,000	$5.00	$4,195,000		
	2	Curtis Bay - Widen to Authorized Width	400	600	50	700,500	$5.00	$3,502,500		
	3	Brewerton Chan. - Widen to Authorized Width	700	800	50	827,400	$5.00	$4,137,000		
	4	Brewerton Angle - Widen to Authorized Width	700	800	50	189,500	$5.00	$947,500		
	5	Craighill Angle - Widen to Authorized Width	700	800	50	301,100	$5.00	$1,505,500		
	6	Craighill Upper - Widen to Authorized Width	700	800	50	571,200	$5.00	$2,856,000		
	7	Craighill Channel - Widen to Authorized Width	700	800	50	593,600	$5.00	$2,968,000		
	8	Craighill Entrance - Widen to Authorized Width	700	800	50	3,073,000	$5.00	$15,365,000		
						7,095,300		$35,476,500		

BRANCH CHANNEL ALTERNATIVES

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives	Channel Width		Depth	Volume	Unit Cost	Sub-Total
	Existing	New				
IX. Turning Basin						
A. 1 Construct Turning Basin Near Anchorage #1	n/a	1200	50	355,500	$4.92	$1,749,060
2 Construct Turning Basin Near Anchorage #1	n/a	1500	50	805,900	$4.92	$3,965,028

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives	Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
Anchorages #2/3										
A. 1 One Free-Swing	620	180	1,600	1,600	36	110,300	$4.91	$541,573		
2 One Free-Swing	615	185	1,600	1,600	37	153,000	$4.65	$711,450		
3 One Free-Swing	610	190	1,600	1,600	38	204,200	$4.94	$1,008,748		
4 One Free-Swing	605	195	1,600	1,600	39	268,200	$4.65	$1,247,130		
5 One Free-Swing	600	200	1,600	1,600	40	348,000	$4.94	$1,719,120		
B. 1 One Free-Swing	670	180	1,700	1,700	36	181,600	$4.93	$895,288		
2 One Free-Swing	665	185	1,700	1,700	37	233,900	$4.65	$1,087,635		
3 One Free-Swing	660	190	1,700	1,700	38	295,600	$4.93	$1,457,308		
4 One Free-Swing	655	195	1,700	1,700	39	371,200	$4.93	$1,830,016		
5 One Free-Swing	650	200	1,700	1,700	40	464,100	$4.95	$2,297,295		
C. 1 One Free-Swing	720	180	1,800	1,800	36	260,200	$4.95	$1,287,990		
2 One Free-Swing	715	185	1,800	1,800	37	321,500	$4.65	$1,494,975		
3 One Free-Swing	710	190	1,800	1,800	38	392,700	$4.65	$1,826,055		
4 One Free-Swing	705	195	1,800	1,800	39	478,500	$4.65	$2,225,025		
5 One Free-Swing	700	200	1,800	1,800	40	582,700	$4.93	$2,872,711		
6 One Free-Swing	695	205	1,800	1,800	41	699,400	$4.65	$3,252,210		
7 One Free-Swing	690	210	1,800	1,800	42	821,400	$4.93	$4,049,502		
8 One Free-Swing	685	215	1,800	1,800	43	944,500	$4.65	$4,391,925		
9 One Free-Swing	680	220	1,800	1,800	44	1,068,000	$4.65	$4,966,200		
10 One Free-Swing	675	225	1,800	1,800	45	1,192,100	$4.93	$5,877,053		
D. 1 One Free-Swing	770	180	1,900	1,900	36	352,500	$4.93	$1,737,825		
2 One Free-Swing	765	185	1,900	1,900	37	424,300	$4.65	$1,972,995		
3 One Free-Swing	760	190	1,900	1,900	38	506,400	$4.94	$2,501,616		
4 One Free-Swing	755	195	1,900	1,900	39	604,000	$4.95	$2,989,800		
5 One Free-Swing	750	200	1,900	1,900	40	721,300	$4.94	$3,563,222		
6 One Free-Swing	745	205	1,900	1,900	41	852,000	$4.65	$3,961,800		
7 One Free-Swing	740	210	1,900	1,900	42	988,000	$4.65	$4,594,200		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
8	One Free-Swing	735	215	1,900	1,900	43	1,125,100	$4.93	$5,546,743		
9	One Free-Swing	730	220	1,900	1,900	44	1,262,700	$4.94	$6,237,738		
10	One Free-Swing	725	225	1,900	1,900	45	1,400,800	$4.93	$6,905,944		
E. 1	One Free-Swing	820	180	2,000	2,000	36	455,400	$4.92	$2,240,568		
2	One Free-Swing	815	185	2,000	2,000	37	538,100	$4.93	$2,652,833		
3	One Free-Swing	810	190	2,000	2,000	38	631,700	$4.94	$3,120,598		
4	One Free-Swing	805	195	2,000	2,000	39	741,600	$4.94	$3,663,504		
5	One Free-Swing	800	200	2,000	2,000	40	872,600	$4.94	$4,310,644		
6	One Free-Swing	795	205	2,000	2,000	41	1,017,400	$4.94	$5,025,956		
7	One Free-Swing	790	210	2,000	2,000	42	1,167,700	$4.94	$5,768,438		
8	One Free-Swing	785	215	2,000	2,000	43	1,319,200	$4.94	$6,516,848		
9	One Free-Swing	780	220	2,000	2,000	44	1,471,300	$4.94	$7,268,222		
10	One Free-Swing	775	225	2,000	2,000	45	1,623,800	$4.94	$8,021,572		
11	One Free-Swing	770	230	2,000	2,000	46	1,776,700	$4.94	$8,776,898		
12	One Free-Swing	765	235	2,000	2,000	47	1,930,000	$4.94	$9,534,200		
13	One Free-Swing	760	240	2,000	2,000	48	2,083,700	$4.94	$10,293,478		
14	One Free-Swing	755	245	2,000	2,000	49	2,237,700	$4.94	$11,054,238		
15	One Free-Swing	750	250	2,000	2,000	50	2,392,000	$4.94	$11,816,480		
F. 1	One Free-Swing	870	180	2,100	2,100	36	581,800	$4.94	$2,874,092		
2	One Free-Swing	865	185	2,100	2,100	37	678,100	$4.93	$3,343,033		
3	One Free-Swing	860	190	2,100	2,100	38	785,800	$4.94	$3,881,852		
4	One Free-Swing	855	195	2,100	2,100	39	910,900	$4.94	$4,499,846		
5	One Free-Swing	850	200	2,100	2,100	40	1,058,800	$4.94	$5,230,472		
6	One Free-Swing	845	205	2,100	2,100	41	1,221,400	$4.94	$6,033,716		
7	One Free-Swing	840	210	2,100	2,100	42	1,389,600	$4.94	$6,864,624		
8	One Free-Swing	835	215	2,100	2,100	43	1,559,000	$4.94	$7,701,460		
9	One Free-Swing	830	220	2,100	2,100	44	1,729,100	$4.94	$8,541,754		
10	One Free-Swing	825	225	2,100	2,100	45	1,899,600	$4.94	$9,384,024		
11	One Free-Swing	820	230	2,100	2,100	46	2,070,500	$4.94	$10,228,270		
12	One Free-Swing	815	235	2,100	2,100	47	2,241,800	$4.94	$11,074,492		
13	One Free-Swing	810	240	2,100	2,100	48	2,413,500	$4.94	$11,922,690		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
14	One Free-Swing	805	245	2,100	2,100	49	2,585,500	$4.94	$12,772,370		
15	One Free-Swing	800	250	2,100	2,100	50	2,757,900	$4.94	$13,624,026		
G. 1	One Free-Swing	920	180	2,200	2,200	36	700,400	$4.93	$3,452,972		
2	One Free-Swing	915	185	2,200	2,200	37	808,000	$4.94	$3,991,520		
3	One Free-Swing	910	190	2,200	2,200	38	927,400	$4.65	$4,312,410		
4	One Free-Swing	905	195	2,200	2,200	39	1,064,800	$4.93	$5,249,464		
5	One Free-Swing	900	200	2,200	2,200	40	1,225,900	$4.65	$5,700,435		
6	One Free-Swing	895	205	2,200	2,200	41	1,402,100	$4.94	$6,926,374		
7	One Free-Swing	890	210	2,200	2,200	42	1,584,000	$4.65	$7,365,600		
8	One Free-Swing	885	215	2,200	2,200	43	1,767,200	$4.93	$8,712,296		
9	One Free-Swing	880	220	2,200	2,200	44	1,951,100	$4.94	$9,638,434		
10	One Free-Swing	875	225	2,200	2,200	45	2,135,500	$4.65	$9,930,075		
11	One Free-Swing	870	230	2,200	2,200	46	2,320,300	$4.93	$11,439,079		
12	One Free-Swing	865	235	2,200	2,200	47	2,505,600	$4.65	$11,651,040		
13	One Free-Swing	860	240	2,200	2,200	48	2,691,200	$4.93	$13,267,616		
14	One Free-Swing	855	245	2,200	2,200	49	2,877,300	$4.65	$13,379,445		
15	One Free-Swing	850	250	2,200	2,200	50	3,063,700	$4.94	$15,134,678		
H. 1	One Free-Swing	970	180	2,300	2,300	36	850,900	$4.94	$4,203,446		
2	One Free-Swing	965	185	2,300	2,300	37	973,400	$4.93	$4,798,862		
3	One Free-Swing	960	190	2,300	2,300	38	1,108,200	$4.94	$5,474,508		
4	One Free-Swing	955	195	2,300	2,300	39	1,261,900	$4.94	$6,233,786		
5	One Free-Swing	950	200	2,300	2,300	40	1,440,800	$4.94	$7,117,552		
6	One Free-Swing	945	205	2,300	2,300	41	1,635,600	$4.94	$8,079,864		
7	One Free-Swing	940	210	2,300	2,300	42	1,836,100	$4.94	$9,070,334		
8	One Free-Swing	935	215	2,300	2,300	43	2,038,000	$4.94	$10,067,720		
9	One Free-Swing	930	220	2,300	2,300	44	2,240,700	$4.94	$11,069,058		
10	One Free-Swing	925	225	2,300	2,300	45	2,443,900	$4.94	$12,072,866		
11	One Free-Swing	920	230	2,300	2,300	46	2,647,600	$4.94	$13,079,144		
12	One Free-Swing	915	235	2,300	2,300	47	2,851,700	$4.94	$14,087,398		
13	One Free-Swing	910	240	2,300	2,300	48	3,056,200	$4.94	$15,097,628		
14	One Free-Swing	905	245	2,300	2,300	49	3,261,100	$4.94	$16,109,834		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
15	One Free-Swing	900	250	2,300	2,300	50	3,466,400	$4.94	$17,124,016		
I. 1	One Free-Swing	1,020	180	2,400	2,400	36	997,900	$4.94	$4,929,626		
2	One Free-Swing	1,015	185	2,400	2,400	37	1,133,500	$4.94	$5,599,490		
3	One Free-Swing	1,010	190	2,400	2,400	38	1,281,700	$4.94	$6,331,598		
4	One Free-Swing	1,005	195	2,400	2,400	39	1,449,500	$4.94	$7,160,530		
5	One Free-Swing	1,000	200	2,400	2,400	40	1,643,100	$4.94	$8,116,914		
6	One Free-Swing	995	205	2,400	2,400	41	1,853,300	$4.94	$9,155,302		
7	One Free-Swing	990	210	2,400	2,400	42	2,069,400	$4.94	$10,222,836		
8	One Free-Swing	985	215	2,400	2,400	43	2,286,900	$4.94	$11,297,286		
9	One Free-Swing	980	220	2,400	2,400	44	2,505,200	$4.94	$12,375,688		
10	One Free-Swing	975	225	2,400	2,400	45	2,724,200	$4.94	$13,457,548		
11	One Free-Swing	970	230	2,400	2,400	46	2,943,700	$4.94	$14,541,878		
12	One Free-Swing	965	235	2,400	2,400	47	3,163,600	$4.94	$15,628,184		
13	One Free-Swing	960	240	2,400	2,400	48	3,384,000	$4.94	$16,716,960		
14	One Free-Swing	955	245	2,400	2,400	49	3,604,700	$4.94	$17,807,218		
15	One Free-Swing	950	250	2,400	2,400	50	3,825,800	$4.94	$18,899,452		
J. 1	One Free-Swing	1,070	180	2,500	2,500	36	1,176,200	$4.94	$5,810,428		
2	One Free-Swing	1,065	185	2,500	2,500	37	1,327,500	$4.94	$6,557,850		
3	One Free-Swing	1,060	190	2,500	2,500	38	1,492,000	$4.94	$7,370,480		
4	One Free-Swing	1,055	195	2,500	2,500	39	1,677,100	$4.94	$8,284,874		
5	One Free-Swing	1,050	200	2,500	2,500	40	1,889,000	$4.94	$9,331,660		
6	One Free-Swing	1,045	205	2,500	2,500	41	2,118,600	$4.94	$10,465,884		
7	One Free-Swing	1,040	210	2,500	2,500	42	2,354,400	$4.94	$11,630,736		
8	One Free-Swing	1,035	215	2,500	2,500	43	2,591,700	$4.94	$12,802,998		
9	One Free-Swing	1,030	220	2,500	2,500	44	2,830,100	$4.94	$13,980,694		
10	One Free-Swing	1,025	225	2,500	2,500	45	3,069,300	$4.94	$15,162,342		
11	One Free-Swing	1,020	230	2,500	2,500	46	3,309,000	$4.94	$16,346,460		
12	One Free-Swing	1,015	235	2,500	2,500	47	3,549,200	$4.94	$17,533,048		
13	One Free-Swing	1,010	240	2,500	2,500	48	3,789,900	$4.94	$18,722,106		
14	One Free-Swing	1,005	245	2,500	2,500	49	4,031,000	$4.94	$19,913,140		
15	One Free-Swing	1,000	250	2,500	2,500	50	4,272,500	$4.94	$21,106,150		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives			Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
Note: The following alternatives include construction of a second anchorage area adjacent to one of the alternatives listed above.												
K.	1	Second Free-Swing	620	180	1,600	1,600	36	193,400	$4.92	$951,528		
	2	Second Free-Swing	615	185	1,600	1,600	37	257,300	$4.93	$1,268,489		
	3	Second Free-Swing	610	190	1,600	1,600	38	328,100	$4.95	$1,624,095		
	4	Second Free-Swing	605	195	1,600	1,600	39	408,200	$4.65	$1,898,130		
	5	Second Free-Swing	600	200	1,600	1,600	40	497,900	$4.65	$2,315,235		
L.	1	Second Free-Swing	670	180	1,700	1,700	36	285,800	$4.96	$1,417,568		
	2	Second Free-Swing	665	185	1,700	1,700	37	361,300	$4.91	$1,773,983		
	3	Second Free-Swing	660	190	1,700	1,700	38	443,800	$4.92	$2,183,496		
	4	Second Free-Swing	655	195	1,700	1,700	39	535,500	$4.65	$2,490,075		
	5	Second Free-Swing	650	200	1,700	1,700	40	636,800	$4.65	$2,961,120		
	6	Second Free-Swing	645	205	1,700	1,700	41	743,600	$4.65	$3,457,740		
M.	1	Second Free-Swing	720	180	1,800	1,800	36	395,500	$4.96	$1,961,680		
	2	Second Free-Swing	715	185	1,800	1,800	37	484,300	$4.93	$2,387,599		
	3	Second Free-Swing	710	190	1,800	1,800	38	579,900	$4.93	$2,858,907		
	4	Second Free-Swing	705	195	1,800	1,800	39	685,000	$4.65	$3,185,250		
	5	Second Free-Swing	700	200	1,800	1,800	40	799,600	$4.65	$3,718,140		
	6	Second Free-Swing	695	205	1,800	1,800	41	919,700	$4.65	$4,276,605		
	7	Second Free-Swing	690	210	1,800	1,800	42	1,042,000	$4.65	$4,845,300		
	8	Second Free-Swing	685	215	1,800	1,800	43	1,165,000	$4.65	$5,417,250		
	9	Second Free-Swing	680	220	1,800	1,800	44	1,288,500	$4.65	$5,991,525		
	10	Second Free-Swing	675	225	1,800	1,800	45	1,412,400	$4.65	$6,567,660		
N.	1	Second Free-Swing	770	180	1,900	1,900	36	508,000	$4.92	$2,499,360		
	2	Second Free-Swing	765	185	1,900	1,900	37	609,900	$4.93	$3,006,807		
	3	Second Free-Swing	760	190	1,900	1,900	38	719,000	$4.93	$3,544,670		
	4	Second Free-Swing	755	195	1,900	1,900	39	837,400	$4.65	$3,893,910		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
5	Second Free-Swing	750	200	1,900	1,900	40	695,400	$4.65	$3,233,610		
6	Second Free-Swing	745	205	1,900	1,900	41	1,099,000	$4.65	$5,110,350		
7	Second Free-Swing	740	210	1,900	1,900	42	1,234,900	$4.65	$5,742,285		
8	Second Free-Swing	735	215	1,900	1,900	43	1,371,500	$4.65	$6,377,475		
9	Second Free-Swing	730	220	1,900	1,900	44	1,508,500	$4.65	$7,014,525		
10	Second Free-Swing	725	225	1,900	1,900	45	1,646,000	$4.65	$7,653,900		
O. 1	Second Free-Swing	820	180	2,000	2,000	36	653,400	$4.94	$3,227,796		
2	Second Free-Swing	815	185	2,000	2,000	37	770,400	$4.94	$3,805,776		
3	Second Free-Swing	810	190	2,000	2,000	38	894,500	$4.93	$4,409,885		
4	Second Free-Swing	805	195	2,000	2,000	39	1,028,200	$4.65	$4,781,130		
5	Second Free-Swing	800	200	2,000	2,000	40	1,171,400	$4.65	$5,447,010		
6	Second Free-Swing	795	205	2,000	2,000	41	1,320,300	$4.65	$6,139,395		
7	Second Free-Swing	790	210	2,000	2,000	42	1,471,400	$4.65	$6,842,010		
8	Second Free-Swing	785	215	2,000	2,000	43	1,623,300	$4.65	$7,548,345		
9	Second Free-Swing	780	220	2,000	2,000	44	1,775,700	$4.65	$8,257,005		
10	Second Free-Swing	775	225	2,000	2,000	45	1,928,500	$4.65	$8,967,525		
11	Second Free-Swing	770	230	2,000	2,000	46	2,081,700	$4.65	$9,679,905		
12	Second Free-Swing	765	235	2,000	2,000	47	2,235,300	$4.65	$10,394,145		
13	Second Free-Swing	760	240	2,000	2,000	48	2,389,200	$4.65	$11,109,780		
14	Second Free-Swing	755	245	2,000	2,000	49	2,543,500	$4.65	$11,827,275		
15	Second Free-Swing	750	250	2,000	2,000	50	2,698,200	$4.65	$12,546,630		
P. 1	Second Free-Swing	870	180	2,100	2,100	36	817,500	$4.93	$4,030,275		
2	Second Free-Swing	865	185	2,100	2,100	37	948,600	$4.94	$4,686,084		
3	Second Free-Swing	860	190	2,100	2,100	38	1,087,000	$4.93	$5,358,910		
4	Second Free-Swing	855	195	2,100	2,100	39	1,234,900	$4.65	$5,742,285		
5	Second Free-Swing	850	200	2,100	2,100	40	1,392,500	$4.65	$6,475,125		
6	Second Free-Swing	845	205	2,100	2,100	41	1,555,700	$4.65	$7,234,005		
7	Second Free-Swing	840	210	2,100	2,100	42	1,721,200	$4.65	$8,003,580		
8	Second Free-Swing	835	215	2,100	2,100	43	1,887,400	$4.65	$8,776,410		
9	Second Free-Swing	830	220	2,100	2,100	44	2,054,200	$4.65	$9,552,030		
10	Second Free-Swing	825	225	2,100	2,100	45	2,221,400	$4.65	$10,329,510		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
11	Second Free-Swing	820	230	2,100	2,100	46	2,389,000	$4.65	$11,108,850		
12	Second Free-Swing	815	235	2,100	2,100	47	2,557,000	$4.65	$11,890,050		
13	Second Free-Swing	810	240	2,100	2,100	48	2,725,400	$4.65	$12,673,110		
14	Second Free-Swing	805	245	2,100	2,100	49	2,894,200	$4.65	$13,458,030		
15	Second Free-Swing	800	250	2,100	2,100	50	3,063,400	$4.65	$14,244,810		
Q. 1	Second Free-Swing	920	180	2,200	2,200	36	1,015,800	$4.93	$5,007,894		
2	Second Free-Swing	915	185	2,200	2,200	37	1,164,300	$4.94	$5,751,642		
3	Second Free-Swing	910	190	2,200	2,200	38	1,320,100	$4.94	$6,521,294		
4	Second Free-Swing	905	195	2,200	2,200	39	1,485,500	$4.65	$6,907,575		
5	Second Free-Swing	900	200	2,200	2,200	40	1,660,600	$4.65	$7,721,790		
6	Second Free-Swing	895	205	2,200	2,200	41	1,841,300	$4.65	$8,562,045		
7	Second Free-Swing	890	210	2,200	2,200	42	2,024,400	$4.65	$9,413,460		
8	Second Free-Swing	885	215	2,200	2,200	43	2,208,200	$4.65	$10,268,130		
9	Second Free-Swing	880	220	2,200	2,200	44	2,392,600	$4.65	$11,125,590		
10	Second Free-Swing	875	225	2,200	2,200	45	2,577,500	$4.65	$11,985,375		
11	Second Free-Swing	870	230	2,200	2,200	46	2,762,700	$4.65	$12,846,555		
12	Second Free-Swing	865	235	2,200	2,200	47	2,948,400	$4.65	$13,710,060		
13	Second Free-Swing	860	240	2,200	2,200	48	3,134,500	$4.65	$14,575,425		
14	Second Free-Swing	855	245	2,200	2,200	49	3,321,000	$4.65	$15,442,650		
15	Second Free-Swing	850	250	2,200	2,200	50	3,507,900	$4.65	$16,311,735		
R. 1	Second Free-Swing	970	180	2,300	2,300	36	1,221,800	$4.94	$6,035,692		
2	Second Free-Swing	965	185	2,300	2,300	37	1,387,600	$4.94	$6,854,744		
3	Second Free-Swing	960	190	2,300	2,300	38	1,560,700	$4.93	$7,694,251		
4	Second Free-Swing	955	195	2,300	2,300	39	1,743,500	$4.65	$8,107,275		
5	Second Free-Swing	950	200	2,300	2,300	40	1,936,000	$4.65	$9,002,400		
6	Second Free-Swing	945	205	2,300	2,300	41	2,134,300	$4.65	$9,924,495		
7	Second Free-Swing	940	210	2,300	2,300	42	2,334,900	$4.65	$10,857,285		
8	Second Free-Swing	935	215	2,300	2,300	43	2,536,300	$4.65	$11,793,795		
9	Second Free-Swing	930	220	2,300	2,300	44	2,738,200	$4.65	$12,732,630		
10	Second Free-Swing	925	225	2,300	2,300	45	2,940,700	$4.65	$13,674,255		
11	Second Free-Swing	920	230	2,300	2,300	46	3,143,600	$4.65	$14,617,740		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
12	Second Free-Swing	915	235	2,300	2,300	47	3,346,900	$4.65	$15,563,085		
13	Second Free-Swing	910	240	2,300	2,300	48	3,550,700	$4.65	$16,510,755		
14	Second Free-Swing	905	245	2,300	2,300	49	3,754,900	$4.65	$17,460,285		
15	Second Free-Swing	900	250	2,300	2,300	50	3,959,500	$4.65	$18,411,675		
S. 1	Second Free-Swing	1,020	180	2,400	2,400	36	1,437,300	$4.65	$6,683,445		
2	Second Free-Swing	1,015	185	2,400	2,400	37	1,620,500	$4.65	$7,535,325		
3	Second Free-Swing	1,010	190	2,400	2,400	38	1,811,100	$4.65	$8,421,615		
4	Second Free-Swing	1,005	195	2,400	2,400	39	2,011,400	$4.65	$9,353,010		
5	Second Free-Swing	1,000	200	2,400	2,400	40	2,221,600	$4.65	$10,330,440		
6	Second Free-Swing	995	205	2,400	2,400	41	2,437,500	$4.65	$11,334,375		
7	Second Free-Swing	990	210	2,400	2,400	42	2,655,600	$4.65	$12,348,540		
8	Second Free-Swing	985	215	2,400	2,400	43	2,874,700	$4.65	$13,367,355		
9	Second Free-Swing	980	220	2,400	2,400	44	3,094,300	$4.65	$14,388,495		
10	Second Free-Swing	975	225	2,400	2,400	45	3,314,400	$4.65	$15,411,960		
11	Second Free-Swing	970	230	2,400	2,400	46	3,534,900	$4.65	$16,437,285		
12	Second Free-Swing	965	235	2,400	2,400	47	3,755,900	$4.65	$17,464,935		
13	Second Free-Swing	960	240	2,400	2,400	48	3,977,400	$4.65	$18,494,910		
14	Second Free-Swing	955	245	2,400	2,400	49	4,199,200	$4.65	$19,526,280		
15	Second Free-Swing	950	250	2,400	2,400	50	4,421,500	$4.65	$20,559,975		
Anchorage #4											
A. 1	One Free-Swing	500	150	1,300	1,300	30	54,400	$4.65	$252,960		
2	One anchorage	495	155	1,300	1,300	31	76,600	$4.65	$356,190		
3	One anchorage	490	160	1,300	1,300	32	104,400	$4.65	$485,460		
4	One anchorage	485	165	1,300	1,300	33	137,100	$4.65	$637,515		
5	One anchorage	480	170	1,300	1,300	34	176,000	$4.65	$818,400		
6	One anchorage	475	175	1,300	1,300	35	222,500	$4.65	$1,034,625		
7	One anchorage	470	180	1,300	1,300	36	277,600	$4.65	$1,290,840		
8	One anchorage	465	185	1,300	1,300	37	337,300	$4.65	$1,568,445		
9	One anchorage	460	190	1,300	1,300	38	398,700	$4.65	$1,853,955		

ANCHORAGE ALTERNATIVES

25-Mar-97

Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
B. 1	One anchorage	550	150	1,400	1,400	30	108,300	$4.65	$503,595		
2	One anchorage	545	155	1,400	1,400	31	136,400	$4.65	$634,260		
3	One anchorage	540	160	1,400	1,400	32	170,300	$4.65	$791,895		
4	One anchorage	535	165	1,400	1,400	33	209,300	$4.65	$973,245		
5	One anchorage	530	170	1,400	1,400	34	254,800	$4.65	$1,184,820		
6	One anchorage	525	175	1,400	1,400	35	308,400	$4.65	$1,434,060		
7	One anchorage	520	180	1,400	1,400	36	371,300	$4.65	$1,726,545		
8	One anchorage	515	185	1,400	1,400	37	439,100	$4.65	$2,041,815		
9	One anchorage	510	190	1,400	1,400	38	508,600	$4.65	$2,364,990		
10	One anchorage	505	195	1,400	1,400	39	578,800	$4.65	$2,691,420		
11	One anchorage	500	200	1,400	1,400	40	650,100	$4.65	$3,022,965		
C. 1	One anchorage	600	150	1,500	1,500	30	183,800	$4.65	$854,670		
2	One anchorage	595	155	1,500	1,500	31	219,300	$4.65	$1,019,745		
3	One anchorage	590	160	1,500	1,500	32	261,400	$4.65	$1,215,510		
4	One anchorage	585	165	1,500	1,500	33	309,200	$4.65	$1,437,780		
5	One anchorage	580	170	1,500	1,500	34	364,000	$4.65	$1,692,600		
6	One anchorage	575	175	1,500	1,500	35	427,700	$4.65	$1,988,805		
7	One anchorage	570	180	1,500	1,500	36	502,400	$4.65	$2,336,160		
8	One anchorage	565	185	1,500	1,500	37	582,500	$4.65	$2,708,625		
9	One anchorage	560	190	1,500	1,500	38	664,500	$4.65	$3,089,925		
10	One anchorage	555	195	1,500	1,500	39	747,300	$4.65	$3,474,945		
11	One anchorage	550	200	1,500	1,500	40	831,100	$4.65	$3,864,615		
D. 1	One anchorage	635	165	1,600	1,600	33	424,700	$4.65	$1,974,855		
2	One anchorage	630	170	1,600	1,600	34	489,100	$4.65	$2,274,315		
3	One anchorage	625	175	1,600	1,600	35	563,000	$4.65	$2,617,950		
4	One anchorage	620	180	1,600	1,600	36	648,900	$4.65	$3,017,385		
5	One anchorage	615	185	1,600	1,600	37	740,900	$4.65	$3,445,185		
6	One anchorage	610	190	1,600	1,600	38	834,800	$4.65	$3,881,820		
7	One anchorage	605	195	1,600	1,600	39	929,600	$4.65	$4,322,640		
8	One anchorage	600	200	1,600	1,600	40	1,025,600	$4.65	$4,769,040		

ANCHORAGE ALTERNATIVES

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Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
E. 1	One anchorage	685	165	1,700	1,700	33	555,300	$4.65	$2,582,145		
2	One anchorage	680	170	1,700	1,700	34	629,800	$4.65	$2,928,570		
3	One anchorage	675	175	1,700	1,700	35	714,200	$4.65	$3,321,030		
4	One anchorage	670	180	1,700	1,700	36	811,600	$4.65	$3,773,940		
5	One anchorage	665	185	1,700	1,700	37	915,600	$4.65	$4,257,540		
6	One anchorage	660	190	1,700	1,700	38	1,021,600	$4.65	$4,750,440		
7	One anchorage	655	195	1,700	1,700	39	1,128,700	$4.65	$5,248,455		
8	One anchorage	650	200	1,700	1,700	40	1,237,100	$4.65	$5,752,515		
F. 1	One anchorage	730	170	1,800	1,800	34	782,400	$4.65	$3,638,160		
2	One anchorage	720	180	1,800	1,800	36	877,700	$4.65	$4,081,305		
3	One anchorage	715	185	1,800	1,800	37	986,900	$4.65	$4,589,085		
4	One anchorage	710	190	1,800	1,800	38	1,103,400	$4.65	$5,130,810		
5	One anchorage	705	195	1,800	1,800	39	1,222,000	$4.65	$5,682,300		
6	One anchorage	700	200	1,800	1,800	40	1,341,900	$4.65	$6,239,835		
7	One anchorage	695	205	1,800	1,800	41	1,463,100	$4.65	$6,803,415		
8	One anchorage	690	210	1,800	1,800	42	1,585,500	$4.65	$7,372,575		
9	One anchorage	685	215	1,800	1,800	43	1,709,300	$4.65	$7,948,245		
10	One anchorage	680	220	1,800	1,800	44	1,833,800	$4.65	$8,527,170		
11	One anchorage	675	225	1,800	1,800	45	2,083,900	$4.65	$9,690,135		
G. 1	One anchorage	770	180	1,900	1,900	36	1,179,600	$4.65	$5,485,140		
2	One anchorage	765	185	1,900	1,900	37	1,309,800	$4.65	$6,090,570		
3	One anchorage	760	190	1,900	1,900	38	1,442,400	$4.65	$6,707,160		
4	One anchorage	755	195	1,900	1,900	39	1,576,200	$4.65	$7,329,330		
5	One anchorage	750	200	1,900	1,900	40	1,711,400	$4.65	$7,958,010		
6	One anchorage	745	205	1,900	1,900	41	1,848,100	$4.65	$8,593,665		
7	One anchorage	740	210	1,900	1,900	42	1,986,100	$4.65	$9,235,365		
8	One anchorage	735	215	1,900	1,900	43	2,124,900	$4.65	$9,880,785		
9	One anchorage	730	220	1,900	1,900	44	2,264,000	$4.65	$10,527,600		
10	One anchorage	725	225	1,900	1,900	45	2,403,400	$4.65	$11,175,810		

ANCHORAGE ALTERNATIVES

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Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
H. 1	One anchorage	820	180	2,000	2,000	36	1,324,800	$4.65	$6,160,320		
2	One anchorage	815	185	2,000	2,000	37	1,463,700	$4.65	$6,806,205		
3	One anchorage	810	190	2,000	2,000	38	1,605,000	$4.65	$7,463,250		
4	One anchorage	805	195	2,000	2,000	39	1,747,500	$4.65	$8,125,875		
5	One anchorage	800	200	2,000	2,000	40	1,891,300	$4.65	$8,794,545		
6	One anchorage	795	205	2,000	2,000	41	2,036,400	$4.65	$9,469,260		
7	One anchorage	790	210	2,000	2,000	42	2,182,700	$4.65	$10,149,555		
8	One anchorage	785	215	2,000	2,000	43	2,329,700	$4.65	$10,833,105		
9	One anchorage	780	220	2,000	2,000	44	2,477,000	$4.65	$11,518,050		
10	One anchorage	775	225	2,000	2,000	45	2,624,500	$4.65	$12,203,925		
11	One anchorage	770	230	2,000	2,000	46	2,772,100	$4.65	$12,890,265		
12	One anchorage	765	235	2,000	2,000	47	2,920,000	$4.65	$13,578,000		
13	One anchorage	760	240	2,000	2,000	48	3,068,200	$4.65	$14,267,130		
14	One anchorage	755	245	2,000	2,000	49	3,218,300	$4.65	$14,965,095		
15	One anchorage	750	250	2,000	2,000	50	3,372,600	$4.65	$15,682,590		
I. 1	One anchorage	870	180	2,100	2,100	36	1,389,900	$4.65	$7,142,400		
2	One anchorage	865	185	2,100	2,100	37	1,536,000	$4.65	$7,833,855		
3	One anchorage	860	190	2,100	2,100	38	1,684,700	$4.65	$8,531,820		
4	One anchorage	855	195	2,100	2,100	39	1,834,800	$4.65	$9,235,830		
5	One anchorage	850	200	2,100	2,100	40	1,986,200	$4.65	$9,945,420		
6	One anchorage	845	205	2,100	2,100	41	2,138,800	$4.65	ERR		
7	One anchorage	840	210	2,100	2,100	42	2,292,900	$4.65	$10,661,985		
8	One anchorage	835	215	2,100	2,100	43	2,447,700	$4.65	$11,381,805		
9	One anchorage	830	220	2,100	2,100	44	2,602,800	$4.65	$12,103,020		
10	One anchorage	825	225	2,100	2,100	45	2,758,100	$4.65	$12,825,165		
11	One anchorage	820	230	2,100	2,100	46	2,913,500	$4.65	$13,547,775		
12	One anchorage	815	235	2,100	2,100	47	3,069,200	$4.65	$14,271,780		
13	One anchorage	810	240	2,100	2,100	48	3,225,300	$4.65	$14,997,645		
14	One anchorage	805	245	2,100	2,100	49	3,383,300	$4.65	$15,732,345		
15	One anchorage	800	250	2,100	2,100	50	3,545,400	$4.65	$16,486,110		
J. 1	One anchorage	920	180	2,200	2,200	36	1,446,000	$4.65	$6,723,900		

ANCHORAGE ALTERNATIVES

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Baltimore Harbor Anchorages and Channels, Maryland

Alternatives		Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
2	One anchorage	915	185	2,200	2,200	37	1,598,300	$4.65	$7,432,095		
3	One anchorage	910	190	2,200	2,200	38	1,753,800	$4.65	$8,155,170		
4	One anchorage	905	195	2,200	2,200	39	1,910,800	$4.65	$8,885,220		
5	One anchorage	900	200	2,200	2,200	40	2,069,200	$4.65	$9,621,780		
6	One anchorage	895	205	2,200	2,200	41	2,228,900	$4.65	$10,364,385		
7	One anchorage	890	210	2,200	2,200	42	2,390,100	$4.65	$11,113,965		
8	One anchorage	885	215	2,200	2,200	43	2,552,000	$4.65	$11,866,800		
9	One anchorage	880	220	2,200	2,200	44	2,714,300	$4.65	$12,621,495		
10	One anchorage	875	225	2,200	2,200	45	2,876,700	$4.65	$13,376,655		
11	One anchorage	870	230	2,200	2,200	46	3,039,400	$4.65	$14,133,210		
12	One anchorage	865	235	2,200	2,200	47	3,202,300	$4.65	$14,890,695		
13	One anchorage	860	240	2,200	2,200	48	3,365,600	$4.65	$15,650,040		
14	One anchorage	855	245	2,200	2,200	49	3,530,700	$4.65	$16,417,755		
15	One anchorage	850	250	2,200	2,200	50	3,700,100	$4.65	$17,205,465		
K. 1	One anchorage	970	180	2,300	2,300	36	1,495,100	$4.65	$6,952,215		
2	One anchorage	965	185	2,300	2,300	37	1,653,400	$4.65	$7,688,310		
3	One anchorage	960	190	2,300	2,300	38	1,815,400	$4.65	$8,441,610		
4	One anchorage	955	195	2,300	2,300	39	1,979,200	$4.65	$9,203,280		
5	One anchorage	950	200	2,300	2,300	40	2,144,400	$4.65	$9,971,460		
6	One anchorage	945	205	2,300	2,300	41	2,311,100	$4.65	$10,746,615		
7	One anchorage	940	210	2,300	2,300	42	2,479,100	$4.65	$11,527,815		
8	One anchorage	935	215	2,300	2,300	43	2,648,000	$4.65	$12,313,200		
9	One anchorage	930	220	2,300	2,300	44	2,817,300	$4.65	$13,100,445		
10	One anchorage	925	225	2,300	2,300	45	2,986,700	$4.65	$13,888,155		
11	One anchorage	920	230	2,300	2,300	46	3,156,400	$4.65	$14,677,260		
12	One anchorage	915	235	2,300	2,300	47	3,326,300	$4.65	$15,467,295		
13	One anchorage	910	240	2,300	2,300	48	3,496,600	$4.65	$16,259,190		
14	One anchorage	905	245	2,300	2,300	49	3,668,800	$4.65	$17,059,920		
15	One anchorage	900	250	2,300	2,300	50	3,845,200	$4.65	$17,880,180		
L. 1	Two Anchorages	450	150	1,200	2,400	30		$4.65	$0		
2	Two Anchorages	445	155	1,200	2,400	31		$4.65	$0		

ANCHORAGE ALTERNATIVES

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Baltimore Harbor Anchorages and Channels, Maryland

Alternatives	Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
3 Two Anchorages	440	160	1,200	2,400	32		$4.65	$0		
4 Two Anchorages	435	165	1,200	2,400	33		$4.65	$0		
5 Two Anchorages	430	170	1,200	2,400	34		$4.65	$0		
6 Two Anchorages	425	175	1,200	2,400	35		$4.65	$0		
7 Two Anchorages	420	180	1,200	2,400	36		$4.65	$0		
8 Two Anchorages	415	185	1,200	2,400	37		$4.65	$0		
9 Two Anchorages	410	190	1,200	2,400	38		$4.65	$0		
10 Two Anchorages	405	195	1,200	2,400	39		$4.65	$0		
11 Two Anchorages	400	200	1,200	2,400	40		$4.65	$0		
12 Two Anchorages	395	205	1,200	2,400	41		$4.65	$0		
13 Two Anchorages	390	210	1,200	2,400	42		$4.65	$0		
14 Two Anchorages	385	215	1,200	2,400	43		$4.65	$0		
15 Two Anchorages	380	220	1,200	2,400	44		$4.65	$0		
16 Two Anchorages	375	225	1,200	2,400	45		$4.65	$0		
17 Two Anchorages	370	230	1,200	2,400	46		$4.65	$0		
18 Two Anchorages	365	235	1,200	2,400	47		$4.65	$0		
19 Two Anchorages	360	240	1,200	2,400	48		$4.65	$0		
20 Two Anchorages	355	245	1,200	2,400	49		$4.65	$0		
21 Two Anchorages	350	250	1,200	2,400	50		$4.65	$0		
Anchorage #5										
A. 1 One Anchorage	450	150	1,200	1,200	30	533,333	$4.65	$2,480,000		
2 One Anchorage	450	150	1,200	1,200	35	800,000	$4.65	$3,720,000		
B. 1 One Anchorage	500	150	1,300	1,300	30	625,926	$4.65	$2,910,556		
2 One Anchorage	500	150	1,300	1,300	35	938,889	$4.65	$4,365,833		
C. 1 One Anchorage	550	150	1,400	1,400	30	725,926	$4.65	$3,375,556		
2 One Anchorage	550	150	1,400	1,400	35	1,088,889	$4.65	$5,063,333		
D. 1 One Anchorage	600	150	1,500	1,500	30	833,333	$4.65	$3,875,000		

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Alternatives	Maximum Ship Size	Anchor Chain	Dimensions length	Dimensions width	Depth	Volume	Unit Cost	Total Dredging	Mob/Demob (Pro-rated)	Total Cost
2 One Anchorage	600	150	1,500	1,500	35	1,250,000	$4.65	$5,812,500		
E. 1 One Anchorage	650	150	1,600	1,600	30	948,148	$4.65	$4,408,889		
2 One Anchorage	650	150	1,600	1,600	35	1,422,222	$4.65	$6,613,333		
F. 1 One Anchorage	700	150	1,700	1,700	30	1,070,370	$4.65	$4,977,222		
2 One Anchorage	700	150	1,700	1,700	35	1,605,556	$4.65	$7,465,833		
Anchorage #6										
A. 1 One Anchorage	450	150	1,200	1,200	30	480,000	$4.65	$2,232,000		
2 One Anchorage	450	150	1,200	1,200	35	746,667	$4.65	$3,472,000		
B. 1 One Anchorage	500	150	1,300	1,300	30	563,333	$4.65	$2,619,500		
2 One Anchorage	500	150	1,300	1,300	35	876,296	$4.65	$4,074,778		
C. 1 One Anchorage	550	150	1,400	1,400	30	653,333	$4.65	$3,038,000		
2 One Anchorage	550	150	1,400	1,400	35	1,016,296	$4.65	$4,725,778		
D. 1 One Anchorage	600	150	1,500	1,500	30	750,000	$4.65	$3,487,500		
2 One Anchorage	600	150	1,500	1,500	35	1,166,667	$4.65	$5,425,000		
E. 1 One Anchorage	650	150	1,600	1,600	30	853,333	$4.65	$3,968,000		
2 One Anchorage	650	150	1,600	1,600	35	1,327,407	$4.65	$6,172,444		
F. 1 One Anchorage	700	150	1,700	1,700	30	963,333	$4.65	$4,479,500		
2 One Anchorage	700	150	1,700	1,700	35	1,498,519	$4.65	$6,968,111		