US Army Corps
of Engineers
Baltimore District

Final SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT - APPENDIX B: PUBLIC AND AGENCY COORDINATION

MID-CHESAPEAKE BAY ISLANDS ECOSYSTEM RESTORATION PROJECT: JAMES ISLAND

DORCHESTER COUNTY, MARYLAND

NOVEMBER 2024

Prepared by: U.S. Army Corps of Engineers, Baltimore District

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B1: Notice of Intent

Notice of Intent To Prepare a Supplemental Environmental Impact Statement for the Mid-Chesapeake Bay Islands Ecosystem Restoration Project at James Island

A Notice by the Engineers Corps on 11/07/2022

DOCUMENT DETAILS

Printed version:
PDF (https://www.govinfo.gov/content/pkg/FR-2022-11-07/pdf/2022-24164.pdf)

Publication Date:
11/07/2022 (/documents/2022/11/07)

Agencies:
Department of the Army, Corps of Engineers (https://www.federalregister.gov/agencies/engineers-corps)

Dates:
Comments and suggestions must be submitted by December 7, 2022.

Comments Close:
12/07/2022

Document Type:
Notice

Document Citation:
87 FR 67025

Page:
67025-67026 (2 pages)

Document Number:
2022-24164

DOCUMENT DETAILS

PUBLISHED DOCUMENT

AGENCY:

U.S. Army Corps of Engineers, DoD.

ACTION:

Notice of intent.

SUMMARY:

Pursuant to the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended, the Baltimore District of the U.S. Army Corps of Engineers (USACE), in partnership with the Maryland Department of Transportation's Maryland Port Administration, the non-federal sponsor, plans to prepare a supplemental Environmental Impact Statement (sEIS) for the Mid-Chesapeake Bay Island Ecosystem Restoration Project at James Island (Mid-Bay Island Project). The Mid-Chesapeake Islands Restoration Project recommends remote island restoration at James Island and Barren Island, both on the Eastern Shore of Maryland and in Dorchester County, MD, through the beneficial use of dredged material. The project addresses two needs: (1) the restoration of remote island habitat to benefit wildlife including a diverse assemblage of birds, fish, herpetofauna, and invertebrates; and (2) the beneficial use of dredged material from the maintenance of the approach channels to Baltimore Harbor. Remote islands, a critical ecosystem component in the Chesapeake Bay, are offshore landforms that provide isolation, lack of human disturbance, and few predators. These conditions uniquely support isolated nesting and foraging habitat for a diverse assemblage of wildlife. Extensive island habitat loss has occurred within the Mid-Chesapeake Bay, and James Island has nearly vanished. Sea level rise and related erosion, as well as land subsidence and wave action are the primary drivers of island loss. The project provides an opportunity to utilize 30 to 70 million cubic yards of clean dredged material over a 20-year period to restore 2,072 acres of remote island habitat at James Island including uplands and wetlands. The project would convert over 2,000 acres of shallow water habitat in the waters surrounding James Island to external dikes and island habitat. There are expected to be long-term changes to the aesthetics of the project area as an effect of the restoration of James Island in the landscape. The sEIS will update documentation for NEPA focused on the James Island component of the project. USACE is requesting to be provided any supporting information, analyses, and alternative identification relevant to the action being evaluated by this sEIS.

DATES:

Comments and suggestions must be submitted by December 7, 2022.

ADDRESSES:

Send written comments and suggestions concerning the scope of issues to be evaluated within the sEIS to Angie Sowers, Integrated Water Resources Management Specialist, U.S. Army Corps of Engineers, Baltimore District, Planning Division—Civil Project Development Branch, (CENAP–PLP), 2 Hopkins Plaza, Baltimore, MD 21201, or via email to *angela.sowers@usace.army.mil (mailto:angela.sowers@usace.army.mil)*.

FOR FURTHER INFORMATION CONTACT:

Questions about the overall Mid-Bay Island Project should be directed to Trevor Cyran, Project Manager at *trevor.p.cyran@usace.army.mil (mailto:trevor.p.cyran@usace.army.mil)* or at (410) 962–4999. Additional information is available on the project's web page: *https://www.nab.usace.army.mil/Mid-Bay (https://www.nab.usace.army.mil/Mid-Bay)*.

SUPPLEMENTARY INFORMATION:

1. Background

USACE-Baltimore received the authority to conduct the Mid-Chesapeake Bay Island Ecosystem Restoration Feasibility Study under the resolution of the Senate Committee on Environment and Public Works on 5 June 1997. The feasibility study recommended remote island restoration at James Island and Barren Island, both on the Eastern Shore of Maryland and in Dorchester County, through the beneficial use of dredged material. The study built upon the Federal and State's Dredged Material Management Plan (DMMP) planning efforts to identify beneficial use sites to meet dredged material capacity needs and habitat restoration goals. The feasibility study determined the technical, economic, and environmental feasibility of protecting, restoring, and creating aquatic, intertidal wetland, and upland habitat for fish and wildlife within the Mid-Bay Island Project study area using clean dredged material from the Upper Chesapeake Bay Approach Channels.

Section 7002 of the Water Resources Reform and Development Act (WRDA) of 2014 authorized the Mid-Bay Island Project, as described in the Chief's Report, (*https://planning.erdc.dren.mil/toolbox/library/ChiefReports/mid_chesapeake.pdf (https://planning.erdc.dren.mil/toolbox/library/ChiefReports/mid_chesapeake.pdf)*), dated August 2009, and the *Mid-Chesapeake Bay Island Ecosystem Restoration Integrated Feasibility Report and Environmental Impact Statement (IFR/EIS),* dated June 2009. The **Federal Register** notice (73 FR 56565 (/citation/73-FR-56565), September 29, 2008) for the EIS being supplemented is available at *https://www.govinfo.gov/content/pkg/FR-2008-09-29/pdf/E8-22764.pdf (https://www.govinfo.gov/content/pkg/FR-2008-09-29/pdf/E8-22764.pdf)*. The record of decision (ROD) was signed in July 2019 initiating the next phase of the study, Preconstruction Engineering and Design (PED). In March 2022, USACE published a supplemental Environmental Assessment (EA) with a signed finding of no significant impact (FONSI) to update NEPA compliance for the Barren Island component of the Mid-Bay Island Project. Acknowledging the scale of the James Island component of the project and the large-scale marine construction required to implement the project, a sEIS will be prepared.

The Mid-Bay Island Project recommended plan consists of restoring 2,072 acres of remote island habitat at James Island with a habitat proportion of 45% upland to 55% wetland, and an upland dike height of 20 ft MLLW.

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The Mid-Bay Island Project provides for the restoration of remote island habitat to benefit wildlife including a diverse assemblage of birds, fish, herpetofauna, and invertebrates; and the beneficial use of dredged material. Remote islands, a critical ecosystem component in the Chesapeake Bay, are offshore landforms that provide isolation, lack of human disturbance, and few predators. These conditions uniquely support isolated nesting and foraging habitat for a diverse assemblage of wildlife. Extensive island habitat loss has occurred within the Mid-Chesapeake Bay. James Island, historically at least 1300 acres, has dwindled in the past 20 years from three remnants totaling less than 100 acres to multiple remnants summing to approximately 3 acres. Sea level rise and related erosion, as well as land subsidence and wave action are the primary drivers of island loss. Simultaneously, the project provides an opportunity for the beneficial use of dredged material. More than 130 miles of dredged shipping channels serve the Port of Baltimore, and channel maintenance and improvement projects require that approximately 4 to 5 million cubic yards of sediment be dredged from the Federal and State channels each year, 3.2 mcy of which comes from the upper Chesapeake Bay approach channels and the southern approach channels to the C&D Canal. The project will provide approximately 90 to 95 mcy, or approximately 28 to 30 years of dredged material placement capacity to meet the annual need for maintenance dredging activity.

The purpose of the current effort is to update NEPA documentation for the James Island component of the Mid-Bay Island Project during the project's design phase. The NEPA coordination/review schedule for the project will be coordinated with the appropriate Federal and state resource agencies

2. Study Area

The project is located in estuarine waters adjacent to James Island in Dorchester County, MD. James Island is situated along the eastern shore of the Chesapeake Bay, outside the mouth of the Little Choptank River, and slightly northeast of Taylors Island.

3. USACE Decision Making

As required by the Council on Environmental Quality's Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (2013), alternatives to the proposed Federal action that meet the purpose and need will be considered in the sEIS. These alternatives will include no action, the recommended plan as authorized by Section 7002 of WRDA 2014, and minor adjustments to account for changing conditions since the feasibility report was completed in 2009. The measures to be evaluated will consider applicable public stakeholder and agency input received since the beginning of PED and through future outreach efforts.

4. Scoping/Public Participation

Prior scoping meetings were held as part of the feasibility study. Public outreach events were held in May and June 2021. An additional community outreach session is planned for Saturday, November 19, 2022 from 10 a.m. to 12 p.m. at the Hoopers Island Fire Department [2756 Hoopers Island Road, Fishing Creek, MD 21634]. Any additional scoping input can be provided at that meeting or provided to the contacts identified here within, for 30 days following the meeting until December 19, 2022. Public meetings will be conducted during the public review period of the draft sEIS.

5. Lead and Cooperating Agencies

USACE is the lead federal agency and the Maryland Department of Transportation's Maryland Port Administration is the nonfederal sponsor for the project. The preparation of the sEIS meets the requirements of the NEPA and its Implementing Regulations of the President's Council on Environmental Quality (40 CFR

1500–1508 (https://www.ecfr.gov/current/title-40/part-1500)). The U.S. Fish and Wildlife Service (FWS), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Environmental Protection Agency (EPA), and the Maryland Department of Natural Resources (MDNR) have been invited to serve as cooperating agencies.

6. Alternatives To Be Considered

This sEIS evaluation will consider two alternatives: (1) No action, and (2) implementation of the feasibility study's recommended plan.

7. Study Schedule

The Draft sEIS is currently scheduled for distribution to the public in summer 2023, with a 45 day public review and comment period following release of the draft document.

8. Anticipated Impacts, Permits, and Authorization

The sEIS will analyze the full range of impacts, both beneficial and negative, of the alternatives. Potentially significant issues to be analyzed include impacts to waters of the United States, aquatic resources (including submerged aquatic vegetation), and endangered and threatened species and their habitats. Other impacts that will be analyzed include hydrology and water quality, air quality, navigation, cultural resources, aesthetics, environmental justice, and recreation. Anticipated permits and authorizations include water quality certification, Coastal Zone Consistency Determination, and a tidal wetlands license. In addition, many other federal, state, and local authorizations will be required for the Project. Applicable federal laws include the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammals Protection Act, Rivers and Harbors Act, National Historic Preservation Act, Clean Water Act, and the Coastal Zone Management Act. USACE is also conducting government-to-government Tribal consultations.

Reinhard W. Koenig,

Programs Director, North Atlantic Division.

[FR Doc. 2022–24164 (/d/2022-24164) Filed 11–4–22; 8:45 am]

BILLING CODE 3720–58–P

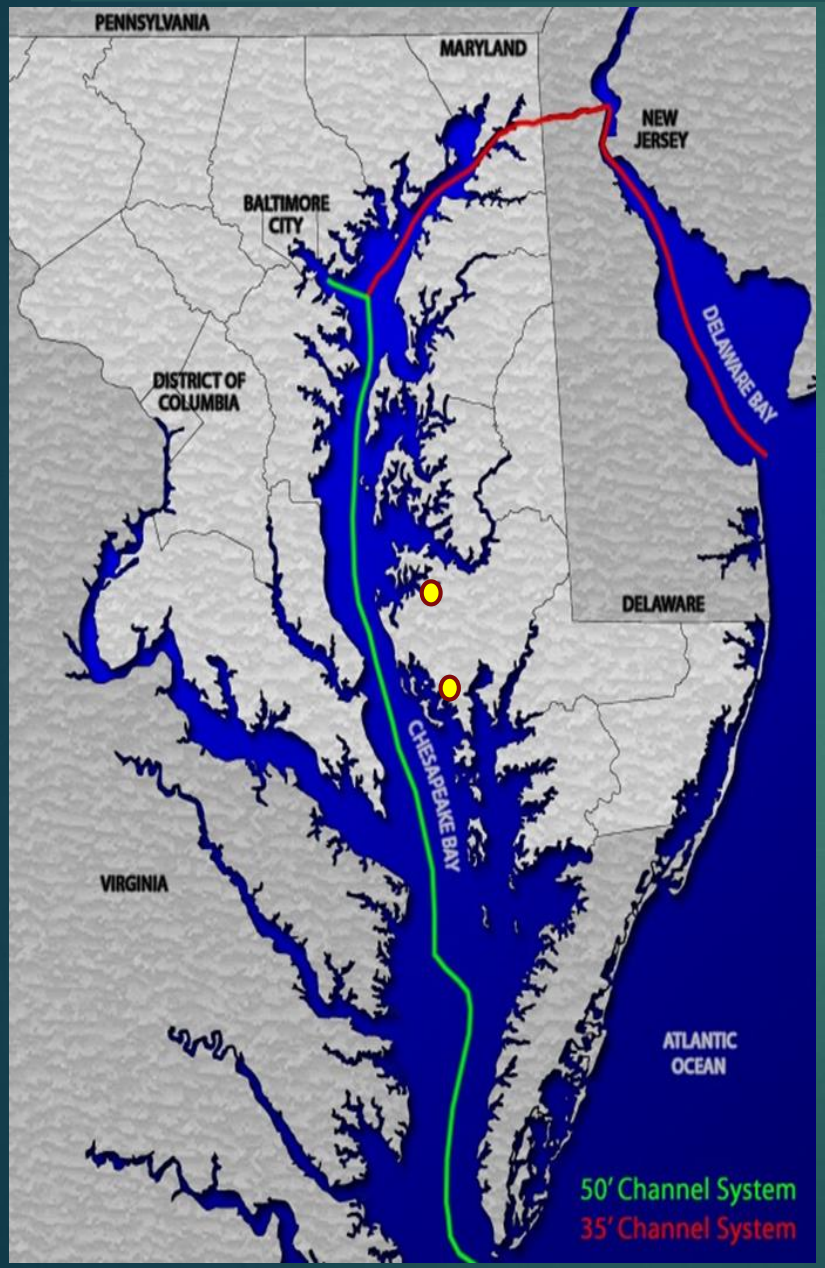
PUBLISHED DOCUMENT

B2: Stakeholder Meetings

Mid-Chesapeake Bay Island Ecosystem Restoration Project Update

Dorchester County Council December 17, 2019

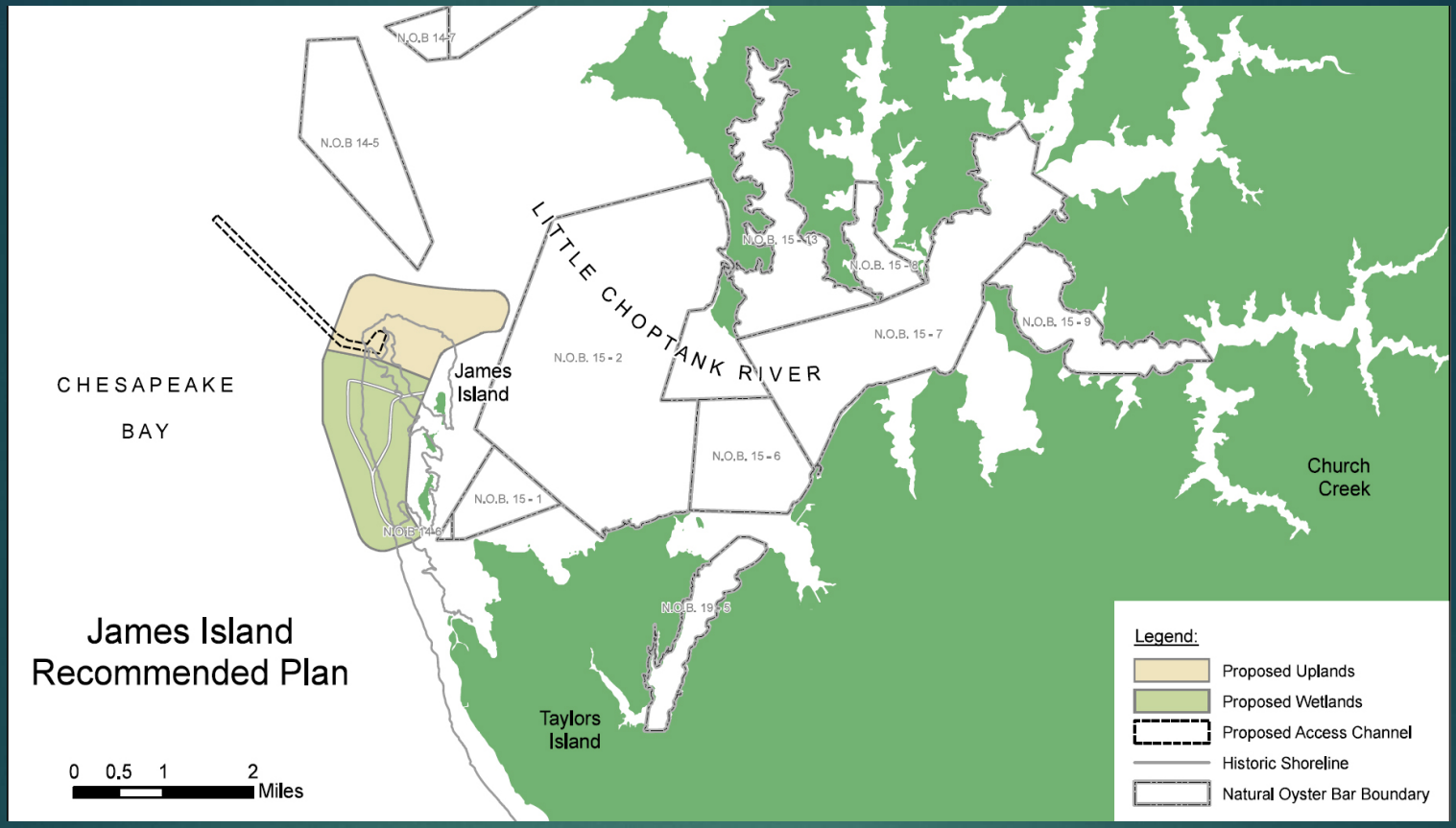
MD Navigational Channel System



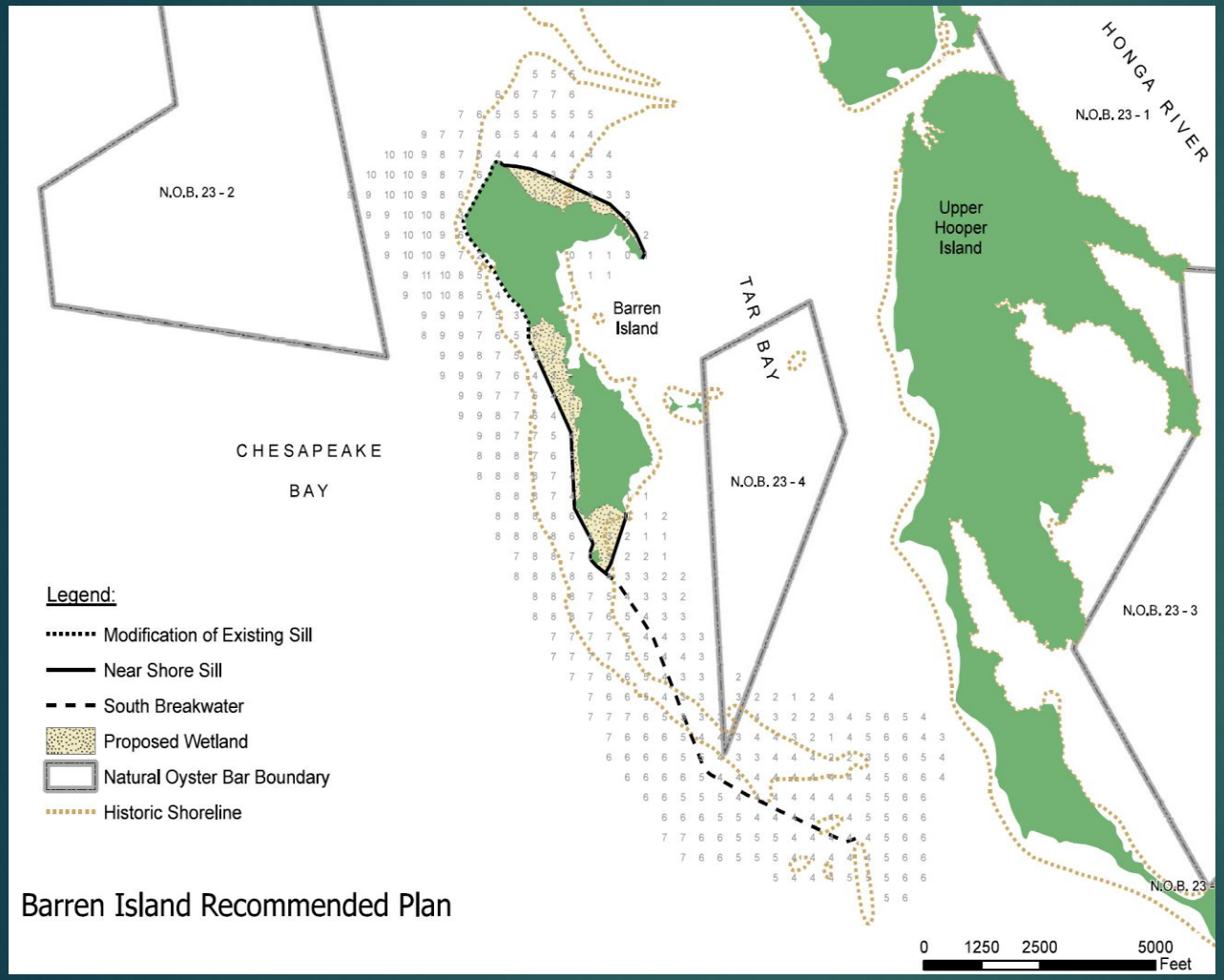
- Maryland Department of Transportation Maryland Port Administration (MDOT MPA) is responsible for the waterborne commerce throughout the state
- Partnered with the US Army Corps of Engineers (USACE), the MDOT MPA maintains the depth of the Maryland channel systems through regular dredging
- The USACE and MDOT MPA maintain a 20-year Dredged Material Management Plan, which evaluated James and Barren Islands (Mid-Bay Project) as placement options, beneficially reusing materials for ecosystem restoration.

Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island

James Island – Recommended Plan



Barren Island – Recommended Plan



Barren Island Recommended Plan

Mid-Bay Island Ecosystem Restoration Importance

- Provides >2,144 acres of remote island habitat (>1,000 acres of wetlands)
- Provides 90-95 million cubic yards of dredged material placement capacity over 45 years
- Protects >1,000 acres of submerged aquatic vegetation (SAV)
- No action would result in the complete loss of James and Barren Islands due to erosion

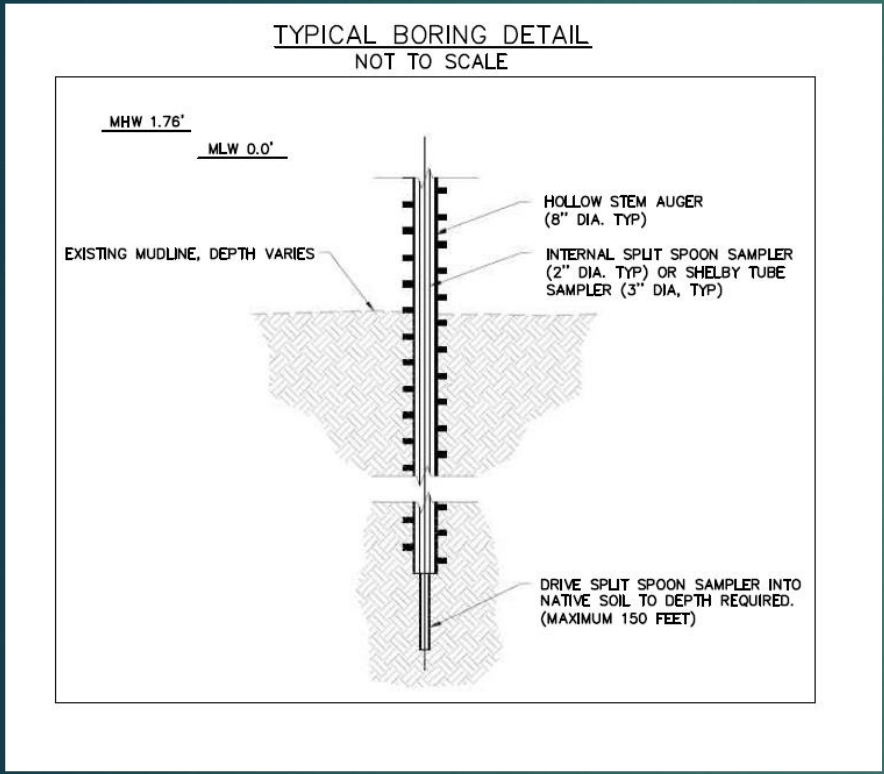
Mid-Bay Island Ecosystem Restoration Phases

-
-
- Preconstruction Engineering and Design
-
-
-
-
-
-

Mid-Bay Island Ecosystem Restoration PED Activities

- **Hydrology & Hydraulic Modeling (early 2020)**
- **Civil Engineering (early 2020)**
- **Geotechnical Engineering (early 2020)**
- Supplemental NEPA
- Real Estate Research
- Value Engineering Study
- Design Document Report
- Plans & Specification Development

Geotechnical Boring/Drilling Activity



Mid-Bay Island Ecosystem Restoration Contacts

- **MDOT MPA**

  Dave Blazer dblazer1@marylandports.com

  (410) 385-4465

- **USACE Baltimore District**

  Ray Tracey Raymond.M.Tracy@usace.army.mil

  (410) 962-6114


Maryland Department of Transportation Maryland Port Administration
Follow · Subscribe · Explore
Learn more about the MPA's work for the economy, community, and environment:
· GreenPort website: www.marylandports.com/greenport
· Maryland Port Administration website: www.marylandports.com
Find the "Port of Baltimore" on social media:
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@baltimoreport
@Port of Baltimore

2021 MDOT MPA SPOTLIGHT SERIES

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Wednesday, May 19, 2021
5:30pm EST

Mid-Chesapeake Bay Island Ecosystem Restoration Project

This year marks the 20th anniversary of Maryland's Dredged Material Management Act, a tremendous effort which has guided how we manage dredged material successfully in ways that are good for our economy, our communities, and our environment. Join us for an informative discussion that will spotlight the Mid-Bay Ecosystem Restoration Project, a future dredged material placement site that will restore and expand beneficial island habitat in the Chesapeake. This will be hosted virtually, and is free and open to the public.

For more information click link below or go to **www.maryland-dmmp.com**

REGISTER HERE

FEATURED SPEAKERS

Holly Miller: MDOT MPA

Trevor Cyran: US Army Corps of Engineers

Angie Sowers: US Army Corps of Engineers

Chris Guy: US Fish and Wildlife Service

Moderated by Kristen Keene: MDOT MPA

PORT OF BALTIMORE 1706 Helen Delich Bentley

Dredged Material Management Act
Commemorating 20 Years
2001-2021

Maryland-DMMP.com

Project History and National Environmental Policy Act Compliance

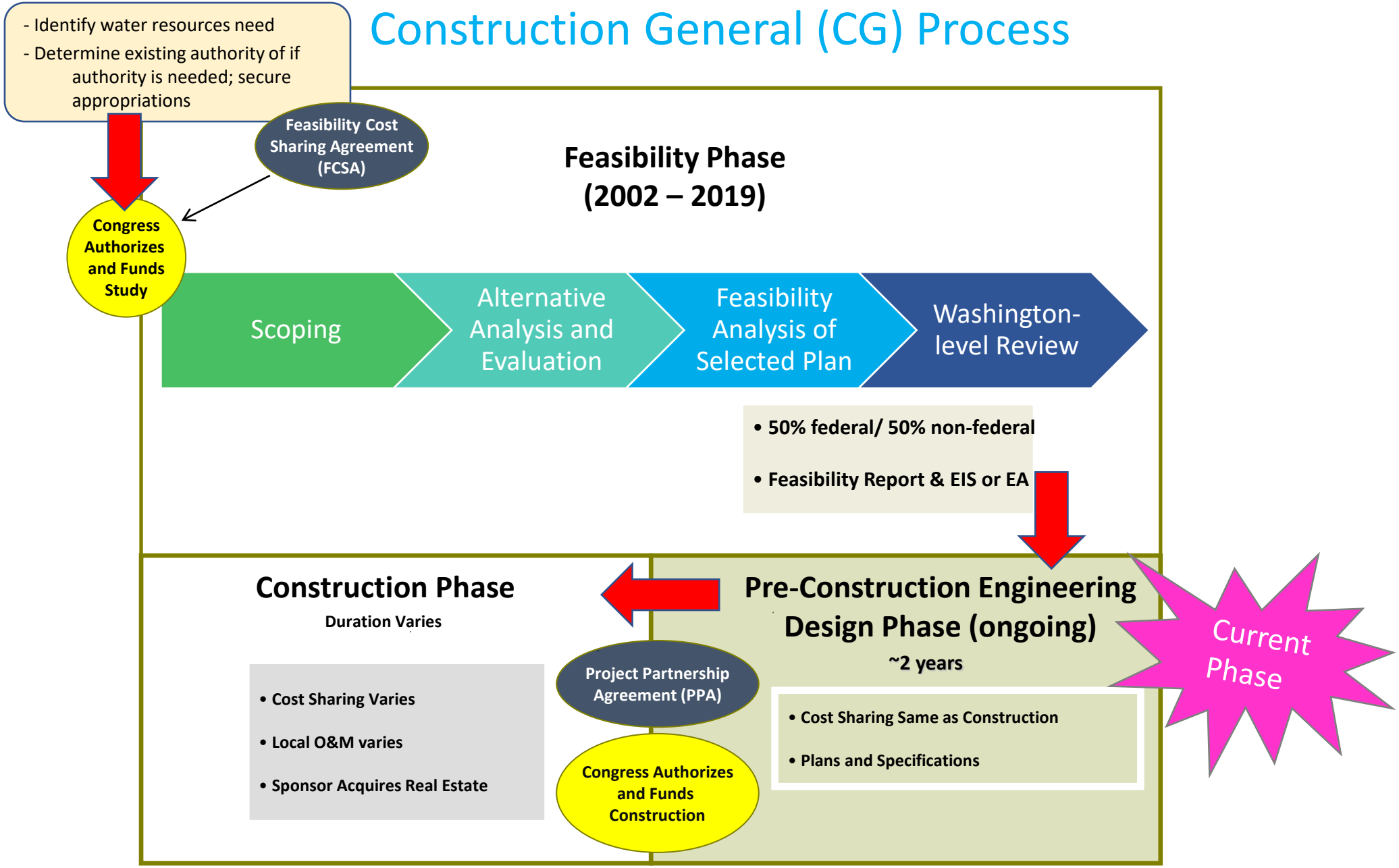
Mid-Bay
ISLAND ECOSYSTEM RESTORATION PROJECT

Angie Sowers, Ph D
USACE

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

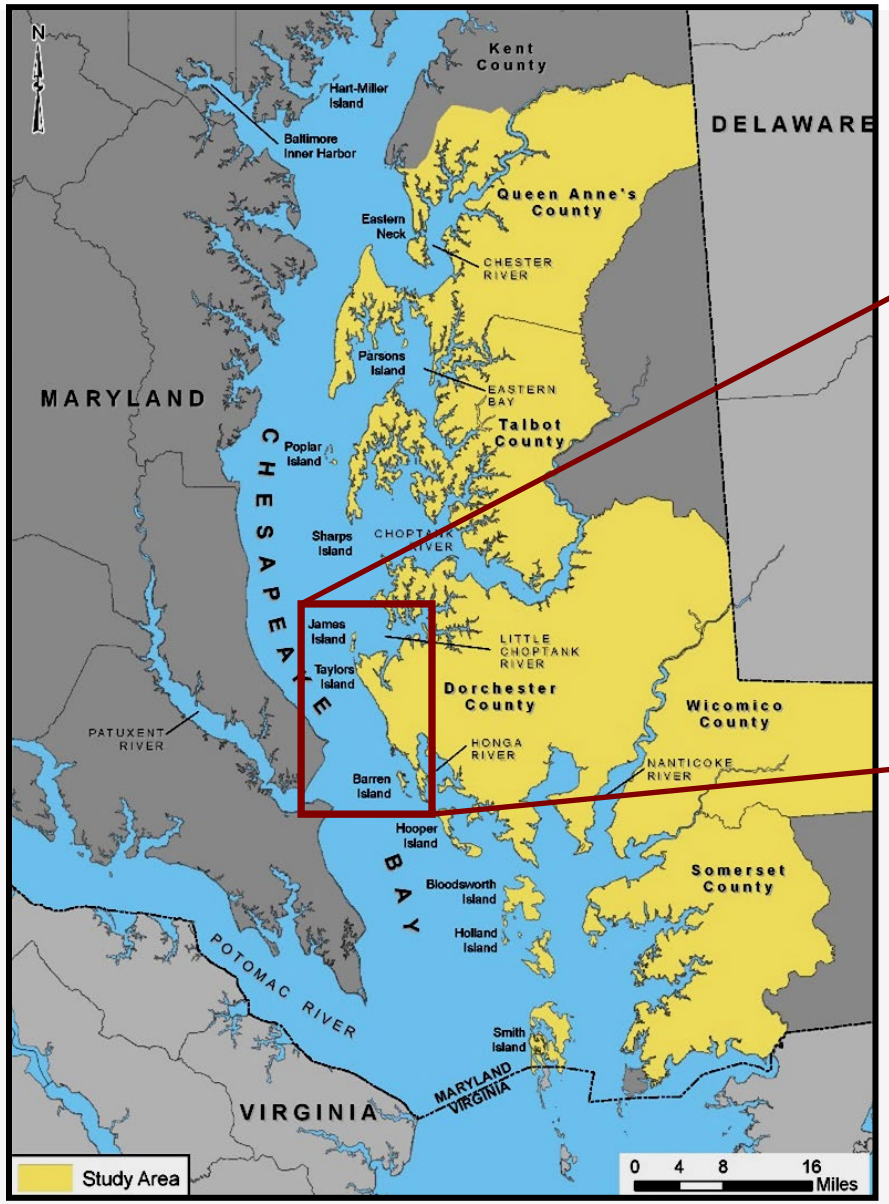
US Army Corps of Engineers ®
Baltimore District

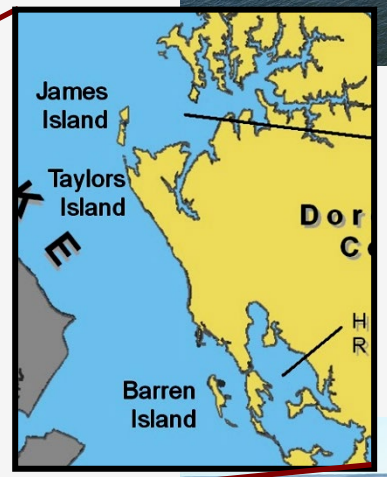
Civil Works General Investigation (GI)/ Construction General (CG) Process



Project History:
Feasibility Phase 2002 – 2019

Project Location





Project Purpose

- Restore and protect wetland, aquatic, and terrestrial remote island habitat for fish, reptiles, amphibians, birds, and mammals;
- Protect existing remote island ecosystems to prevent further loss of island and aquatic habitat;
- Provide dredged material placement capacity for Federal navigation channels;
- Increase wetlands acreage in the Chesapeake Bay watershed;
- Decrease local erosion and turbidity;
- Promote conditions to establish and enhance submerged aquatic vegetation; and
- Promote conditions that support oyster recolonization.

Mid-Bay Integrated Feasibility Report and Environmental Impact Statement (2009)

Mid-Bay Integrated Feasibility Report and Environmental Impact Statement

↓

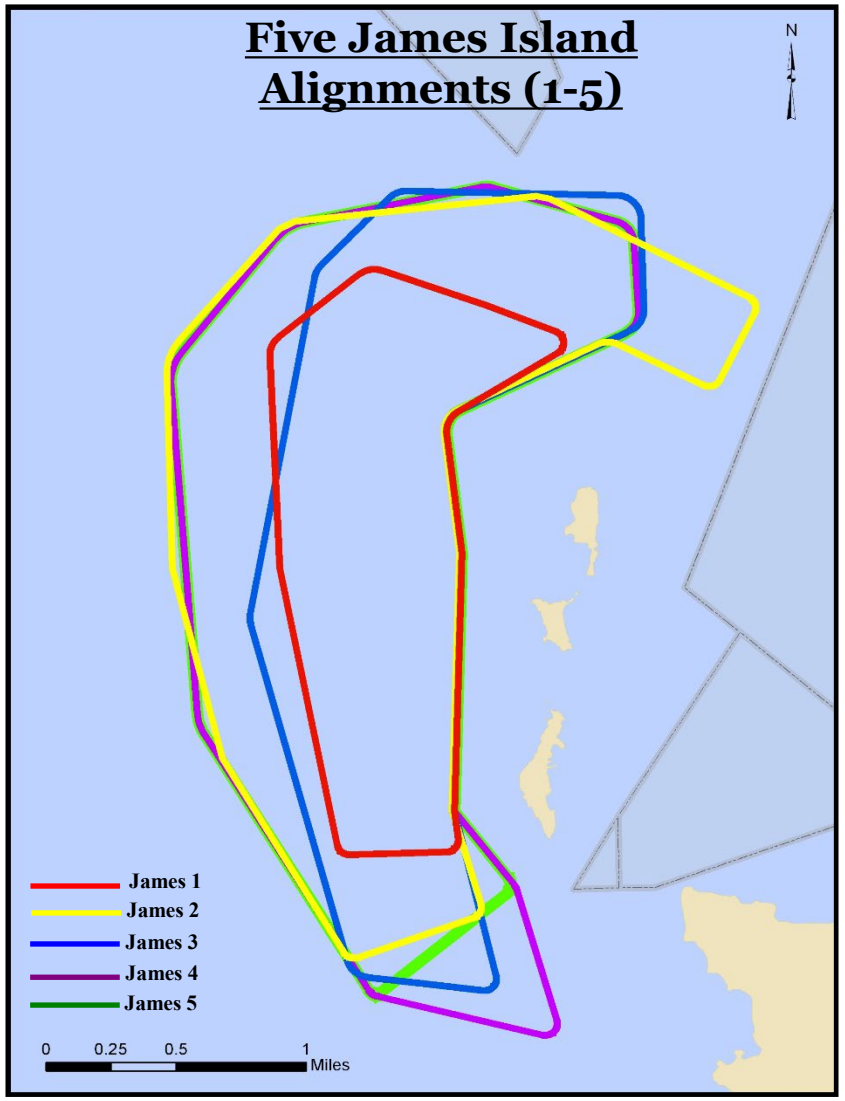
105 Potential Island Location → 2 Islands

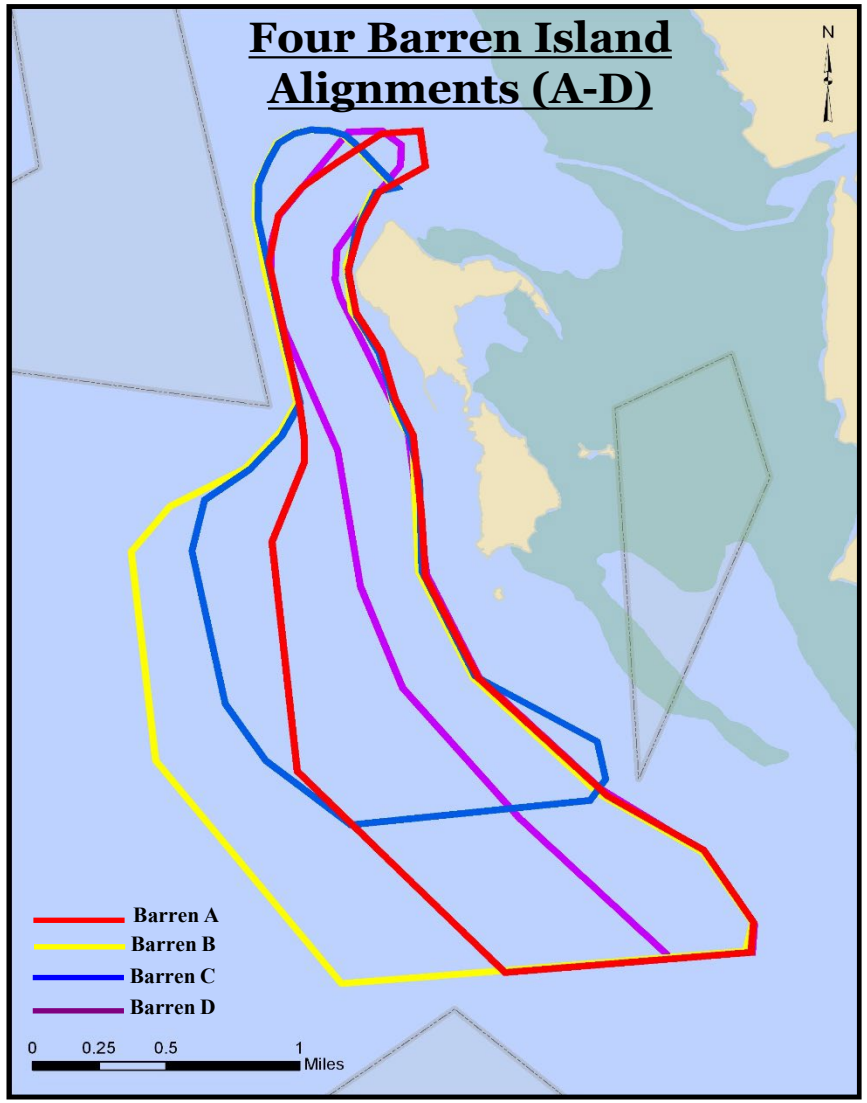
↓

2 Islands → 29 Alignments

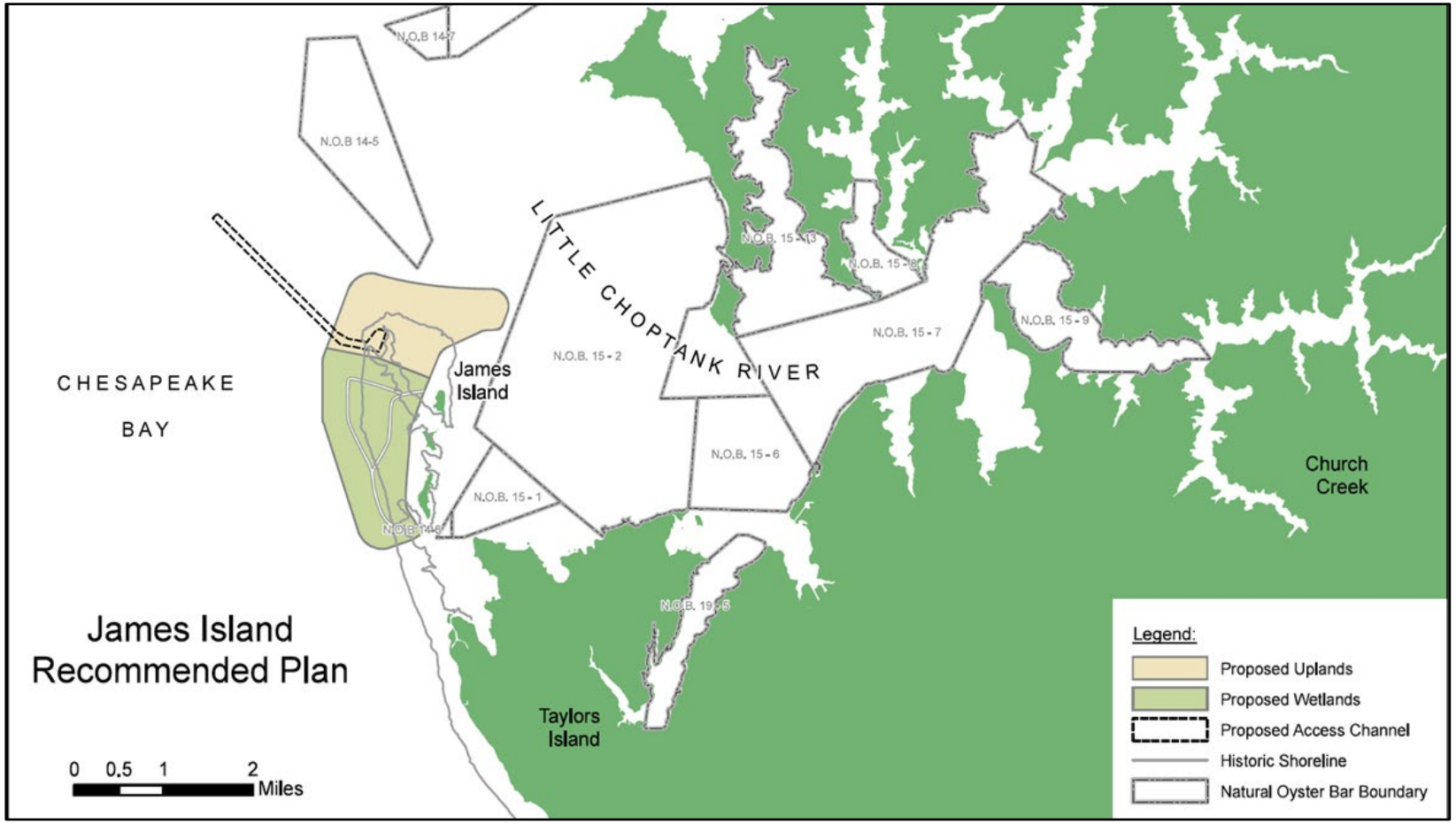
Mid-Chesapeake Bay Island Ecosystem Feasibility Phase Analysis

Alignments Evaluated



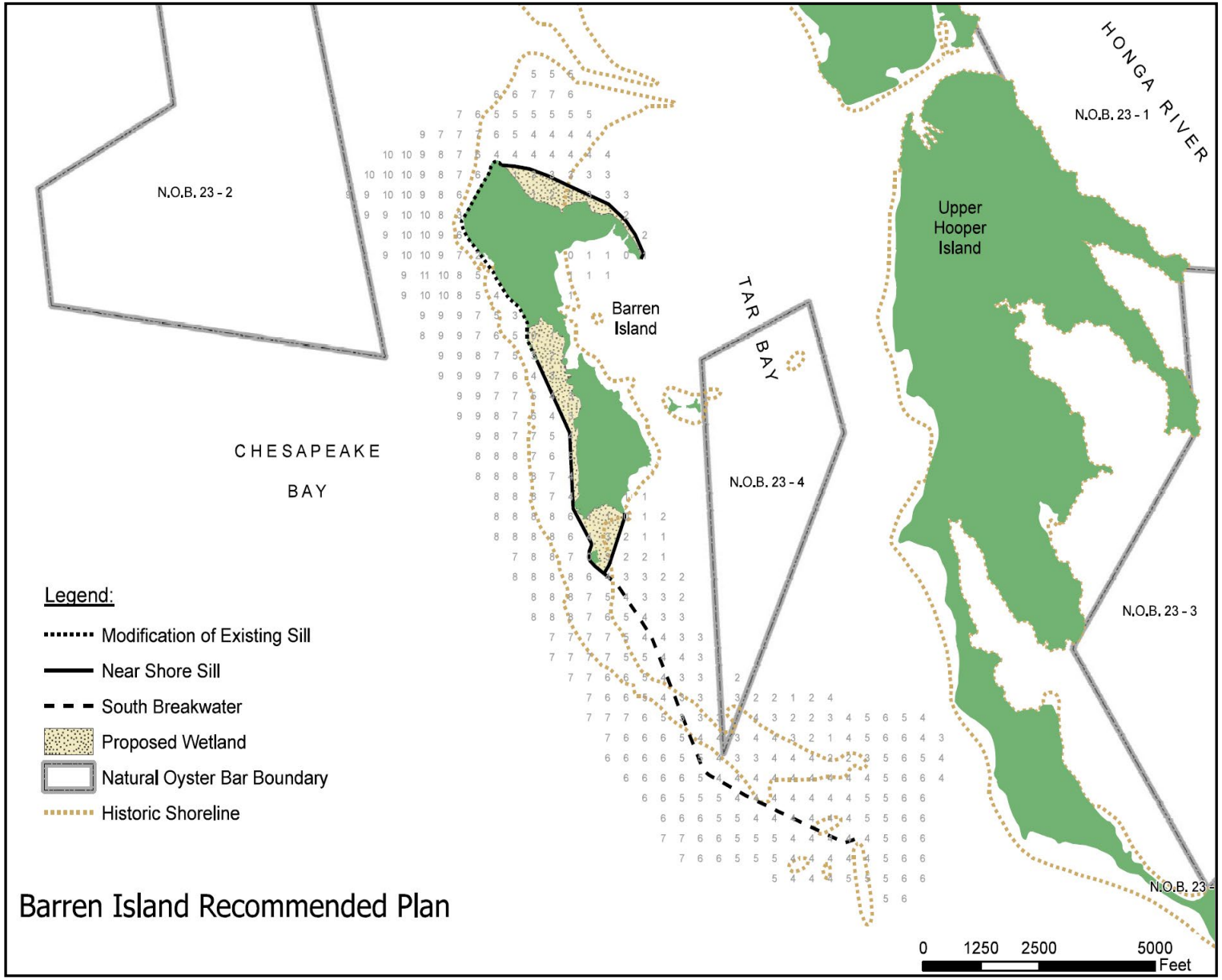


James Island – Recommended Plan (Feasibility)



- 2,072 acres
- 55% wetland, 45% upland
- Upland dike height: 20 ft
- Access Channel Dredging
- Capacity: 90-95 mcy
- Placement Duration: 30+ years
- Design Features
  - Tidal channels through wetlands
  - Freshwater ponds
  - Intertidal/unvegetated mudflats
  - Bird nesting structures

Barren Island – Recommended Plan (Feasibility)



- 72 acres of wetland restoration, plus protection of existing island remnants and seagrass beds
- Sill height: 4 ft
- Southern Breakwater height: 6 ft
- Design Features:
  - Existing sill modifications
  - Northern sill construction
  - Southern breakwater construction

THE RECOMMENDED PLAN FROM FEASIBILITY HAS BEEN UPDATED IN THE CURRENT PHASE.

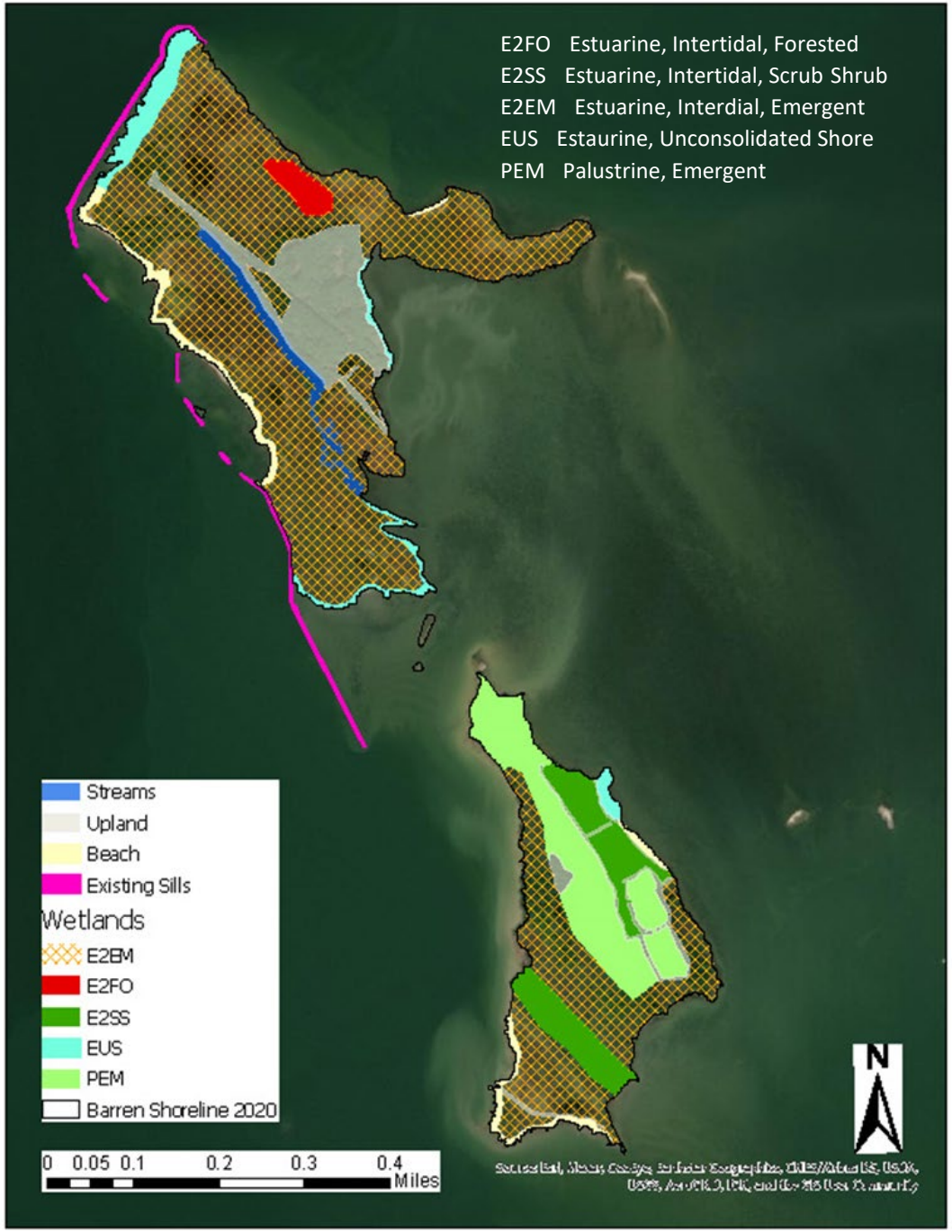
Project Overview:
Pre-Construction Engineering Design Phase 2020 - ongoing

BARREN ISLAND COMPONENT

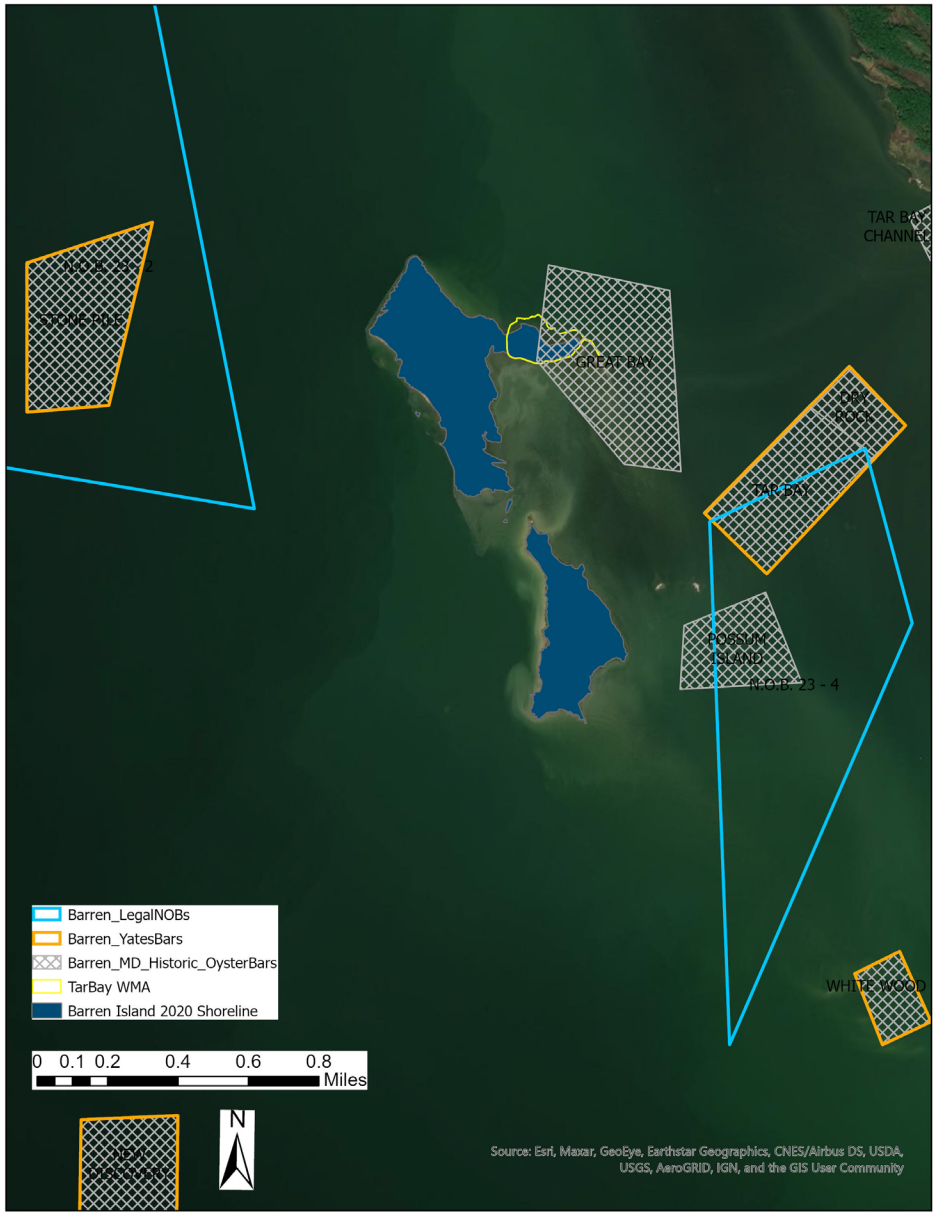
Barren Island: Current Conditions

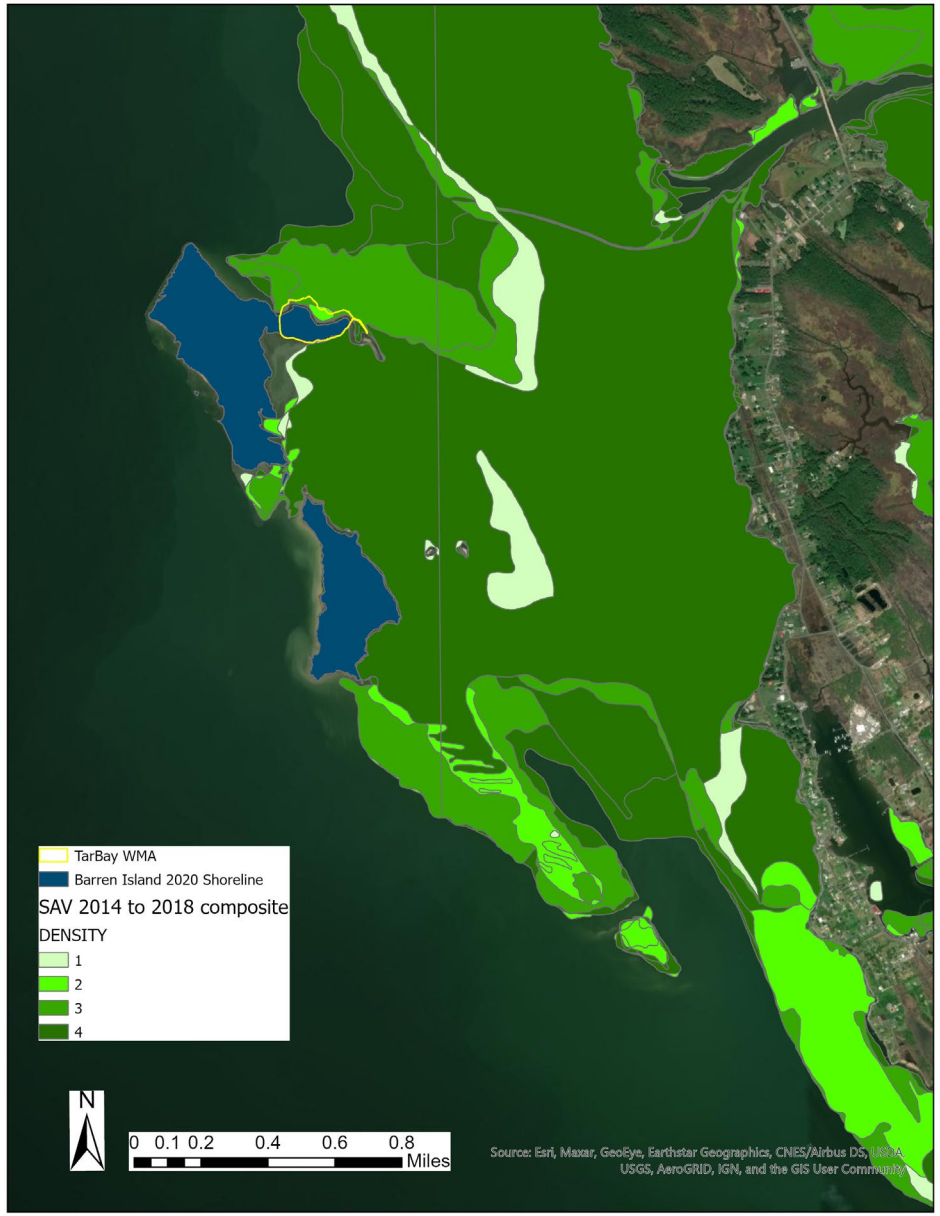
- 138 acres - primarily wetlands

- Variety of habitats including:
  - Unconsolidated shore
  - Wetlands
    - Emergent (75% of wetlands), shrub scrub, forested, and palustrine wetlands
    - Greater diversity of wetland types on southern remnant
  - Beach
  - Uplands
  - Existing sills to the west (protect previous shoreline restoration projects)



Current Conditions: Oysters and SAV





Barren Island Restoration Plan

- 13,023 linear feet of sill
- 4,620 linear feet of breakwater
- 2 bird island (8.5 acres total)
- Minimum of 72 acres of wetland and intertidal mudflats

NEPA Considerations (National Environmental Policy Act

Development of a supplemental Environmental Assessment

Environmental Compliance

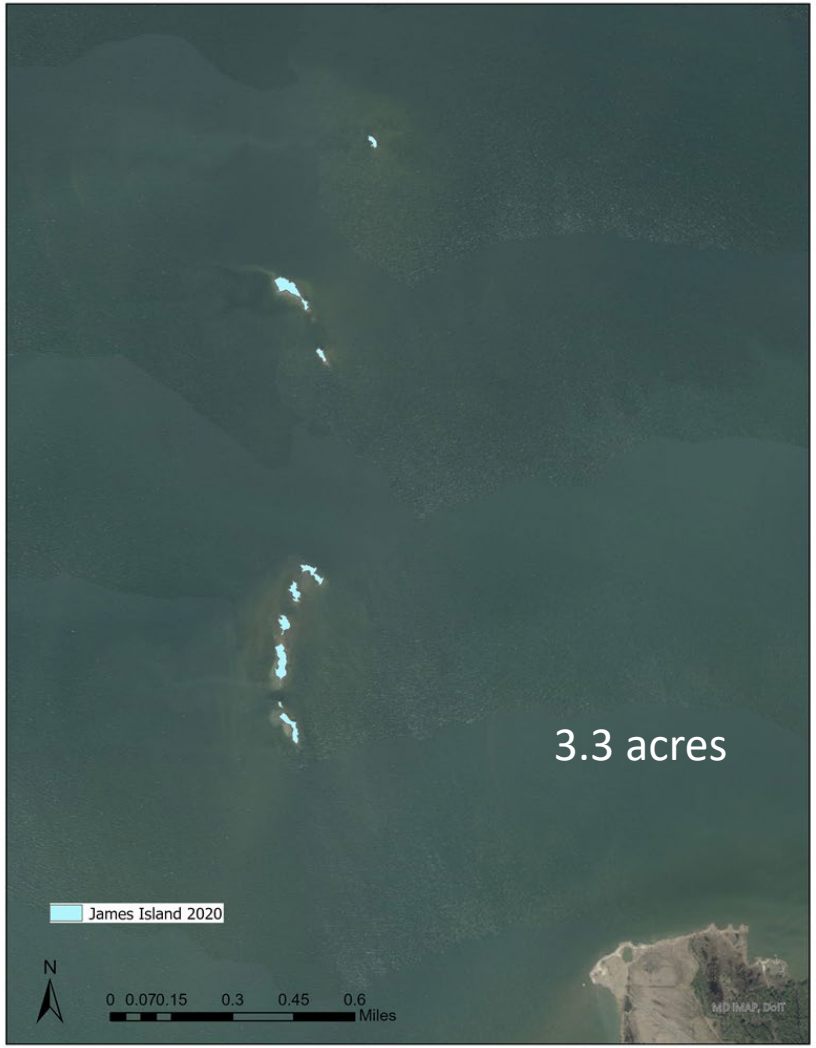
- Draft Feasibility Study/EIS was released in August 2006; Final – 2009; ROD signed 2019
- Received highest rating (lack of objections) from US Environmental Protection Agency
- No major objections or comments were received
- During process of updating NEPA in 2017 to enable the ROD to be signed, it was decided with relevant resource agencies to complete the update during this phase of the project
  - Magnuson-Stevens Act (Essential Fish Habitat)
  - Endangered Species Act
  - Fish and Wildlife Coordination Act
  - Clean Water Act – Section 401 and 404
  - National Historic Preservation Act
  - Critical Area Commission review

Environmental Surveys – Sampling Plan

- Surveys are being conducted summer 2020 through summer 2021 include:
  - Water quality
  - Benthic invertebrates
  - Submerged aquatic vegetation
  - Fisheries: Bottom trawl, beach seine, gillnet, and pop net
  - Soft-shell and razor clam
  - Pound net telephone survey
  - Commercial harvest data collection
  - Crab pot survey
  - Avian
  - Predatory mammals

James Island – some initial results

- No terrestrial habitat left – survey included shoreline, mudflat, salt marsh, and open water.
- Condition of remaining habitat resulted in changes to sampling locations from feasibility studies.
- Because of lack of habitat diversity, the species list was mostly water birds and shorebirds.
- Spring surveys identified nesting by American oystercatcher, Canada geese, and Great blue heron.



Barren Island – some initial results

- Habitats were more diverse –survey included shoreline, mudflat, salt marsh, and open water plus forest and scrub shrub
- Spring surveys identified red fox, river otter, racoon, deer, muskrat, box turtle, spotted turtle
- Marsh habitat
  - Hundreds of brown pelicans and double-crested cormorants
  - Shorebirds - sanderling, spotted sandpiper, and semipalmated plover
  - Terns, gulls, and raptors, plus some clapper rails and wading birds in the marshes
  - Terrestrial birds included migrant warblers, flycatchers, hummingbirds, resident brown-headed nuthatches, Carolina wrens, pine warblers, and cardinals

Barren Island NEPA Schedule

- Permitting – April 2021 – April 2022
- 35% Design Complete – April/May 2021
- 65% Design Complete – October 2021
- NEPA: sEA Public Review – December 2021
- Signed FONSI (Finding of No Significant Impact) – March 2022
- Construction Begins – Summer 2022

Questions?

Mid-Bay
ISLAND ECOSYSTEM
RESTORATION PROJECT

US Army Corps of Engineers ®
Baltimore District

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Agenda

November 6, 2021
Madison Volunteer Fire Department
1154 Taylors Island Road
Madison, MD 21648

10:00 - 10:15	Sign-In and Light Refreshments	*Inside Fire Hall*
10:15 - 10:20	Welcome and Introductions	*Inside Fire Hall*

Kristen Keene MDOT MPA
Trevor Cyran USACE

10:20 - 12:00 Poster Sessions *Outside Lawn*

Station 1: Meet the Port of Baltimore

Kristen Keene MDOT MPA

Station 2: Meet U.S. Army Corps of Engineers - Baltimore District

Brittany Crissman USACE

Station 3: Dredging

Dave Bibo MDOT MPA

Station 4: James Island and Barren Island Restoration Plans & Benefits to the Community

Holly Miller MDOT MPA
Trevor Cyran USACE

Station 5: Mid-Bay Island Ecosystem Restoration Project Phases

Maura Morris MES

Station 6: A Success Story - Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island

Justin Callahan USACE
Katie Perkins USACE
Michelle Osborn MES

YOU'RE INVITED!

MID-BAY ISLAND ECOSYSTEM RESTORATION PROJECT

COMMUNITY POSTER SESSION

The Maryland Department of Transportation Maryland Port Administration (MDOT MPA) and U.S. Army Corps of Engineers, Baltimore District (USACE) would like to invite you to a Community Poster Session to provide general project updates and present information on the first phase of construction for Barren Island, which is anticipated to begin in Fall 2022.

The session will also provide Stakeholders an opportunity to provide comments to partners on the James Island component of the project, as we initiate a Supplemental Environmental Impact Statement (EIS) to update National Environmental Policy Act (NEPA) compliance.

NOVEMBER 19, 2022

10:00 AM- 12:00 PM

HOOPERS ISLAND FIRE DEPARTMENT

2756 Hoopers Island Road
Fishing Creek, MD 21634

QUESTIONS? CONTACT:

Rachael Gilde
Rgilde@marylandports.com

Additional information, visit: maryland-dmmp.com

US Army Corps of Engineers

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Mid-Chesapeake Bay Island

Ecosystem Restoration Project

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Funding was included in the U.S. Army Corps of Engineers (USACE) federal fiscal year 2020 work plan for the Mid-Chesapeake Bay Island Project, which will restore two eroding Chesapeake Bay islands, James and Barren. Sediment dredged from navigation channels will create more wildlife habitat and restore the ecosystem of these islands, providing protection from erosion by reducing wave heights. The federal work plan provides funding to continue planning and design. Construction funding is still needed for project implementation.

MAINTAINING SHIPPING CHANNELS HELPS RESTORE HABITAT

In September 2008, USACE, Baltimore District, released the Mid-Chesapeake Bay Island Ecosystem Restoration Integrated Feasibility Report & Environmental Impact Statement (EIS). The study examined the feasibility of protecting and restoring aquatic, intertidal wetland, and upland habitat for fish and wildlife at James and Barren Islands utilizing dredged material from local navigation channels and the federal Chesapeake Bay approach channels serving the Port of Baltimore and the Chesapeake and Delaware Canal. After careful review and consideration of technical, economic, and environmental factors, as well as stakeholder input, it was determined that restoration of James Island and Barren Island was the preferred alternative.

LOCATION

James Island, located in Dorchester County directly adjacent to Taylors Island in the Chesapeake Bay

LOCATION

Barren Island, located in Dorchester County near Blackwater National Wildlife Refuge and directly adjacent to Upper Hooper Island in the Chesapeake Bay

2,144 ACRES

Total anticipated restoration footprint
Total anticipated capacity: 90-95 mcy

4-year engineering and design phase is underway

The entire project would provide more than 30 years of capacity, which will be critical when Poplar Island reaches capacity

If fully funded, James & Barren Islands could act as a buffer to protect nearby waterfront communities

NOVEMBER 2021

Mid-Chesapeake Bay Island

James Island

RESTORATION

The restoration of James Island, located in Dorchester County directly adjacent to Taylors Island in the Chesapeake Bay, will utilize dredged material from the Chesapeake Bay approach channels serving the Port of Baltimore to restore 2,072 acres of lost remote island habitat. Approximately 45% of the dredged material placement site will provide upland habitat and 55% wetland habitat.

The restoration of Barren Island, located in Dorchester County near Blackwater National Wildlife Refuge and directly adjacent to Upper Hooper Island in the Chesapeake Bay, will utilize dredged material from the Honga River to restore a minimum of 72 acres of remote island habitat. The restoration will also include the installation of stone sills and a large protective breakwater. The newly formed wetlands and structures will slow not only the erosion of Barren Island itself but also the adjacent land.

Barren Island

ACCESS

MDOT MPA will engage with local community stakeholders concerning access and recreation.

Given the success of the Poplar Island Ecosystem Restoration Project, the restored islands are expected to provide valuable habitat to a diverse array of wildlife while maintaining the economic viability of the Port of Baltimore. This will greatly aid in achieving the Chesapeake Bay Program's Vital Habitats Goal.

National Aquarium

"Keeping the community engaged and informed about this exciting project to restore James and Barren islands is our top priority. MDOT MPA is working closely with USACE, area residents, and community groups in Dorchester County to provide information and updates on the Mid-Bay project."

-MDOT MPA Director of Harbor Development Kristen Fidler

Mid-Bay
ISLAND ECOSYSTEM RESTORATION PROJECT

US Army Corps of Engineers ®
Baltimore District

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Phases & Timeline

Reconnaissance and Feasibility Studies

- Identified recommended plans
- Environmental Impact Statement (EIS) finalized in 2009
- National Environmental Policy Act (NEPA) completed by signing of the Record of Decision (ROD) in 2019

Preliminary Design

- Completion ~ 2025
  - Hydrology & Hydraulic Modeling
  - Civil Engineering
  - Geotechnical Engineering
  - Supplemental NEPA[1, 2]
  - Real Estate Research
  - Value Engineering Study
  - Design Document Report
  - Plans & Specification Development

Construction and Continued Design

- Contingent upon funding availability
  - Barren Island - ~ 2023-2026
    (may include first inflow of dredged material)
  - James Island - ~ 2025-2030

Continued Construction and Restoration Efforts

- Barren Island - Beginning in ~ 2027-2037
  - Restoration efforts depend on availability of material
  - Includes 5 years post-construction monitoring
- James Island - Beginning in ~ 2030-2067
  - Includes 5 years post-construction monitoring

1 Barren Island - Finalized Supplemental Environmental Assessment and Finding of No Significant Impact signed in March 2022.

2 James Island - Supplemental EIS Public Review in Summer 2023 and ROD/NEPA completed in Summer 2024.

SASSAFRAS RIVER

BREWERTON EASTERN EXTENTION

TOLCHESTER CHANNEL

SWAN POINT CHANNEL

BREWERTON CHANNEL

CUTOFF ANGLE

CRAIGHILL UPPER RANGE

CRAIGHILL ANGLE

CRAIGHILL CHANNEL

CRAIGHILL ENTRANCE

PATAPSCO RIVER

QUEEN ANNE'S COUNTY

ANNE ARUNDEL COUNTY

EASTERN BAY

POPLAR ISLAND

TALBOT COUNTY

CAROLINE COUNTY

CHESAPEAKE BAY

TILGHMAN ISLAND

CHOPTANK RIVER

CALVERT COUNTY

FUTURE JAMES ISLAND

TAYLORS ISLAND

CHURCH CREEK

DORCHESTER COUNTY

LEGEND

DREDGED MATERIAL SOURCED FROM THESE CHANNELS WILL POTENTIALLY BE USED FOR THE RESTORATION OF JAMES ISLAND.

MD BAY CHANNELS

C&D CANAL LOWER APPROACH CHANNELS

NOTE:

1. C&D CANAL AND ITS UPPER APPROACH CHANNELS WILL NOT HAVE DREDGED MATERIAL PLACED AT JAMES ISLAND UNLESS AND UNTIL PEARCE CREEK DMCF BECOMES UNAVAILABLE.
2. JAMES ISLAND RECOMMENDED PLAN SHOWN (PLEASE NOTE THE PLAN MAY BE MODIFIED IN THE PRECONSTRUCTION ENGINEERING AND DESIGN PHASE BASED ON DATA OBTAINED)

0 10,000' 20,000'

GRAPHIC SCALE

James Island Recommended Plan

Features

Design
- Upland dike height (20 ft)
- Access channel dredging
- Habitat design

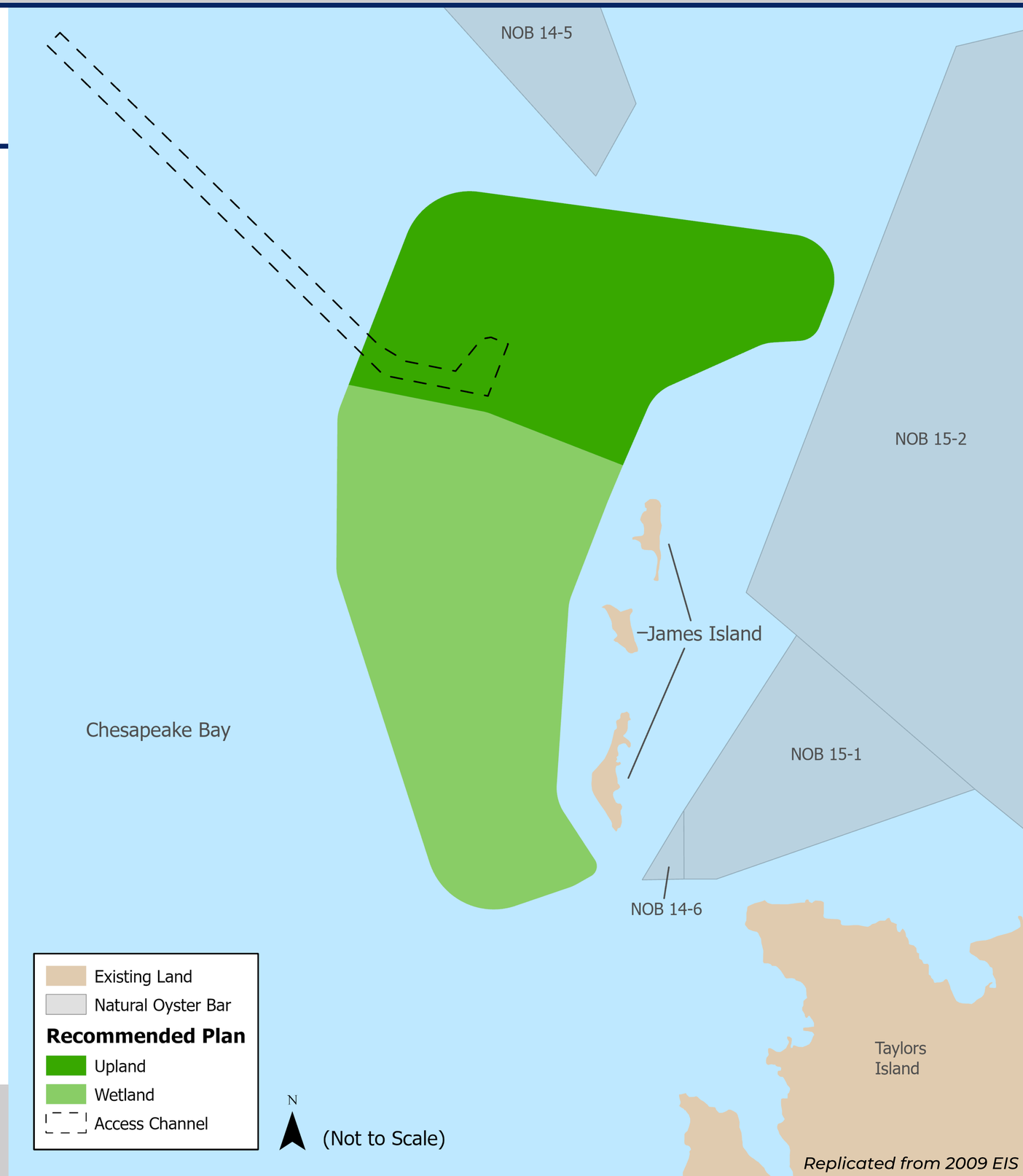
Acreage
- 2,072 acres

Wetlands
- 55% Wetlands

Uplands
- 45% Upland

Capacity
- 90- 95 million cubic yards (mcy)

Placement Duration
- 28- 30 years



Mid-Bay ISLAND ECOSYSTEM RESTORATION PROJECT

US Army Corps of Engineers® Baltimore District

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Mid-Bay
ISLAND ECOSYSTEM RESTORATION PROJECT

US Army Corps of Engineers ®
Baltimore District

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Project Milestones - Barren & James Islands

Barren Island

- **2020** — Preliminary Design
- **2023** — Sill, Breakwater and Bird Island Construction & Continued Design
- **2027** — Continued Construction, Inflow & Restoration Efforts
- **Future**

James Island

- **2020** — Preliminary Design
- **2025** — Containment Dike and Island Facility Construction & Continued Design
- **2026** — Continued Construction, Inflow & Restoration Efforts
- **2030**
- **2031**
- **Future**





Environmental Impact Statement (EIS) Finalized in 2009

B3: Notice of Availability

allocated per speaker will depend on the number of requests received but will not exceed five minutes. Requests for oral statements must be received at least seven days prior to the meeting. Those not able to attend the meeting or having insufficient time to address the Council are invited to send a written statement to *nancy.johnson@hq.doe.gov.* Any member of the public who wishes to file a written statement to the Council will be permitted to do so, either before or after the meeting.

Minutes: The minutes of the meeting will be available at *https://www.energy.gov/fecm/national-petroleum-council-npc,* or by contacting Ms. Johnson. She may be reached at the postal address or email address listed previously.

Signing Authority: This document of the Department of Energy was signed on March 25, 2024, by David Borak, Deputy Committee Management Officer, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the **Federal Register**.

Signed in Washington, DC, on March 26, 2024.

Treena V. Garrett,

Federal Register Liaison Officer, U.S. Department of Energy.

[FR Doc. 2024–06708 Filed 3–28–24; 8:45 am]

BILLING CODE 6450–01–P

ENVIRONMENTAL PROTECTION AGENCY

[FRL OP–OFA–119]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information 202–564–5632 or *https://www.epa.gov/nepa.*

Weekly receipt of Environmental Impact Statements (EIS)

Filed March 18, 2024 10 a.m. EST

Through March 25, 2024 10 a.m. EST

Pursuant to 40 CFR 1506.9.

Notice: Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: *https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search.*

EIS No. 20240052, Final, NCPC, DC, ADOPTION—Proposed Land Acquisition at Washington Navy Yard, Washington, DC, Review Period Ends: 04/29/2024, Contact: Matthew Flis 202–482–7236.

The National Capital Planning Commission (NCPC) has adopted the United States Navy's Final EIS No. 20230093 filed 07/28/2023 with the Environmental Protection Agency. The NCPC was not a cooperating agency on this project. Therefore, republication of the document is necessary under section 1506.3(b)(1) of the CEQ regulations.

EIS No. 20240053, Draft Supplement, USACE, MD, Mid-Chesapeake Bay Island Ecosystem Restoration Project: James Island, Dorchester County, Maryland, Comment Period Ends: 05/15/2024, Contact: Angela Sowers 410–962–7440.

EIS No. 20240054, Final, BIA, CA, Redding Rancheria Fee-to-Trust and Casino, Review Period Ends: 04/29/2024, Contact: Chad Broussard 916–978–6165.

EIS No. 20240055, Final, FTA, CA, West Santa Ana Branch Transit Corridor Final EIS/EIR, Review Period Ends: 04/29/2024, Contact: Rusty Whisman 213–202–3956.

Dated: March 25, 2024.

Cindy S. Barger,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2024–06695 Filed 3–28–24; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[EPA–HQ–OGC–2024–0145; FRL–11854–01–OGC]

Proposed Consent Decree, Clean Water Act Claim

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed consent decree; request for public comment.

SUMMARY: In accordance with the Environmental Protection Agency (EPA) Administrator's March 18, 2022, memorandum regarding ''Consent Decrees and Settlement Agreements to resolve Environmental Claims Against the Agency,'' notice is hereby given of a proposed consent decree in *Sierra Club, et al.* v. *EPA, et al.,* No. 3:24–cv–00130 (S.D.W. Va. 2024). On March 18, 2024, the Sierra Club, the West Virginia Highlands Conservancy, Inc., and the West Virginia Rivers Coalition, Inc. (collectively, ''Plaintiffs'') filed a complaint in the United States District Court for the Southern District of West Virginia against EPA alleging that the Agency failed to perform a mandatory duty under the Clean Water Act (CWA) to establish Total Maximum Daily Loads (TMDLs) for certain waters located in the Lower Guyandotte River Watershed in West Virginia that are impaired due to ionic toxicity. This complaint followed Plaintiffs' submission to EPA of a Notice of Intent to Sue on March 21, 2023. EPA seeks public input on a proposed consent decree prior to its final decision-making with regard to potential settlement of the litigation.

DATES: Written comments on the proposed consent decree must be received by April 29, 2024.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OGC–2024–0145 online at *https://www.regulations.gov* (EPA's preferred method). Follow the online instructions for submitting comments.

Instructions: All submissions received must include the Docket ID number for this action. Comments received may be posted without change to *https://www.regulations.gov,* including any personal information provided. For detailed instructions on sending comments, see the ''Additional Information About Commenting on the Proposed Consent Decree'' heading under the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Alec Mullee, Water Law Office, Office of General Counsel, U.S. Environmental Protection Agency; telephone: (202) 564–9616; email address: *mullee.alec@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. Additional Information About the Proposed Consent Decree

On March 18, 2024, Plaintiffs filed a complaint in Federal district court asserting that EPA failed to perform a mandatory duty under the CWA to establish TMDLs for certain waters located in the Lower Guyandotte River Watershed in West Virginia that are biologically impaired due to ionic toxicity (Ionic Toxicity TMDLs). This complaint followed Plaintiffs' submission to EPA of a Notice of Intent to Sue (NOI) on March 21, 2023. Following submission of the NOI, Plaintiffs and EPA initiated settlement discussions, which resulted in the proposed consent decree. Under the consent decree, EPA would be obligated to establish Ionic Toxicity TMDLs for 11 waterbody segments in the Lower Guyandotte River Watershed by January

APG Media of Chesapeake, LLC

29088 Airpark Drive
Easton, MD 21601

04/12/24
3049241

CERTIFICATE OF PUBLICATION

STATE OF : MARYLAND
COUNTY OF: Talbot County

This is to certify that the annexed legal advertisement has been published in the publications and insertions listed below. "Mid-Chesapeake Bay Island Ecosystem...**" was published in the:**

The Star Democrat	**03/27/24**
The Star Democrat	**04/03/24**
The Star Democrat	**04/10/24**
The Dorchester Star	**03/27/24**
The Dorchester Star	**04/03/24**
The Dorchester Star	**04/10/24**

In accordance with the National Environmental Policy Act (NEPA), the U.S. Army Corps of Engineers, Baltimore District (USACE), and the non-federal sponsor, the Maryland Port Administration (MPA), are conducting a public meeting following the preparation and release of a Draft supplemental Environmental Impact Statement (sEIS) for the Mid-Chesapeake Bay Island Ecosystem Restoration Project at James Island. The draft sEIS was made available for public review starting March 29. The public comment period ends May 15. A public meeting will be held on April 17, 2024 at the Madison Volunteer Fire Company from 5:30 to 7:30 pm. A poster session and open discussion will be held from 5:30 to 6:30 pm, followed by a formal presentation at 6:30 pm, and public comment period. The purpose of the public meeting is to inform stakeholders about the project, its likely effects, and to receive public input, views, and concerns regarding the project. The draft sEIS can be accessed at https://www.nab.usace.army.mil/Mid-Bay/.

3049241 SD/DS 3/27,4/3,4/10/2024

James F. Normandin
President & Publisher

B4: Agency Coordination/NEPA Meetings

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Kick-off Meeting

22 January 2020; 10:00 - 12:00 p.m.

1. Project background
2. Purpose of Design Phase and approach for two islands
3. Initial schedule
4. Current activities
    a. Scope development
    b. NEPA/Agency coordination
5. Review of Feasibility Phase biological surveys
6. Discussion of agency perspectives
    a. Identify Design Phase surveys and data needs
7. Path Forward and Action Items

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Kick-off Meeting

Meeting Minutes

22 January 2020; 10:00 - 12:00 p.m.

Participants:
USACE – Charles Leasure, Angie Sowers, Ray Tracy
MPA – Dave Bibo, Amanda Penefiel
MES – Cassandra Carr, Maura Morris
MDE – Heather Nelson, Mary Phipps-Dickerson
DNR – Dave Brinker, Roland Limpert
FWS – Robbie Callahan, Chris Guy, Matt Whitbeck
NMFS staff on phone – Kristy Beard, Karen Greene, Brian Hopper, Dave O'Brien

USACE (Sowers) provided a summary of the project, purpose of the design phase, two island approach, initial schedule, and status of current activities.

Current activities are focused on developing scope of works for various aspects of the project, and initiating NEPA and agency coordination.

Objectives of this meeting were to re-introduce the project to resource agencies, initiate agency coordination, receive initial input and direction from resource agencies as to tasks on which to focus NEPA update, and discuss survey and data needs. USACE (Sowers) provided a summary of Feasibility Phase biological surveys. Ensuing discussion is summarized below:

NMFS

1. Conditions have changed - have seen water temperature increases, possible change in species
2. Can check in with NCBO about current data that could characterize current conditions - contact Bruce Vogt
3. With respect to seasonality of future surveys - all four seasons are normally documented
4. SAV is more important to NMFS than island habitat
5. Focus SAV surveys where design will overlap SAV presence. Density will determine if it can be impacted (K. Beard).

FWS

1. Benthic invertebrates are a prime concern - very dynamic - will change seasonally - do all 4 seasons
2. It will be important to develop a success metric to lead data collection and future monitoring efforts
    a. For all data to be collected, think through how the data will be used and how the data will affect design.
    b. Metrics could be established to either 1) provide the conditions for habitat use or 2) to document use of a habitat by certain species

i. For species present, the goal would be to sustain or improve populations. In these cases, need to know baseline conditions. e.g., stabilize or Improve heron habitat (shoreline restoration should do this). Perform a spring quantitative survey.
ii. For species that do not currently inhabit the islands, the objective would be to set stage for use by providing sustainable habitat. In these cases, there is no baseline to document. e.g., provide nesting habitat for terns, etc. Habitat not used MAY NOT be a failure.

3. Survey for predatory mammals, but not others
4. Insects not necessary – don't expect to be a metric
5. Look at possibility of including intertidal/mudflat habitat within wetland design at breakwater – consider including as a success metric
    a. Design considerations
        i. Size: >1 ac, but the larger the better
        ii. Shape: better volume to edge ratio than long, narrow (Brinker)
    b. FWS (Callahan): At Poplar, don't design for mudflat, but do track presence because no one has the responsibility to maintain it as a mudflat
    c. USACE (Leasure): design idea - double breakwater with material confined between - would need to be maintained with SLR, and receive periodic replenishment of confined material; would need to be in lower dynamic environment
    d. FWS(Whitbeck): we should be cautious to develop design based on needing periodic material because Fishing Creek channel is not regularly maintained
6. Shorebirds - monitor only summer
7. Eastern narrow mouth toad – State listed as Endangered. Not observed at Barren recently

DNR

1. Don't see a need to do anything additional for waterfowl
2. Will be TOY and restrictions for working around colonial nesting waterbird rookery on southern end of island
3. Desire to see southern breakwater with backfilling on east side to provide benefits to nesting birds
    a. Common tern and royal tern nesting (state endangered species due to habitat loss) occurred on sandspit of southern end of Barren in 1980s
    b. Suggest creating a few (3) small islands (2-3 acres) amongst segmented breakwaters. Could add visibility and safety to breakwaters
    c. Mudflats/intertidal zone on east side of breakwaters could be valuable habitat for shorebird migrations
4. Opossum Island is gone, but could restore it fairly easily - it is in a low energy environment

MDE

1. Borings has generated public interest
2. Important to document existing water quality and track this overtime - this will promote/be needed for SAV
3. CWA - through State - authorization process and public hearing (needs to be advertised for at least 45 days) for construction plans; plan for timeline for WQC

4. MPA - will be leading public outreach - first meeting planned for spring
5. Wetland delineation - demarcate high vs low wetlands and identify impact to any existing habitat by type
6. Will want to see that design USACE presents has the least impacts and the work has been done to avoid and minimize impacts; provide input on modeling done and why certain decisions for design were made

SAV

1. FWS - avoid, minimize, and mitigate will apply; must demonstrate the impact we have is unavoidable
    a. There will be a regulatory mitigation process for loss of SAV changed to wetlands
    b. Priority would be island over SAV
    c. Need island to maintain SAV habitat
    d. SAV came in between island remnants after breakwater was built in 2009/2010
    e. Clammers have had negative impact on SAV in Poplar Harbor
2. NFMS - EFH perspective - SAV is priority/HAPC, but not saying it is against reclaiming some of Barren Island
    a. LOOK AT AVOIDANCE
    b. Can we adjust the design to avoid filling gap? Is the gap sustainable over the long-term?
3. Survey discussion
    a. FWS- qualitative surveys in spring and summer - a limited number of points to document species
    b. NMFS – may want to focus surveys in area where design overlaps with where SAV has moved in enable quantification of potential impacts. For most projects they are fine with using a 5 year composite density of VIMS data.
    c. MDE - recognize that we really only have one year of survey and how that could be factored in considering we have 5 year composite; also think about wanting to know the extent in non-impact area to document increase
    d. USACE - consider focusing on quiescent areas which could be identified by ERDC modeling
    e. Always realize that conditions are going to change from what we have considered during plans

High vs Low marsh

1. NMFS – wetlands valuable to resources of concern need to be within potential fish habitat range
2. FWS – target an elevation range at the highest of the local tide range to maximize sustainability with SLR of tidal marsh
3. High/Low Marsh ratios will be revisited but unclear of extent they can be changed

SUMMARY OF SURVEYS IDENTIFIED TO BE UNDERTAKEN:

1. Water quality – T, salinity, pH, etc. (as before)
2. Benthic species – clams, oysters, blue crab, horseshoe crab, macroinvertebrates/benthic community
3. Sediment characterization (covered by soils surveyed being scoped)

4. Plankton – phytoplankton and zooplankton
5. Fish – sample all four seasons - bottom trawling, beach seine, gillnetting, pop net
6. Avian
    a. Shorebirds (only summer); wading birds – spring quantitative survey
    b. Not needed - Waterfowl as current survey data available; song birds or raptors)
7. Terrestrial – predatory mammals
    a. Vegetative communities (will develop habitat map from aerial data and FWS transects),
    b. Not needed - invertebrates, insects (butterflies), amphibians, reptiles, non-predatory mammals
8. Wetlands – wetland delineations
9. SAV
    a. spring and summer to ID species; use 5 years of VIMS survey data to characterize extent
    b. Areas to consider for focus of surveys
        i. areas of potential habitat conversion (shallow water to wetland) along/between island remnants
        ii. areas bordering existing SAV beds to demonstrate positive impact/expansion of beds, and/or
        iii. areas identify as quiescent by ERDC modeling

ACTION ITEMS:

1. USACE – reach out to NCBO to identify whether there is current fish and benthics data available
2. Coordination letters to agencies from USACE
3. USFWS needs a letter addressed to the refuge
4. USACE - draft a scope for FWS for Fish and Wildlife Coordination Act activities
5. USACE - coordinate with NMFS to identify relevant EFH species
6. USACE PL/Env - discuss designs for modeling with ERDC
7. Define NEPA schedule
8. Define agency coordination check-points
9. Input for modelers
10. MES – review feasibility phase records for scopes of aquatic surveys

FUTURE DISCUSSION ITEMS:

1. Low/marsh ratio
2. Identify reference marshes

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Update

22 June 2020; 1:00 - 2:00 p.m.

1. Introductions
2. Schedule Update
3. Activities Completed since Kick-off Meeting
    a. Surveys
    b. NEPA and Agency coordination
    c. Biological Surveys
4. Next Steps
5. Wrap-up and Action Items

Mid-Chesapeake Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Update Meeting
Minutes
22 June 2020; 1:00 - 2:00 p.m.

Participants:
USACE –Angie Sowers, Ray Tracy
MPA – Dave Bibo, Amanda Peñafiel, Holly Miller
MES – Cassandra Carr, Maura Morris
MDE – Heather Hepburn
DNR – Becky Golden, Roland Limpert, John Moulis
FWS – Chris Guy, Matt Whitbeck
NMFS – Brian Hopper, Jonathon Watson
Anchor – Karin Olsen

Agenda:
1. Introductions
2. Schedule Update
3. Activities Completed since Kick-off Meeting
    a. Surveys
    b. NEPA and Agency coordination
    c. Biological Surveys
4. Next Steps
5. Wrap-up and Action Items

USACE (Sowers) provided a project update including schedule, activities completed since January 22 meeting, and next steps. See slides for content.

MES (Morris) provided an update on the access channel for James Island and the overlap with a historic oyster bar. A meeting was held last week with DNR-Shellfish to discuss a possible path forward that would not result in relocating the access channel. The next step is for DNR to speak to the watermen that have harvested oysters on that bar. Depending on the watermen's input, the team will discuss next steps and if any surveys are needed. If there is an impact to the oyster bar, shell could be captured and relocated to another oyster bar.

FWS (Whitbeck) asked if winter hunting that occurs in December and January on set days at Barren Island would interfere with any of the biological surveys. He will provide the dates to MES to coordinate efforts. It is expected that the surveys can be conducted without interfering with hunting days.

Action Items:
1. Resource agencies – Provide feedback about Barren Spring 2021 surveys – Are all desired given that the information will likely not be available for inclusion in the EA? The information can be used to understand baseline conditions. Provide any additional agency check-points to track.
2. Sowers will be in touch to set a meeting date once initial H&H modeling is completed by ERDC.

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Update

24 September 2020; 10:00 - 11:30 a.m.

Call-in information: https://usace.webex.com/meet/angela.sowers
Meeting number: 960 786 356
Call-in number: 1-877-336-1828
Access code: 4495502
Security code (if asked): 4321

1. Introductions
2. Project status/schedule update - USACE
3. Summer field surveys update and Fall sampling preview - MES/Anchor
4. Discussion of Barren Island design formulation - USACE
    a. preview H&H modeling results and discuss how to evaluate for SAV habitat
5. Barren Island wetland design framework - USACE
6. Reference marsh identification - USACE
    a. Please be prepared to discuss suggestions for sites to use as reference marshes
7. Next Steps
8. Wrap-up and Action Items

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Update

6 December 2021
12:30 - 2:00 p.m.

Webinar information: https://usace1.webex.com/join/charles.w.leasure

Join by meeting number

Meeting number (access code): 1996 30 1563

Join by phone

+1-669-234-1177 US Toll

+1-844-800-2712 US Toll Free

Access code: 1996 30 1563

1. Introductions
2. Schedule
3. Status Update
4. Barren Island – 65% design
5. Biological Survey Results
6. Next Steps

Mid-Bay Island Ecosystem Restoration Project
Design Phase
Agency Coordination Update

6 December 2021; 12:30 - 2:00 p.m.

MEETING MINUTES

Participants
USACE: Angie Sowers, Charles Leasure, Chris Johnson, Trevor Cyran, Ben Fedor, AJ De Rosset
MPA: Dave Bibo, Amanda Penefiel
MES: Maura Morris, Cassandra Carr
ANCHOR QEA: Karin Olsen
MDNR: Dave Brinker, Roland Limpert, Becky Golden, Erik Zolokowitz, Becky Thur
USFWS: Robbie Callahan, Matt Whitbeck, Amy O'Donnell
MDE: Mary Phipps-Dickerson, Heather Nelson, Danielle Spendiff, Tammy Roberson, Jon Stewart
NOAA/NMFS: Jonathan Watson, Mary Andrews
Audobon: Dave Curson

A. Sowers presented the project update, reviewed the progress since the last meeting in February, the current (65%) design, the results of the biological surveys, and next steps. (See slide deck)

Discussion:

- B. Thur, MDNR will provide the locations of three oyster leases within the project vicinity to consider for potential impacts from sedimentation.
- E. Zlokovitz, MDNR suggested that the southern breakwater/bird island should be marked in some way for navigation and safety. A. Sowers responded that the team had discussed this previously and thought it was a good idea. The team will further consider and make a decision.
    - Erik also pointed out that the salinity conditions during the biological surveys would likely affect the results. That is, more species and diversity would be expected under higher salinity conditions during a dry year. Also, water clarity would be better during a dry year.
- M. Phipps-Dickerson, MDE clarified that a major modification to the permit will be needed to include the borrow area once the location is determined. The team concurred and is tracking this process.
- T. Roberson, MDE communicated that the date of January 2022 in the presentation for the permit and WQC is not consistent with the application schedule. The tidal license is currently out for public review and then needs to go to the Board of Public Works. The correct target date should be late spring. D. Bibo, MPA asked T. Cyran, USACE, asked how this would affect the Project Partnership Agreement (PPA) schedule. The WQC is required to complete the PPA. T. Cyran replied that late spring is still achievable, but the

permits must be received by that time. M. Morris, MES, clarified prior discussions with MDE regarding the WQC schedule. It is anticipated that the WQC could be provided prior to the TL. A. Sowers, USACE, added that receipt of the WQC in January/February is needed to enable the FONSI to be signed by the March target date.

- J. Watson, NMFS, asked for a further review of project features to enhance fisheries habitat. A. Sowers, USACE, replied that the following features are being considered or included:
    1. Rock reefs offshore of the bird island coves
    2. Eastern-oriented tidal channels into the northeast and central/south wetland cells
    3. Planting oyster seed or spat-on-shell on the eastern face of the northeast sill
- J. Watson asked about the northeast sill and the considerations being made regarding shortening the sill to address velocities. A. Sowers replied that the northeast sill is under consideration to be shortened due to 3 factors: 1. The modeling results for 2 of the modeled 25 storms indicate that velocities would exceed the metric established by the project team for suitable SAV habitat (100 cm/s) in waters to the east of the southern end of the northeast sill. There is a long fetch across shallow water off the northeast sill. The waves rebound off the modeled sill and increase velocities, potentially impacting SAV habitat. Shortening the sill would reduce the area potentially affected by increased velocities. 2. The northeast sill required foundation replacement and shortening its extent would minimize that impact from the project, and 3. The alignment currently shown in the design is from the feasibility study (2000s) when Tar Bar Wildlife Management Area (WMA) was more extensive in size. The alignment was drawn to wrap around the eastern shoreline of Tar Bay WMA. However, since that time, Tar Bay WMA has eroded and does not extend as far to the south. Therefore, a shortened sill could provide the desired shoreline protection sought while reducing impacts from foundation replacement and increased velocities.
- R. Limpert asked about the quantity of material needed to be supplied by the borrow area. A. Sowers replied that she did not have the number readily available but clarified that the full quantity would not be needed at one time. Sand is needed for bird island habitat development, interior wetland dikes, and foundation replacement. The plan is to dredge the sand as needed based on the phase of the project.

Agency Coordination Meeting
Mid - Chesapeake Bay Island Ecosystem Restoration Project
August 30, 2022 – 10 AM – 2:30
Hybrid Meeting
Virtual LINK (if calling in - Number: 443-842-5306 Passcode: 524908765#)

1. **Introductions (15 minutes)** **Amanda Peñafiel, MDOT MPA**

2. **Mid-Bay Status Update (25 minutes)** **Trevor Cyran, USACE and Amanda Peñafiel, MDOT MPA**
    a. Barren Island
        i. Construction
        ii. Continued design
        iii. Borrow area selection & schedule
    b. James Island
        i. Design

3. **Mid-Bay Stakeholder Engagement Plan for James and Barren (20 minutes)** **Trevor Cyran, USACE**

4. **Barren Island Adaptive Management Plan (1 Hour)** **MES**
    a. AMP organization, function, and history
    b. AMP layout
    c. Pre-construction monitoring needs
    d. Review schedule

Break/Networking: 30 minutes

5. **Barren Island Draft Master Plan (1 hour)** **Angie Sowers, USACE**
    a. Presentation of draft Master Plan
    b. Discuss unknowns/design features that need to be determined
    c. Path forward for wetland design
    d. Interactive GIS tool

6. **James Island sEIS (1 hour)** **Angie Sowers, USACE**
    a. Define Purpose and Need
    b. Presentation of draft PED and NEPA schedules and permitting timetable
    c. *Presentation of draft Master Plan and discussion/request for information*

Agency Coordination Meeting
Mid - Chesapeake Bay Island Ecosystem Restoration Project
August 30, 2022 – 10 AM – 2:30

Attendees:
Anchor QEA: Walt Dinicola, Karin Olsen*
Maryland Critical Areas Commission: Jennifer Esposito, Nick Kelly, Annie Sekerak*
Maryland Department of the Environment: Mary Phipps-Dickerson, Tammy Roberson*, Matt Rowe*, Danielle Spendiff*
Maryland Department of Natural Resources (DNR): Dave Brinker, Maggie Cavey, Heather Hayden, Gwen Gibson, Becky Golden, Johanna Guardado, Chris Homeister, Roland Limpert, Genine McClair*, John Moulis, Richard Ortt*, Tony Redman, Rebecca Thur, Erik Zlokovitz
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Dave Bibo*, Holly Miller, Amanda Peñafiel*
Maryland Environmental Service (MES): Maura Morris*, Christine Offerman*, Michelle Osborn*
Maryland Historical Trust: Troy Nowak
National Marine Fisheries Service (NMFS): David O'Brien, Bruce Vogt, Jonathan Watson*
National Oceanic and Atmospheric Administration: Brian Hopper
University of Maryland Center for Environmental Science (UMCES): Peter Goodwin
US Army Corps of Engineers: Trevor Cyran*, Ian Delwiche, Christopher Johnson, Charles Leasure*, Angie Sowers*
US Environmental Protection Agency (EPA): Megan Fitzgerald, Stephanie Jacobs, Carrie Traver, Tim Whitman
US Fish and Wildlife Service (FWS): Robbie Callahan, Sabrina Deeley*, Genevieve LaRouche, Marcia Pradines, Matt Whitbeck
US Geological Survey (USGS): Jeffrey Sullivan
(* - In person)

Action Items:
- MES will distribute meeting materials via email following the meeting. (*Complete*)
- Attendees will submit comments on the master plans for James and Barren Islands to Ms. Sowers by 9/30.
- Agencies will coordinate internally and provide Mr. Cyran the point person who will have access to add agency input and comments into the Mid-Bay interactive Geographic information system (GIS) tool.

1. Introduction
Ms. Peñafiel welcomed the attendees and stated that the meeting and future meetings will provide an opportunity for attendees to interact, engage and provide input for the Mid-Chesapeake Bay Island Ecosystem Restoration Project (Mid-Bay). Ms. Morris conducted roll call.

2. **Mid-Bay Status Update**
Mr. Cyran provided an overview of the Mid-Bay project, which is located in Dorchester County. The project includes the restoration of two islands in the Chesapeake Bay, Barren Island and James Island. The project is a 65%/35% cost share between the US Army Corps of Engineers (USACE) and Maryland Department of Transportation Maryland Port Administration (MDOT MPA), respectively. The purpose of the project is to restore 2,144 acres of remote island habitat; a minimum of 72 acres will be restored at Barren Island and 2,072 at James Island. Benefits of the project include protection of the existing

island remnants and submerged aquatic vegetation habitat, enhancing habitat of avian, marine and mammal species, and erosive protection for nearby shorelines. The project will also provide 90-95 million cubic yards (mcy) of dredged material placement capacity for Federal navigation channels.

Barren Island construction is broken down into three phases. Phase 1 is construction of the sills and breakwaters. Phase 2 is completion of the sills in the location of poor foundation in the northeast, construction of the bird islands, spillways, and dredged material containment. Phase 3 is dredged material placement and wetland development. Phase 3 of the project is dependent on material availability and funding; dredge funding is a separate mechanism and approval than the construction funding.

The Phase 1 contract was sent out for solicitation on 8/8 and bids are due 9/7; the USACE anticipate awarding the contract on 9/28 (update – the contract was awarded to Coastal Design and Construction, Inc on 9/26). The Project Partnership Agreement (PPA) was executed between the USACE and MDOT on 8/23. Currently, the USACE is developing the Master Plans, revising the northeast sill alignment due to unsuitable foundation material, and investigating potential sand borrow areas. The team is particularly focused on containment of the dredged material and the bird islands. The goal of containment is to ensure hydraulic conductivity between the remnant and restored wetlands. The team is also working to navigate legal and real estate challenges.

Ms. Peñafiel stated that Phase 2 of the Barren Island Project will require sand for construction use; MDOT MPA and USACE is currently trying to locate a borrow area in the vicinity of Barren Island that can be utilized as a source of suitable sand. Purchasing the sand if it could not be mined locally would increase the cost significantly. Based on local watermen input, the USACE performed local grab samples from the Honga River Navigation Channel and the area north of the channel (northern borrow area). The grab results show that the material is highly variable, and therefore unsuitable as foundation replacement, but it could potentially be used for the construction of the bird islands. Through formal geotechnical analysis in the 2009 Environmental Impact Statement (EIS), a good source of sand was identified in the area southwest of Barren Island (southern borrow area). The team will make every effort to prioritize the northern borrow area as a source where possible. To further delineate the sand, a more extensive geotechnical effort is currently underway. Current concerns for use of the borrow areas include impacts to cultural resources, which will be surveyed Fall 2022, and impacts to the benthic environments, which were surveyed the week of 8/15. Extensive coordination continues to occur with the local watermen.

The current Water Quality Certification (WQC) and Tidal Wetlands License (TWL) do not include the borrow area; once the field work has been completed, and the areas selected, a new WQC and major modification to the TWL will be required. Permitting of the borrow area would likely occur in 2023 and will include a 30-day notice for formal commenting. Additionally, the Supplemental Environmental Assessment (sEA) will require an addendum to include the borrow area. Kick-off will be initiated with the agencies in October; coordination will be provided on the sampling results and alignment of the selected borrow area in late 2022/early 2023. The team is targeting June 2023 for public review of the sEA and anticipating a final report and signed 'Finding of No Significant Impact' (FONSI) in September 2023. There would be a 60-day timeframe for this effort rather than a 30-day timeframe. Mr. Watson asked what quantities of material were needed for the foundation replacement and bird island construction. Mr. Cyran replied that the general quantity is estimated, and the number needs to be refined.

Mr. Cyran stated, regarding James Island, that the majority of the work conducted has been field data collection, such as geotechnical investigations, surveys, environmental data collection, etc. The primary focus at this time is to conduct storm modeling and life cycle cost analysis by the USACE Engineer Research and Development Center (ERDC). Additional field data collection will occur as the team continues to refine the interior of the island. The goal is to begin construction of James Island in summer 2025.

3. Mid-Bay Stakeholder Engagement Plan for James and Barren Islands

Mr. Cyran reviewed the Stakeholder Engagement Plan (SEP) which ensures the Project Delivery Team (PDT) is efficiently receiving stakeholders' input for the project's successful development. The SEP ensures stakeholders are receiving pertinent and accurate information from the PDT and regularly provides opportunities for stakeholder and PDT collaboration. It will define the teams, workgroups, processes, etc., that will be used for the duration of the project and is a living document that can be updated as necessary. The Project Coordination Team (PCT) is at the top of the hierarchy and includes the signatories of the PPA, followed by the PDT which include members from both the USACE and MDOT MPA. Next in the hierarchy is the Adaptive Management Team (AMT) and the Habitat Implementation Team (HIT). Finally, there will be the Monitoring, Wildlife Management, and Habitat Development Workgroups.

A review was provided of the workflow process for the various teams and workgroups. A vetting process will be put in place to assist with review of recommended concepts. During Phase 1 vetting the workgroup collaboratively to develop concepts. The workgroup score concepts to determine which will be presented to the HIT for consideration. An alternative Phase 1 vetting is conducted when the AMT or HIT present a preapproved concept to a workgroup; if it gains support from the workgroup, it would be passed to the PDT for development. Phase 2 vetting includes the team determining if the concept is able to be funded and supported by the project (i.e., within project scope, permit/policy compliance, legality, etc.). Phase 3 vetting includes determining if the concept is feasible and will have no substantiative impacts to the cost or schedule. Once the concept has been approved by the appropriate team, it can be further developed and implemented by the PDT. Mr. Rowe asked if there were mechanisms in place for the State or another entity to cover the cost of a concept that was vetted but found to be out of the budget and/or scope. Mr. Cyran replied that the appropriate mechanisms would still need to be determined for each scenario.

4. Barren Island Adaptive Management Plan

Ms. Osborn stated that the adaptive management process provides a structured approach to track the status of the project, access the progress towards meeting goals, and refine the specifics of permit requirements and legal obligations. Adaptive management is important because the initial project expectations may prove unrealistic in implementation and allows for continued input by resource agencies and updated science. As an example, there was no mention of sea-level rise (SLR) in the original Poplar Island guidance documents. Guiding documents include the TWL, WQC, which provide permit and legal obligations, and the EIS, supplemental EIS (sEIS), and sEA which help provide broad project goals. The Adaptive Management Plan (AMP) allows for tracking of the more focused and specific details and goals of a project.

The adaptive management process begins with defining the AMT to meet regularly to develop plans and manage the adaptive management process. The AMT will develop the AMP with specific goals; the AMP will be revised as necessary to reflect actual experience including corrective actions gained during implementation. The AMP is a tiered approach with a broad primary project goal followed by

a sub-goal, which is in support of the primary goal. Under the sub-goal would be an objective, which is an action task to be implemented and includes attributes which are specific, measurable aspects of the objective. Finally, there will be a target, which is the most desirable outcome, an acceptable boundary, a monitoring plan, an approach to measuring the attribute, and a schedule for conducting the measurements. Ms. Osborn provided an example from Poplar Island focused on the sub-goal of creating small nesting habitat for ground-nesting colonial waterbirds and reviewed the changes which were made over the years after implementation through monitoring data. Mr. Rowe asked about the process for developing goals. Ms. Osborn stated, for the Poplar Island Expansion, the AMT reviewed details pulled from the sEIS and permits. Discussions were held with the USACE regarding what was buildable. Then, the information was brought to the habitat workgroup to allow them to have input. Mr. Rowe asked how it was determined what is affordable in anticipating the various components. Mr. Cyran stated that the USACE has predetermined the cost of certain features but is unable to define the affordability of additional various components ahead of time.

Regarding SLR, the team is working on developing resilient wetlands. While SLR is not specifically called out in the AMP at Poplar, it is related to multiple attributes. The current approach includes a comprehensive assessment, which is drawing on 20 years of data from Poplar Island. Multiple models and investigations are underway to help determine how development (i.e., marsh, ponds, channels) and management (i.e., controlled burns) impact resiliency. Research is also underway from other wetlands. Recommendations will be made through the adaptive management process if change is warranted.

Many uncertainties exist when restoring ecological habitat on a large scale over a long period. Adaptive management allows for development of specific goals with the flexibility to make changes mid-course. Regular monitoring and assessments are necessary to ensure the project stays on-target. The AMP works best with collaborative input from a wide range of resource agencies with diverse backgrounds and expertise. Some questions are not easily answered; long-term monitoring and discussions may be needed before effective plans can be put into development.

Ms. Morris stated that the initial Mid-Bay AMP was developed using the goals and environmental parameters specified in the EIS. In 2010, the AMP was revised based on available habitat restoration literature, Poplar Island lessons learned, and professional judgement of the natural resource experts in the Mid-Bay Habitat Subgroup.

The primary project goal is to restore remote island habitat through the beneficial use of dredged material; several subgoals have already been determined. The subgoals include: restore and protect marsh, aquatic, and terrestrial island habitat for fish, reptiles, amphibians, birds, and mammals; protect existing island ecosystems, including sheltered embayments; decrease local erosion and turbidity; promote conditions to establish and enhance submerged aquatic vegetation; promote conditions that support oyster recolonization; increase wetlands acreage in the Chesapeake Bay watershed; and optimize the capacity for placement of dredged material (3.2 mcy per year). Constraints of the AMP include minimizing impacts to existing fisheries nursery, feeding, and protective habitats; minimizing impacts to rare, threatened, and endangered species and their habitat; minimizing impacts to existing commercial fisheries; and minimizing establishment of invasive species to maximum extent possible.

Ms. Morris briefly reviewed the objectives and attributes of each subgroup. When discussing the objectives under the subgoal “minimizing the impacts to existing fisheries nursery, feeding, and

protective habitats," it was recommended to remove examining bioaccumulation in benthic tissues. As the benthic population is stressed, removing the number of clams necessary to determine bioaccumulation would likely decimate the population and be more detrimental than helpful. Decades of bioaccumulation studies conducted at the other Dredged Material Containment Facilities (DMCFs) have shown no bioaccumulation within benthic population. She noted that sediment testing, and benthic monitoring would still occur.

Recommendations

Mr. Redman suggested, regarding Objective 6, changing the phrasing of "Construction will not increase sediment accumulation on oyster bars…". Mr. Redman recommended replacing 'not increase' with 'prevent.' Ms. Sowers noted that sediment accumulation could occur naturally. The objective could be changed to 'Prevent construction-related' to ensure the differentiation is understood. Mr. Rowe recommended brainstorming strategies related to preventing and handling Harmful Algal Blooms (HAB's), as they are present issues at other DMCFs.

Questions

Regarding Objective 9, Ms. Deeley asked if managing invasive species would be developed in the future or based on Blackwater National Wildlife Refuge management of invasive species. Ms. Morris stated that she believes Mr. Whitbeck has a plan in place that focuses on phragmites; the team will circle back and confirm that is the case. Ms. McClair asked if aquaculture was being considered. Ms. Morris confirmed this and stated that coordination with aquaculture lease holders is currently a special condition under the TWL. Mr. Vogt asked, if a decision process is in place that articulates how enhancements are implemented or partnerships developed to facilitate implementation if a design enhancement is outside of the project authorization. Ms. Morris stated that if an enhancement is outside the project, it will not be tracked by the AMP, however, the SEP is intended to allow open coordination between the agencies. Ms. Osborn reiterated that the project is limited by the scope in terms of funding, but additional discussions could be held outside of the project. Mr. Cyran stated that the concept catalogue houses the ideas brought forth and the ideas unable to be utilized within the project can be identified for further investigation for outside funding. Mr. Cyran recommended providing ideas early as it would allow the most flexibility for coordination and integration for a project needing outside partnering and funding for implementation.

Ms. Morris stated that the AMP will be distributed to the attendees once finalized; a month will be provided for review of the document. Comments will be discussed by the AMT and integrated as necessary. The goal is to have the AMP finalized by the end of this fall so that the team can have a clear path heading into construction.

5. Barren Island Draft Master Plan

Mr. Bibo asked for a definition of a functional marsh and a mature marsh. Ms. Sowers stated that a mature marsh is a functional marsh, but a functional marsh may not necessarily be a mature marsh. Mature marshes are identified using reference sites. Ms. Osborn stated that a marsh may be functional, but it may not support all life stages of fish that you would find in a reference mature marsh. Ms. Sowers stated that it is estimated to take about 5 years for a marsh to be deemed functional. Ms. Osborn stated that around 5 years is when a new marsh will uptake nitrogen in similar amounts to a reference marsh. Mr. Bibo stated that defining what is a 'functional' marsh is very important as that is the indicator of official handoff of the project to MDOT MPA for operations and maintenance.

Ms. Sowers stated that several NEPA activities are occurring. The Barren Island sEA was completed in spring 2022 and covered all impacts from the Barren Island restoration except for the borrow area. An addendum is planned to discuss this project component; activities will begin in fall 2022. For James Island, a sEIS is currently being developed.

Ms. Sowers provided the conceptual Master Plan for review. The USACE is seeking agency and stakeholder input to modify the design before the wetlands modeling effort begins. Along the northern remnant there is existing wetland habitat which the USACE does not want to impact. While in the south, the habitat is higher, and the shoreline is scarped which will allow for blending of the containment structures. For these reasons a tidal channel is proposed to run along the northern remnants of Barren Island separating the restored wetlands from the existing wetlands. For the wetland next to the southern remnants, wetlands are proposed to be directly adjacent to the shoreline. The USACE is still determining the containment methods (i.e., geotubes, sand dikes, etc.) for placed dredged material. The team reviewed the wetland concepts for the south, northwest, and northeast cells. Ms. Sowers noted that length of the northeast sill is still to be determined; if the sill is shortened the current concept design would change.

A cross section was provided of the bird islands; behind the breakwater a series of terraced berms is proposed to contain material and manage elevations. Appropriate elevations are still being determined as well as slope and substrate. The USACE would like some over wash to assist with vegetation management and asked the attendees for feedback on the design features. Mr. Zlokovitz asked if the presentations could be shared with the attendees; Ms. Sowers replied that all meeting materials will be provided to the group. A table will be provided to the group that will include habitat features, the metric to determine the features, relevant information from the EIS (2009), the Poplar Island application of the features, and a targeted timeframe for the decision for Barren Island implementation. The immediate concern for Barren Island is containment, as it will determine how much material will be needed from the borrow area and outside sources. For James Island, habitat features will be preliminarily identified this winter.

Regarding wetland design and reference marshes, Poplar Island is the only similar system, but reference marshes will still be in use. The US Geological Survey (USGS) has developed an unvegetated to vegetated ratio (UVVR) in which marshes with a UVVR <0.1 are stable and intact; 0.1 represents a tipping point where the marsh goes from surplus to deficit sediment supply. This ratio has been used to identify a sustainable marsh system in Fishing Bay. It was also determined that the Solomons Island tidal gauge represents Barren Island conditions. Future projection of elevations will be based on past SLR. The team evaluated the USACE SLR Tracker for the period of January 2003 through June 2022; the results are tracking the high SLR curve. Mr. Bibo asked, regarding wetland elevation, how would it be determined if and how often the marsh would need to be raised. Ms. Sowers replied that projections would be reviewed as well as the timeframe of the project and the habitat value anticipated for the timeframe. Ms. Osborn stated that the University of Maryland Center for Environmental Science (UMCES) conducts elevation measurements; at the appropriate wetland height, accretion would occur, and additional inputs would not be needed. Poplar Island is looking at accretion rates and where natural replenishment is occurring while also investigating areas that may need thin layer placement.

Ms. Sowers reviewed the interactive Geographic information system (GIS) tool (https://experience.arcgis.com/experience/7f02ec3415984936ac41348611180de2), which will allow

input on design ideas and commenting on ideas provided by others. The tool is currently live for Barren Island but is not yet available for James Island. Ms. Sowers noted that while anyone can view the webpage, there is a limited number of accounts allowed to provide input and comments. Ms. Sowers asked each agency to identify one primary contributor and a backup contributor to submit ideas and comments and provide the designated contributor information to the USACE.

6. James Island sEIS

Ms. Sowers reviewed the James Island sEIS schedule. The NEPA process has begun, and a Notice of Intent (NOI) is targeted for publication in September 2022. The goal is to have the Master Plan drafted by January 2023, which will be followed by a Value Engineering (VE) Study. The draft sEIS is anticipated to be completed for internal review in February 2023 and go out for public review in summer 2023. NEPA is anticipated to be completed by summer 2024 with the Record of Decision (ROD) signed at that time. The WQC and TWL permit applications will likely be submitted by summer 2024 and construction is anticipated to begin in summer 2025.

One Federal Decision (OFD) is a coordinated federal review that has concurrence points for an EIS such as Purpose and Need, Alternatives Analysis and Preferred Alternative. Agency Coordination letters are targeted for September 2022. The draft permitting timetable will be distributed fall 2022. Ms. Sowers provided the Purpose and Need for the James Island portion of the project and asked for feedback from the group – none was received.

Regarding the James Island Master Plan, the USACE is proposing three marsh complexes which will each include five wetland cells. The transition between the upland and wetlands needs to be determined; 400ft has been denoted in the master plan as a placeholder. The uplands will include freshwater ponds, meadows, forests, scrub shrubs, and freshwater wetlands. For the wetlands, there will be ponds, mudflats, beach, and hummocks. The team is looking for ideas related to tidal connections along the southern wetlands dike.
Next steps include distribution of the Adaptive Management Framework; the group will have a month to review the materials. Initial comments are requested by September 30, 2022 for the James and Barren Island Master Plans; this will not be the only time the group will have a chance to review and comment. The USACE will provide the group the elevations for the terraces and berms for the bird islands.

Upcoming meetings include NEPA meetings related to the Barren Island Borrow Area sEA kick-off, further scoping for James Island, and OFD Concurrence on the Alternative Analysis. The HIT and Habitat Development Working Group will meet to discuss wetland designs and Master Plan development. Finally, the AMT will meet to review input provided for the AMP and will then finalize the AMP. It was asked if the GIS suggestion tool was supplemental to feedback requested for the Master Plan; there was concern expressed regarding a limited amount of time for responding to comments. Ms. Sowers stated that initial suggestions are due by 9/30, but the process will be iterative, and will allow time for feedback to the initial comments. Mr. Bibo noted that it is unknown when Barren Island will be completed due to the dependency on the funding for small navigation dredging. Mr. Cyran stated that was correct; while dredging of the Honga River Navigation Channel was included in the Presidential Budget for 2023 and will most likely be appropriated, it is estimated to take 2-3 dredging cycles to complete Barren Island.

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting - NEPA

22 November 2022; 1:30 - 3:30 p.m.

Meeting information:
Click here to join the meeting
https://teams.microsoft.com/l/meetup-join/19%3ameeting_MGNmNWViZGQtNzg4ZS00MDU4LTg3MjMtODljODViZmZlZDlk%40thread.v2/0?context=%7b%22Tid%22%3a%224c44e1cf-7dae-454f-a18f-c18a6a12f9d7%22%2c%22Oid%22%3a%226f2ecce7-76f4-402c-86c0-a17687c9fbb6%22%7d
Meeting ID: 289 362 348 939 Passcode: N8SXKZ
Or call in (audio only) +1 443-842-5306,,580617403#
Phone Conference ID: 580 617 403#

1. Introductions (10 minutes)

2. Barren Island Phase I Construction (15 minutes)

    a. Status and Construction Schedule
    b. On-going surveys
        i. H&H
        ii. oyster habitat

3. Barren Borrow Area supplemental Environmental Assessment (25 minutes)

    a. Schedule
    b. Array of Alternatives and Screening Criteria
    c. Next Steps

4. James Island supplemental EIS (25 minutes)

    a. NOI update
    b. Status of Coordination Letters and Cooperating Agency Letters
    c. Revised Purpose and Need Statement
    d. Array of Alternatives
    e. Permitting Timetable
    f. Next Steps

5. Barren and James Island Master Plans (35 minutes)

    a. Summary of agency input received
    b. Planned revisions – short and long-term/on-going considerations

6. Discussion and Wrap-up (10 minutes)

MID-BAY RESILIENCY WORKING GROUP (MB RWG)
Virtual Microsoft Teams Call
November 22, 2022, 1:30pm – 3:30pm

Attendees:
Anchor QEA: Walter Dinicola, Karin Olsen
Environmental Protection Agency: Carrie Traver
Maryland Department of the Environment: Mary Phipps-Dickerson, Matt Rowe
Maryland Department of Natural Resources: Becky Golden, Roland Limpert, John Moulis
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Dave Bibo, Amanda Peñafiel, Danielle Spendiff
Maryland Environmental Service (MES): Maura Morris, Christine Offerman, Michelle Osborn
Maryland Historical Trust: Troy Nowak
National Marine Fisheries Service (NMFS): Jonathan Watson
US Army Corps of Engineers Baltimore District (CENAB): Joe Chandler, Trevor Cyran, Angie Sowers
US Fish and Wildlife Service: Carl Callahan, Chris Johnson, Amy O'Donnell, Matt Whitbeck

A**ction Items:**
- Ms. Sowers will distribute the slides to the meeting attendees.

1.0 Barren Island Phase I Construction
- Ms. Sowers. Reviewed the Phase I Construction of Barren Island.
  - The contract was awarded to Coastal Design and Construction from Gloucester, Virginia; the notice to proceed was issued 10/25 for a period of performance of two years, and construction is anticipated to begin in February/March 2023.
  - As a reminder, Phase I construction includes the sills and breakwaters where foundation replacement is not needed, Phase II will be foundation remediation and construction of the sills in the northeast, and construction of the bird island structures and containment spillways, and Phase III will be dredged material placement and wetland development.
  - Three profilers were deployed in October to survey currents and waves; weather permitting, data will be collected from the profilers and batteries will be swapped in a few weeks.
  - Surveys of the oyster habitat will be conducted by the Department of Natural Resources (DNR) and Maryland Geologic Survey (MGS) in December 2022.
  - Side-scan sonar surveys as well as photos and videos will be collected pre-construction for documentation purposes.

2.0 Barren Island Supplemental Environmental Assessment
- Ms. Sowers stated that a supplemental Environmental Assessment (sEA) is being conducted for the potential borrow area(s), which is the areas being investigated to dredge sand for use in the restoration efforts at Barren Island.

  - The sand from the selected borrow area will be used in the northeast area for foundation replacement, internal containment for material placement, and construction of the bird islands.
  - Geotechnical and benthic surveys have been completed; a cultural survey will be conducted in January 2023.
  - The draft sEA will be ready for internal review in February 2023 and public review in June 2023.
  - The Finding of No Significant Impacts (FONSI) is anticipated in September 2023.
  - There are two areas under consideration, the northern borrow area above the Honga River, and the southern borrow area.
    - Alternatives include no action, use the northern area only, use the southern area only, use a combination of both areas, or use a land-based source such as a quarry.
    - Screening criteria include quality of material, quantity of material, impacts to commercial fisheries, cultural resources survey results, habitat impacts, and size of the impacted area.
- Ms. Sowers provided a review of the preliminary containment plan at Barren Island.
  - Preliminary modeling will be conducted of the various alignments for the northeastern sill and tidal channels.
- At the December Habitat Work Group (HWG) meeting, the team will review the results of the geotechnical and benthic surveys and discuss the evaluation of the potential borrow area sites.
  - The results of the cultural survey are anticipated in late January/early February 2022.
  - The HWG will be presented with the quantities needed for the project components as well as the alternative analysis and preliminary selected alternative.
- Mr. Watson asked if a temporal component will be identified for the borrow area (i.e. will the borrow material be used for the initial construction, or will the area be used for any additional future needs such as adaptive management).
  - Ms. Sowers replied that a time frame will be specified in the document as well as what material will be needed for each component and when it will be needed in the projected schedule.
- Mr. Watson asked if the material would be used solely for construction or if adaptive management would be specified in the document.
  - Ms. Sowers replied that specifying use for adaptive management has not been discussed; the intended focus is for use in construction.
  - The document will be clear on the life cycle of the borrow area.

3.0 James Island Supplemental EIS

- Ms. Sowers stated that a Notice of Intent (NOI) was published in the Federal Register on 11/7 for the supplemental Environmental Impact Survey (sEIS).
  - The agency coordination letters, and cooperating agency invitations will be sent out later today.
  - The Draft sEIS is anticipated to be ready for internal review in April 2023 and public review in August 2023.
  - The Record of Decision (ROD) is anticipated in May 2024 and the Water Quality Certification (WQC) and Tidal Wetlands License (TWL) approved in summer 2025.

  - The focus is updating the National Environmental Policy Act (NEPA) documents before the feasibility recommended plan.
  - Feedback was incorporated into the revised purpose and need statement; cooperating agencies will be asked to determine if they concur with the revised purpose and need statement.
  - The permitting timetable was provided to the meeting participants; Ms. Sowers requested that the attendees review the document for any timetables relevant to the various agencies and to forward any concerns or changes to the US Army Corps of Engineers (USACE).
- The array of alternatives includes No Action, or implementation of the Feasibility Recommended Plan.
  - Next steps include drafting the EIS document, conduct coordination for Essential Fish Habitat, Endangered Species Act, Fish and Wildlife Coordination Act, etc., conduct Engineer Research and Development Center (ERDC) storm modeling and life-cycle analysis modeling of exterior dikes, and continue to work through the Master Plan comments.
- Ms. Sowers noted that a poster session was held on 11/19 in Hoopers Island to allow the public the opportunity to provide comments on the James Island sEIS, as well as focus on the upcoming construction of Phase I at Barren Island.

4.0 Barren and James Island Master Plans

- Ms. Sowers stated that approximately 120 comments were received from various agencies on the James and Barren Island Master Plans. The USACE is working to consider all of them.
  - The comments sorted into short-term considerations and long-term considerations.
  - No further changes can be made to the Barren Island sills and breakwaters as the contract has already been awarded.
  - There are also limitations on the extent to which these projects can undertake Research and Development (R&D) testing.
  - It was noted that the intent for Mid-Bay is passive recreation.
- Ms. Sowers reviewed a few of the short-term and long-term responses for James and Barren Islands.
- Additional data such as oyster habitat, submerged aquatic vegetation (SAV), bathymetry access channel (James Island), borrow areas (Barren Island), and pound nets will be included in the Master Plans.
- Ms. Sowers shared a list of further considerations which are dependent on modeling.

5.0 Discussion and Wrap-up

- Ms. Sowers will distribute the slides to the meeting attendees.
- USACE has developed a spreadsheet which catalogues each comment, preliminary response and any action items to continue the consideration process.
- In December:
  - Cooperating agencies will receive a request for concurrence on the One Federal Decision #1 and #2 (Alternative Analysis).
  - ERDC will be conducting initial modeling for the tidal channels and containment at Barren Island.

    - The HWG will meet to review the borrow area survey data and discuss the alternatives evaluation, bird island design, and the Master Plan.
- In January meetings will be held for the Monitoring Work Group (MWG), Wildlife Management Work Group (WWG), and NEPA group.
- Ms. Phipps-Dickerson asked for clarification regarding comments made related to James Island not having high marsh adjacent to tidal channels.
    - Ms. Sowers replied that a follow up will occur for exact clarification of the comment, but it is assumed that low marsh would be needed between the tidal channels and high marsh.
- Ms. Phipps-Dickerson noted that any shortening of the breakwater for Barren Island should not be an issue from a permitting perspective, but a change to the footprint may need a modification of the permit.
    - Ms. Sowers stated that coordination will occur if there is a footprint change instead of a truncation.
- Mr. Watson asked, if the northeast sill was truncated, if the area would be conducive to placement of reef features which would help break up some of the laminar currents in that area.
    - Ms. Sowers replied that any structures placed in that area, including reef structures, would need foundation replacement.
    - Ms. Sowers noted that side-scan sonar may help identify the oyster habitat and maps of the SAV to understand how those two resources coexist in that area but currently there are no plans to place reefs along that area if the breakwater is truncated; the team will keep in mind the inclusion of a reef as the project moves forward.

Monitoring Workgroup Meeting
Mid - Chesapeake Bay Island Ecosystem Restoration Project
January 24, 2023 – 9 AM – 12 PM
Virtual Meeting
Virtual LINK (if calling in - Number: 443-842-5306 Passcode: 763516203#)

1. **Introductions (10 minutes)** **Maura Morris, MES**

2. **Monitoring Schedule (20 minutes)** **Maura Morris, MES**

3. **Detailed Look at 2023 and 2024 Monitoring (30 minutes)**
    a. *Turbidity*
    b. *Submerged Aquatic Vegetation*
    c. *Shellfish Bed Sedimentation*

4. **Discuss Additional Monitoring Needs (30 minutes)** **Group**

MID-BAY Monitoring WORK GROUP (MB MWG)
Virtual Microsoft Teams Call
January 24, 2023, 9:00am – 12:00pm

Attendees:
Anchor QEA: Karin Olsen
Environmental Protection Agency: Megan Fitzgerald, Tim Whitman
Maryland Department of the Environment: Mary Phipps-Dickerson, Matt Rowe
Maryland Department of Natural Resources: Dave Brinker, Maggie Cavey, Gwen Gibson, Anna Gillmor, Becky Golden
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Dave Bibo, Amanda Peñafiel
Maryland Environmental Service (MES): Maura Morris, Michelle Osborn, Alexa Poynter
National Marine Fisheries Service (NMFS): David Bruce, David O'Brien, Jonathan Watson
US Army Corps of Engineers Baltimore District (CENAB): Trevor Cyran, Ian Delwiche, AJ De Rosset, Angie Sowers
US Fish and Wildlife Service: Carl Callahan, Amy O'Donnell, Matt Whitbeck
US Geological Survey: Jeffery Sullivan

A**ction Items:**
- The Monitoring Schedule will be distributed to the MWG for review and comments.
- Maryland Environmental Service (MES) will investigate side-scan sonar to determine if it is appropriate at Barren Island to assess SAV.
- Ms. Gillmor will provide the oyster monitoring data to Mr. Watson for review.

1.0 Introductions
- Ms. Morris conducted roll call and welcomed everyone to the meeting.

2.0 Monitoring Schedule
- Ms. Morris reviewed the overall monitoring schedule for Barren Island.
    - The study elements indicate that the subgoals of the adaptive management plan (AMP) are being met or are required by permit.
    - The monitoring framework will be provided to the Monitoring Work Group (MWG) on an annual basis; new information will be highlighted for discussion.
    - The Monitoring Schedule will be distributed to the MWG for review and comments.
    - The current monitoring plan spans the next 10 years; some of the monitoring is dependent on either inflow or planting which is currently unknown and is denoted with a '?'.
    - Sediment quality will be conducted before inflow to obtain a baseline; sampling will occur yearly after inflow begins.
    - All of the wetland vegetation and wildlife monitoring will occur after planting and creation of habitat.

  - Exterior water quality will occur once inflow occurs and produces effluent; the focus will be on nutrients from late spring through early fall.
  - Turbidity monitoring is required by permit and will be conducted before and during construction.
  - Baseline benthic monitoring has been conducted; benthic monitoring will occur when effluent is produced.
  - Benthic tissues sampling will be removed as a sufficient population has not been found during other monitoring events; if a sufficient population is discovered, a baseline sampling event will occur.
  - Monitoring for fishery and wetland usage by wildlife will occur after development of the habitat.
  - Baseline sampling has already been conducted for submerged aquatic vegetation (SAV); future samplings field components may be reduced and include a yearly desktop study based on discussions from today's meeting.
  - The Shellfish Bed Sedimentation study will occur before construction commences; additional monitoring will occur after the completion of construction.
- Mr. Sullivan noted that on Poplar Island the birds were utilizing the stockpiled materials being used to create the habitat as well as partially created habitat.
  - Bird monitoring had to be implemented earlier than anticipated due to this and wanted the team to be aware of this possibility.
- Mr. Bruce asked for clarification regarding the lack of benthic community monitoring.
  - Ms. Morris stated that the borrow area was just examined for benthics and the information will be included in the addendum for the supplemental Environmental Analysis (sEA).
  - Benthics will be monitored every three years once placement of material begins.
- Mr. Rowe asked if there were thoughts on investigating the bathymetry around the posts and placed structures and how it is impacted along with the sediment dynamics.
  - Mr. Delwiche stated that surveys will need to occur once the sills are created, and a bathymetric survey can be conducted beyond the sills at that time.
  - Ms. Morris noted that modeling has been conducted as well.
  - Mr. Rowe stated that additional bathymetric studies may be more relevant at James Island.
  - Ms. Peñafiel noted that profilers have been deployed to track velocities around Barren Island as asked how it fits in to the current discussion.
    - Ms. Morris stated that drastic change is not anticipated; the velocities are shown to stay the same.
    - Ms. Peñafiel recommended the profiler data and velocities tracking should be included on the monitoring spreadsheet.
- Ms. Gibson noted that bathymetric studies may be helpful if local channels begin to gain sediment causing complaints from commercial fishermen not being able to use their historic channels.

- Ms. Gibson recommended utilizing bathymetry in this case as the island may be blamed if sedimentation gets worse.
- Ms. Morris stated that the modelling can assist with any future complaints.

3.0 Detailed Look at 2023 and 2024 Monitoring

- Ms. Poynter provided a review of the turbidity and total suspended solids monitoring for Barren Island with focus on Phase I construction.
  - Mr. Watson asked what depths the meters would be deployed at.
    - Ms. Poynter replied that data will be collected by boat.
  - Ms. Morris noted that a potential step down of sampling may be able to occur sooner if it can be proven that water quality standards are being met.
- Ms. Poynter provided an overview of the SAV monitoring.
  - At this time the final SAV monitoring plan is not available, but Barren Island has been identified as protecting over 1325 acres of SAV habitat.
  - Coordination is ongoing with the Maryland Department of Natural Resources (DNR) regarding finalization of the monitoring plan.
  - Ms. Poynter requested feedback from the group regarding monitoring frequency during construction.
    - Mr. Watson stated that a more targeted study with more frequency for the field survey may better assist the Virginia Institute of Marine Science (VIMS) data.
    - Mr. Rowe asked how the SAV sampling was conducted.
      - Ms. Golden replied that the surveys are conducted through snorkeling or self-contained underwater breathing apparatus (SCUBA); no biomass or core sampling is conducted.
    - Ms. Sowers asked if there was underwater imagery which could be utilized to assist the visual assessments.
      - Mr. Callahan stated that alternative methods have been investigated at Poplar Island utilizing a GoPro; the difficulties include the depths at Poplar Island as well as the number of good weather days.
    - Mr. Watson asked if side-scan sonar was a possibility.
      - Ms. Gillmor replied that the SAV reflects which can create murky results.
      - Maryland Environmental Service (MES) will investigate side-scan sonar to determine if it is appropriate at Barren Island to assess SAV.
- Ms. Gillmor reviewed the side-scan sonar monitoring effort for the oyster habitats.
  - Grab sampling will be utilized to confirm survey results.
  - It was noted that side-scan sonar was not ideal for distinguishing living oyster shell from shell hash; videography may be utilized to assist in identifying the habitat.
    - Mr. Watson asked if the data would be available for review.
      - Ms. Gillmor will provide the oyster monitoring data to Mr. Watson for review.

- Ms. Sowers recommended focusing on the Tar Bay bar area before construction begins due to the proximity to the construction site.

4.0 Discuss Additional Monitoring Needs

- Ms. Morris noted that terrapins have been mentioned in the comments for the AMP and requested feedback from the MWG.
  - While turtles are present on Barren Island there are challenges related to a robust monitoring program due to staff not being permanently on the island (i.e., no facilities).
  - Mr. Callahan also noted that there are small mammalian predators on Barren Island which would cause additional issues with tracking success metrics.
  - Ms. Osborn asked if there were plans for mammal control at Barren Island.
    - Mr. Callahan replied that small mammal removal may be necessary to protect the ground nesting birds; it is unknown if the removal would need to be a long-term program, or just need to occur in the early phases.
  - Ms. Sowers noted that any terrapin focused efforts may be limited to the bird islands as those locations should be predator free.
    - Terrapin monitoring could be limited to presence on site and coincide with the bird monitoring.
  - Ms. Peñafiel asked of there was currently small mammal control on Barren Island.
    - Mr. Callahan replied that there is currently no small mammal control on the island; the bird islands are being designed to be an appropriate distance to not need small mammal control.
    - If the bird colonies are experiencing failure due to predation the US Fish and Wildlife Service (USFWS) may request the implementation of small mammal removal.
  - Mr. Watson asked if there is any utility in evaluating how the project is affecting the existing wetlands and could it fit in with the current sampling paradigm.
    - Ms. Morris noted that it would need to be discussed between the USFWS and DNR and the access agreements.
    - The team is doing its due diligence to not affect the existing wetlands.
- Ms. Morris noted that as soon as the SAV and turbidity monitoring plans are available, the documents will be placed on the Google Drive to MWG review; the monitoring framework will also be made available.

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting – NEPA

28 February 2023, 9:00 AM -11:00 AM

1. Introductions (10 minutes)

2. Barren Island Phase I (10 minutes)
    a. Status and Construction Schedule

3. Bird Island Design Update (15 minutes)

4. Barren Borrow Area supplemental Environmental Assessment Update (15 minutes)

5. Modeling Review (60 minutes)

    a. CSTORM
    b. StormSim
    c. Adaptive Hydraulics

6. Wrap-up and Action Items (10 minutes)

Mid-Bay Island Ecosystem Restoration Project
Agency Coordination Meeting - NEPA
Virtual Microsoft Teams Call
February 28, 2023, 9–11:30am

Attendees:

Anchor QEA	Karin Olsen
Maryland Department of Natural Resources (DNR)	Becky Golden, Gwendolyn Gibson, Roland Limpert, John Moulis, Lindsey Sestak
Maryland Department of the Environment (MDE)	Mary Phipps-Dickerson, Matt Rowe, Danielle Spendiff
Maryland Department of Transportation Maryland Port Administration (MDOT MPA)	Amanda Peñafiel, Dave Bibo
Maryland Environmental Service (MES)	Maura Morris, Christine Offerman, Michelle Osborn, Alexa Poynter
Maryland Historical Trust (MHT)	Troy Nowak
US Army Corps of Engineers Baltimore District (CENAB)	Joe Chandler, Ian Delwiche, Chris Johnson, Charles Leasure, Trevor Cyran, Angie Sowers
US Army Engineer Research and Development Center (ERDC)	Jeffrey Melby, Margaret Owensby, and Jennifer McAlpin
US Environmental Protection Agency (EPA)	Carrie Traver, Tim Witman
US Fish and Wildlife Service (USFWS)	Amy O'Donnell, Robbie Callahan
National Oceanic and Atmospheric Administration (NOAA)	Jonathan Watson, David Bruce

A**ction Items:**

- Ms. Sowers will provide the group with the meeting presentation, recording, and images of the articulated concrete feature on the bird islands. *(Documents were uploaded to the Mid-Bay Google Drive)*
- The USACE will develop a modeling schedule.
- The workgroups will begin discussing performance criteria for internal features.

1.0 Barren Island Phase I – Status and Construction Schedule – Angie Sowers (CENAB)

- Ms. Sowers gave a construction update: the contractor is preparing to mobilize and start within the next two weeks. An environmental walkthrough occurred onsite last week. The contractor is preparing to measure turbidity during construction, as outlined in the permit. US Army Corps of Engineers, Baltimore District (CENAB), is coordinating with the public on the 800-foot safety zone around the construction and with local pound net owners/users.
    - Phase I is the external stone sills and breakwaters (no sand) construction.
    - It was noted that the safety zone is not enforceable. The active work area will start in the center and will change depending on the environmental time of year restrictions and as portions are constructed and completed. High-visibility warning buoys will be lit in the area of active construction. The barge moorings will be in place for the duration of construction.
- Hydrologic and hydraulic (H&H) monitoring with profilers began on 10/6.
    - On 12/6–7 data was collected, and the equipment was redeployed.

- During 2/21−22, the profilers were retrieved, the sleds cleaned, the batteries exchanged, data was collected, and the profilers were redeployed with a second buoy marker as the lighted poles were lost.

- DNR has completed side-scan sonar surveys of Natural Oyster Bar (NOB) 23-2 and historic oyster bottom Great Bay Bar and NOB 23-4. Remaining work is in groundtruthing and bottom habitat image collection/documentation.
  - Ms. Sowers shared preliminary results from the February side-scan of NOB 23-2, which is west of Barren Island. Observations included some interesting habitat with small rocks, Miocene clay and iron concretion lumps with small *Mogula* (sea grape) colonies, scattered (sparse) old dead oyster shell and a few clam shells. No living oysters were retrieved in any samples nor were there any signs of active/dense oyster populations across the NOB. It is expected that any living oysters there would be scattered and sparse. Bottom images were acquired in some of the areas identified by side scan sonar as potential oyster habitat. The imaging captured an eelgrass bed but no oysters. Next is groundtruthing and an effort to focus on identifying potential shell habitat areas to investigate with a GoPro for visual confirmation
  - Great Bay Bar and NOB 23-4 are adjacent bars located to the east of Barren Island. Observations included: two large areas with submerged aquatic vegetation (SAV), two small areas suspected to contain oyster shell, and several more areas that may contain shell or may only be firmer substrate. The majority of the area is fine sand. All areas will be sampled to confirm the bottom material.
  - The objective of the surveys is to identify existing oyster habitat conditions and document it. Over time, surveys will track changes and ensure no negative impacts to habitat quality from the project.

2.0 Barren Island Phase 2 – Bird Island Design Update – Angie Sowers (CENAB)

- Ms. Sowers shared the Bird Island specification drawings.
  - Ms. Gibson asked when the Bird Islands are scheduled for construction. CENAB replied that the breakwaters are part of Phase I construction. Phase 2 will include the Bird Island construction behind the breakwater. It is anticipated that Phase 2 will be awarded winter 2024, and construction would start in the summer 2025.
  - DNR final concurrence is needed for the plans to be finalized. Ms. Gibson anticipated that a couple weeks and a pdf of the presentation would be sufficient for review.
    - Ms. Sowers will provide the group with the meeting presentation, recording, and images of the articulated concrete feature on the bird islands.
  - The CENAB detailed design report (DDR) is in development. The DDR is an internal report that documents engineering decision making and is not typically for habitat workgroup discussion. However, it can be shared for informational purposes. Ms. Gibson requested it for the workgroup to see the status of the design and the cooperative results.
  - Mr. Watson inquired further into the purpose and function of the articulated concrete apron.
    - It was noted that it is an erosion prevention approach. The objective of using the concrete apron is to maintain the slope along the cove shoreline, provide access between the water and the nesting surfaces, and reduce the risk of needing to

replenish the substrate. The island perimeters will be hardened because an unprotected, softer shoreline is not sustainable in this setting.
    - Ms. Morris added that the sand in the 12-inch cap of shell material over sand is a good foundation. Material is not expected to be lost and the intent is not to replenish the sand stock.
    - CENAB will share visuals of this practice from other projects.
  - Ms. Sowers noted that CENAB engineers consider the reefs offshore of the bird island more valuable as habitat than as protective measures and welcome input on their design.
  - Mr. Rowe requested the Bird Islands' plan view and dimensions. Ms. Sowers replied that they will be shared once complete. CENAB anticipates sharing the acreage of actual nesting habitat soon.
  - Mr. Rowe inquired into the purpose of the sill openings and the model results. Ms. Sowers replied that the origin was in the recommended plan – sill protection around the island and evaluate the need and form of a southern breakwater. Six different configurations were examined. The current design was the result; it provides some protection to maintain SAV conditions in the eastern waters; coordination with the Maryland Department of Natural Resources (DNR) informed the distance between segments for predator prevention.

3.0 Barren Borrow Area supplemental Environmental Assessment (sEA) Update – Angie Sowers (CENAB)

- The prior Environmental Assessment (EA) did not include use of a borrow area, so an supplemental EA (sEA)is being completed. Sand is needed for finishing the northeast sill where foundation remediation is required and constructing the Bird Islands and the dredged material containment structures (possibly geotubes) in Phase 2.
- The cultural survey results will be available in March. The full bathymetric survey was completed the week of 2/20 and results are expected in March. The revised 2023 timeline is: Draft for internal (CENAB) review in April, public review in August, and a signed finding of no significant impact (FONSI) in November.
- Geotechnical evaluation of the borrow area concentrated on identifying areas of sand with the ideal characteristics of low fines content (less than 20%) and homogeneity. Both the northern borrow area and the Honga River channel were ruled out because they did not meet those ideals. The southern borrow area is adequate and has two areas of about 40 acres each. The cultural and bathymetric surveys will provide the necessary information to choose which area to use. Additionally, the bathymetric data will be provided to the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) to assess dredging depth and inform which area will be used.
- The benthic survey and grain size results were shared. The high evenness and Shannon-Wiener species diversity indices and low Simpson's dominance indices indicate that the benthic community surrounding Barren Island is diverse.
    - Bivalves and polychaetes were the dominant taxa in both the northern and southern borrow areas, with varying dominant species depending on location.
- The Benthic Index of Biotic Integrity (B-IBI) for the six sites in the northern borrow area were "Degraded" except for one, which "Meets restoration goals." The ten sites in the southern borrow area had opposite results – all sites were designated "Meets restoration goals' except for one "Degraded" site.

- The group discussed the need for sand, options regarding the borrow area, and options regarding dredged material containment internal to the project.
    - Ms. Sowers confirmed that the preferred southern borrow area is also the area with the best quality benthic habitat. Mr. Watson expressed appreciation for the baseline data and the opportunity to investigate recovery after disturbance. Mr. Watson also expressed appreciation for budgeting for a minimal amount of sand to construct the project. NOAA is interested in a shallow but wide dredge.
    - Ms. Gibson advised monitoring recovery, at a frequency of every few years, if the intention is to dredge the same area again. The concern is that recovery may begin but never actually occur if the borrow area is repeatedly dredged.
        - Ms. Sowers agreed that a future conversation will consider how the need for sand is addressed once the quantities are final and the full bathymetry is available. Dredging frequency and depth are not yet determined. CENAB is unlikely to stockpile material from the Honga channel, since the geotechnical data indicated the area did not have the ideal characteristics.
    - Ms. Sowers noted that the dredged material containment structure(s) (i.e. geotubes) would occur afterthe dredging was scheduled and appropriations in place. The full amount of sand would not be dredged immediately. Mr. Cyran added that the Honga River channel material is about 320,000 cubic yards. The initial containment will not be built beyond what is needed during the first round of dredging. The focus will be on whichever wetland cell will be accepting the material.
    - Mr. Watson noted that the National Environmental Policy Act (NEPA) document is for the borrow area. Mr. Watson asked if alternate sources of sand are allowed to be considered for future rounds of dredging, or if the chosen borrow area would be the required source. Ms. Sowers replied that a land-based quarry is a current alternative. If in the future a condition changes, there is room to reevaluate. Mr. Watson noted that it is not ideal to use old data when making an updated decision. Mr. Delwiche added that the future sand need is on the order of a couple tens of thousands of yards, if additional containment is needed.
    - Mr. Cyran confirmed that the intention is to hydraulically dredge and pump the sand from the borrow area to the project.
    - Ms. Sowers and Mr. Rowe reviewed the ongoing discussion about the method of containing the dredged material behind the sill stonework and how to prevent its migration into the present wetlands. The resiliency workgroup is working through determining the most conservative approach for containment. Currently, geotubes are the most conservative option – they require less sand and are less of a footprint than dikes. The Maryland Department of the Environment (MDE) is interested in any form of containment that performs the task. DNR and US Fish and Wildlife Service (USFWS) will already have input as property owners, but Mr. Rowe encouraged DNR and USFWS to also weigh in on nature-based containment alternatives. Ms. Gibson agreed that the conversation should involve the habitat stakeholders.
    - Mr. Limpert asked about the geotubes' positions. Ms. Sowers replied that the geotube placement is designed to mimic the shoreline and create a channel between the sill and the wetland remnants. Along the southern remnant's shoreline, the geotubes would be along the mean high-water line. Ms. Sowers confirmed that once wetland development is complete, the intention is to cut open the geotubes and grade the sand into the habitat.

ERDC has the initial parameters for the proposed geotube placement and is analyzing and modeling it.

4.0 Modeling Review for James Island – Jeffrey Melby, Margaret Owensby, and Jennifer McAlpin (ERDC)

- Dr. Melby introduced himself and the advancements in modeling since the feasibility study.
- The Coastal Hazards System (CHS) is a unique combination of a database of national storm responses.
    - The goal is to create a database of hazards that spans probability space (from high to very low frequency events), is high-resolution (spatially and statistically), and is accurate with regard to statistics and physics. Regions are studied repeatedly. The North Atlantic Coast Comprehensive Study (NACCS) is used for this site evaluation.
    - CHS assists the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission in their risk estimates.
    - This resource is public and anyone can download the data.
- Dr. Melby described the summary of StormSim capabilities and the workflow for the Mid-Bay study.
    - ERDC will use the NACCS to conduct modeling trials and the optimal storm suite selections that will be spanning probability space for the area of Barren and James Islands.
    - Then, Ms. Owensby will conduct the CSTORM modeling, which is coupled wave and water level and circulation modeling in the area.
    - Multivariate storm hazard analysis is conducted from the CSTORM modeling. Those results are used to do structured design which includes geometry, structure elevation, seaside toe armor, main armor of these rubble mound structures, crest armor, and then the design is exposed to life-cycle (LC) simulations to determine the damage over the LC. After computing the present-worth costs, everything is reported out.
    - The workflow is similar to what was done for the feasibility study, except that the methodologies, each item of the workflow, has evolved to a higher fidelity, more rigorous multivariate statistical methods, and more consistency in accuracy between the structural analysis and the statistical methods.

a. Stochastic Storm Simulation System: StormSim

- StormSim originated as the FORTRAN model for the Mid-Bay feasibility study. It is a collection of the main MATLAB codes that have some modeling capabilities for typical coastal engineering projects that maintain the fidelity of both the physics and the multivariate statistics within the data source.
    - Uses the coastal hazard system data, the probability masses, and the uncertainty information to compute the hazard information in waves and water level statistics as well as coastal engineering responses (i.e. wave overtopping, runup, armor stone stability, armor stone damage, beach morphology, etc.). The environmental features, nature-based features, and hard structures are assessed for damage and cost in money.
    - There are two modes of computation – one is time-independent for a specific time and the other is LC simulation. This will generate present-worth cost and performance estimates.

- LC simulation begins with random sampling of storms from the tropical storm and extra-tropical storm datasets, which are statistically independent. Storms are randomly selected each year in a Poisson distribution. Once the number of storms per year are selected, project features/structures are exposed. With the passage of each year, damage accumulates. Repair and maintenance are also modeled.
- Epistemic uncertainty for both the hydrodynamics and the structural response models is also incorporated.

- There are two kinds of uncertainty – aleatory (natural variability) and epistemic (model error).
  - Hydrodynamic uncertainty for runup and overtopping, seaside armor stability and damage, toe berm stability, and crest armor stability and damage are all determined for the model. A mean curve with one standard deviation at the 84% confidence level is displayed with the modeling results.

b. Coastal Storm Modeling System (CSTORM)

- Ms. Owensby introduced the CSTORM modeling system to the attendees. CSTORM modeling is a part of the larger process described by Dr. Melby. Dr. Melby's team determines the storm scenarios through their probabilistic analysis and Ms. Owensby takes those inputs and runs them through models to generate hydrodynamic responses. That information is passed back to the StormSim team to do risk analysis. The structural and LC analysis can be informed by the CSTORM hydrodynamic results.
- CSTORM is a suite of highly skilled numerical models that simulate hydrodynamic responses to different storm events. The main driver of these models is the atmospheric forcing in the form of winds and pressure fields that are developed by Dr. Melby and his team, as well as deep water wave forcing for the wave models.
- CSTORM Dynamic Coupler – two models are typically run together. The different model components include:
  - water level and current model or surge model (ADCIRC) and
  - the near shore wave model (typically STWAVE).
  - The models are run in tandem and pass information to each other over the course of a simulation. This produces a more accurate hydrodynamic solution for the different storm events. For example, the ADCIRC model produces water levels that are passed to the STWAVE model to influence the solution that STWAVE is producing. Then once STWAVE computes its solution, it will then pass wave radiation stress information back to the ADCIRC model, which then is incorporated into the next solution that ADCIRC computes, etc.
- Regional scale studies are extremely useful. Products that were developed for the NACCS are adaptable to smaller-scale localized feasibility studies. The NACCS is the basis for the Mid-Bay modeling.
  - The NACC study area covered from roughly Maine to Virginia. A total of 1,050 synthetic tropical storms and 100 extratropical storms for a couple different tide and sea level rise scenarios were developed for that study by Dr. Melby and his team. More than 3,400 different high-resolution CSTORM simulations were modeled for winds, waves, and surge levels including sea level rise scenarios.
- The ADCIRC grid from the existing NACCS model was refined; resolution was added. The James Island project specifications, bathymetry, topography, and Manning's n values were updated.

  - To add resolution, the NACCS ADCIRC grid was adjusted – both the sizing of the element nodes and the alignment of the nodes. The nodes generate the results for water level and currents. After refinement, the minimum resolution is approximately 15 meters at the project site. The hydrodynamic information that's produced by the models inform some of the higher resolution modeling, like the ADH modeling and some of the structural analysis conducted by Dr. Melby and his team.
  - The grid also allows for the perimeter dike, which is represented as a hole in the mesh with a defined height.
- Nested STWAVE grids at a resolution of 17.5 meters will be run to model forcing from both the north and south. The grid will receive forcing conditions along the boundaries from a larger grid that covers the entire Chesapeake Bay at a resolution of 70 meters.
  - The model will not be forced from the east and west because the shorelines of the Chesapeake to the east and west are close to the boundaries of the wave grid and were judged to have minimal impacts from the fetch and the wind on the waves in this area compared to the fetch from the north and the south.
- Two major types of simulations will be conducted:
  - Two tides-only simulations for February and June 2018 will be run to generate boundary conditions for interior wetland modeling that's going to be conducted using the Adaptive Hydraulics (AdH) model.
  - 100 synthetic tropical storms from the NACCS storm suite with an estimated sea level for the year 2030. These storms were selected by Dr. Melby and his team to represent the different possible storms and conditions in this area, with variable tracks and angles of approach, varying maximum storm radius, and different speeds of propagation.
- CSTORM model results will be generated as two kinds of products:
  - Color maps with and without project conditions for the maximum water surface elevation, maximum current velocity and maximum significant wave height.
  - Time series for selected save point locations comparing with and without project results for water surface elevation, current velocity and significant wave height.

c. Interior Wetland Modeling with Adaptive Hydraulics (AdH)

- AdH uses the ADCIRC model to zero in on a section of the Chesapeake and model the details of the project's restoration features. AdH is a finite element code developed at ERDC CHL. AdH simulates interior wetland hydrodynamics transport of general constituents, temperature, salinity, or even sediment transport. AdH has been used to study many estuarine and riverine environments worldwide.
  - AdH models the typical functioning of the system under typical conditions. The purpose is to determine functionality of the wetland cell design, evaluate tidal exchange, examine how wet and dry the wetland is during tidal cycles, and refine the size of the main tidal channels and bay openings.
- Validation process: The ADCIRC results and the gauges that are in this vicinity are examined to ensure the model is replicating the system accurately, and that the separation of the mesh from the previous ADCIRC model is not artificially influencing what's happening in the area of interest.
- The AdH mesh is further refined from the ADCIRC mesh to a meter or foot resolution and includes the tidal channels, ponds, dikes, culverts, etc.

- The results from the CSTORM February and June 2018 time periods will be given to Dr. McAlpin to input boundary conditions, including riverine flows and the Potomac River. Dr. McAlpin will run month-long simulations for February and June 2018.
    - Both months have a large tidal amplitude, but a low elevation in February (average elevation of -0.2 meters NAVD88) and a high elevation in June (average of 0 meters).
    - These months feature a tidal range that allows for extreme wetting and drying of the project features, to assess to what extent they are wet.
- Performance criteria is in development
    - Inundation time of high and low marsh areas
    - Flushing time from internal wetland areas
    - Flow velocity within channels
    - Other examples: how wet and dry are the mudflats, or what is the exchange or the flushing from the farthest areas of the cell to the Bay?
- Two methods to analyze the system and judge what designs are more, or less, effective.
    - Residence time method
        - Generic constituent tracers move with the advection diffusion of the flow system to track how long it takes to reduce in concentration. Two references for assuming residence time are Marr and Kraus, which yields the time needed to flush.
        - Marr 2013 – 50% reduction in concentration
        - Kraus et al. 2006 – 63% reduction in concentration
        - If a performance criterion requires an exchange within a specific period of time, that may indicate a design change in channel width.
    - Wetted area and wetted time, over time
        - Can address whether the wetted area of the present wetlands in the system are maintained. throughout time, specifically to identify the wetted area, is it increasing or decreasing under these various conditions?
        - Can compare the base condition to the initial restoration to assess the change in wetted area over the course of the simulation.
        - Dr. McAlpin used the Barren Island results to demonstrate this method and asked whether this is the kind of information CENAB needs and if there are any particular points wanted for analysis.

5.0 Discussion/Questions/Wrap-Up and Action Items

- Mr. Rowe asked if the AdH model can be run to determine an optimal channel design, rather than just assess the current design?
    - Dr. McAlpin replied that it is faster to choose a few alternatives and assess them. If what is optimal can be defined, then the code can be set up to do that. It is also possible to input the sediment details to assess natural channel formation from tide and velocities. It is difficult to validate and ensure accuracy, but the model could be adjusted to generate an optimal design.
    - Primary productivity is the method used by Gary Brown to assess Louisiana marsh building. That model simulates sediment deposition by flow and vegetation growth at a certain elevation, and the effect of the vegetation growth on flow.

  - Ms. Gibson suggested that the agencies and habitat workgroup develop goals for tidal flushing and exchange in the parent and created marshes for ERDC, and adding those goals, if applicable, to the adaptive management plan (AMP).
  - Ms. Gibson requested any publications on the Louisiana studies.
- The group agreed that Poplar Island continues to be a model for Mid-Bay. Ms. Osborn noted that each Poplar Island wetland cell is modeled before construction, but each cell has different design and objectives; there is no goal or bounds for performance criteria and nothing is tracked in the Poplar Island AMP.
- The workgroups will begin discussing performance criteria for internal features.
- Regarding James Island, Mr. Delwiche noted that the final wetland design is about a decade away and the current focus is on a good conceptual design without major flaws. The main tidal channel and the tidal openings will be the first priorities (they will be built before the wetlands), but the modeling will be revisited before constructing a wetland. He also noted that the performance criteria and definition of wetland function are not inputs, but how to assess the model results.
- Regarding Barren Island, Ms. Sowers pointed out that the interior model is needed soon. Mr. Delwiche agreed and suggested that the same criteria be applied to James Island.
- Mr. Delwiche advised the group that prior to modeling, a definition of success or failure of design is necessary so that the data is useful.
- Mr. Rowe inquired about the engineering with nature modeling toolkit. Ms. Owensby replied that the toolkit is based on the ADCIRC model. The tools are for incorporating natural and nature-based features into the models, and are being expanded to AdH, some of the Coastal Modeling System (CMS) models and STWAVE.
- Mr. Rowe suggested a modeling workshop for CENAB, MDOT MPA, and the agencies because the models are critical to the ultimate design. He opined that a deeper understanding of how the model works and the design parameters would assist in incorporating as many nature-based features as possible. He posited that setting the model to drive more structural components with softer features that meet the engineering or design criteria could maximize the ecosystem benefit of the ultimate design.
  - Mr. Delwiche reminded the group that the AdH modeling is for interior features, the StormSim modeling of the exterior is focused on the stone and does not include nature-based features.
  - Mr. Cyran agreed, adding that integration with the engineering in nature toolkit will occur in a later stage. The feasibility study modeling was predicated on stone structure/stone dikes; that's the project starting point. The toolkit will be used to evaluate what, if anything, can be integrated from the softer side into the project design.
  - Ms. Owensby stated that ERDC is planning and discussing multiple future workshops where the engineering with nature toolkit and modeling will be covered to increase people's understanding and awareness:
    - a coastal storm risk management workshop at ERDC in April,
    - a summer workshop with Aquaveo, who develops a lot of the modeling interfaces, and
    - an end of summer toolkit workshop designed specifically for the district.
  - Dr. Melby used the example of overtopping and runup of a low-crested breakwater that was intended to be a nature-based feature – it could be modeled with a mesh model, like ADCIRC or STWAVE, but that is not the model to run 100,000 different events or

10,000 LCs to get the statistical variation. Typically, it would be modeled within StormSim (an empirical model). Or, ERDC could train a machine learning model, but it would be lower resolution and will not model responses on a mesh like ADCIRC, STWAVE, CMS-Wave, AdH, etc. Scenarios can be run with those models, but if a full LC in a statistical context is desired, then that necessitates empirical models. ERDC has empirical models for both hard structures and nature-based features, but they're very different and very separate modeling systems. The empirical models are run within a StormSim-like system and the big hydrodynamic models are run within a CSTORM-like system. CSHORE is a bit of both, it is a 1-D hydrodynamic model and its been built into StormSim so that you can run 10,000 realizations of CSHORE. ERDC can also train a machine learning model and run it inside of the StormSim statistical simulation to run 10,000 cases. ERDC can combine different modeling systems to look at a specific problem. Dr. Melby noted that for the feasibility study ERDC built nature-based features into the stochastic simulation model and all those physics were done with mostly empirical models.

  - He added that there are other models that are somewhere in-between, like CSHORE, which is a hydrodynamic model. It's run on a mesh but it's semi-empirical. It runs fast and can be run through lots of different statistical realizations. Decisions must be made whether to run specific realizations of a problem scenarios. Those can be run with a mesh model. But most of the mesh models, like ADCIRC and STWAVE, don't have the resolution to model, for example, overtopping and runup on a coastal structure – those are typically modeled with a StormSim-type model.
  - ERDC is familiar with mixing and matching different modeling systems and capabilities to meet different needs, especially as project stakeholders have different perspectives and request different kinds of results. There’s a very rich environment of modeling systems available, it just depends on which problem is being solved, how much realization, how much statistical fidelity, and whether the objective is to generate statistics, because ERDC isn’t running AdH in a stochastic simulation with 10,000 realizations. They’re going to run that with scenarios.

- Ms. Sowers advised that the next step is to determine timeframes. The group needs to understand how long modeling will take and when certain investigations would need to begin in order to achieve the group’s objectives.
  - The USACE will develop a modeling schedule.

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting – NEPA and Habitat Working Group

28 March 2023; 9:00 am – 1:00 p.m.

Meeting information:
Microsoft Team Call

1. Introductions (10 minutes) – Maura Morris/MES

2. Barren Island Phase I Construction (10 minutes) – Angie Sowers/USACE

    a. Construction Update
    b. On-going surveys
        i. H&H – Initial monitoring data (October and November 2022)

NEPA

3. Barren Island Phase 2/3 Planning (30 minutes) – Angie Sowers/USACE
    a. Borrow Area supplemental Environmental Assessment
        i. Bathymetric survey results
        ii. Projected sand quantities needed by project component
        iii. Cultural surveys – ongoing
        iv. Bird islands – reef design considerations
    b. Projected Dredging Quantities/Funding Available Honga River Dredging for Placement and Prioritization of wetland cells for restoration

4. James Island sEIS (5 minutes) – Angie Sowers/USACE
    a. Update – OFD Concurrence Point #2 Completed; report drafting continues
    b. Cultural surveys – ongoing

Break (10 minutes)

Habitat Working Group

5. Wetlands Design Discussion
    a. Design metrics preview (10 minutes) – Angie Sowers/USACE
    b. Evolution of wetland design at Poplar Island (30 minutes) – Lori Staver/UMCES
        i. Elevation and elevation capital, and
        ii. Ongoing wetlands modeling to guide redefining the marsh ratio
    c. Hummock design guidance (15 minutes) – FWS
    d. Vegetation monitoring as it pertains to reference marsh identification (15 minutes) - FWS
    e. Path forward to establish design criteria (15 minutes) – elevation, low to high marsh ratio, channel metrics, use of reference sites – Angie Sowers/USACE

6. Discussion (1 hour)

7. Wrap up/Action Items

Mid-Bay Island Ecosystem Restoration Project
Agency Coordination Meeting - NEPA
Virtual Microsoft Teams Call
March 28, 2023, 9–1:00pm

Attendees:

Anchor QEA	Karin Olsen
Chesapeake Bay Foundation	Doug Myers
Maryland Critical Areas Commission (MD CAC)	Jennifer Esposito, Ann Sekerak
Maryland Department of Natural Resources (DNR)	Maggie Cavey, Becky Golden, Roland Limpert, John Moulis
Maryland Department of the Environment (MDE)	Mary Phipps-Dickerson, Matt Rowe, Danielle Spendiff
Maryland Department of Transportation Maryland Port Administration (MDOT MPA)	Amanda Peñafiel, Dave Bibo
Maryland Environmental Service (MES)	Maura Morris, Christine Offerman, Alexa Poynter
Maryland Historical Trust (MHT)	Troy Nowak
National Oceanic and Atmospheric Administration (NOAA)	David Bruce, Jonathan Watson
University of Maryland Center for Environmental Science (UMCES)	Dr. Peter Goodwin, Lorie Staver
US Army Corps of Engineers Baltimore District (CENAB)	Joe Chandler, Ian Delwiche, AJ De Rosset, Charles Leasure, Trevor Cyran, Angie Sowers
US Environmental Protection Agency (EPA)	Megan Fitzgerald, Tim Witman
US Fish and Wildlife Service (USFWS)	Robbie Callahan, Sabrina Deeley, Peter McGowan, Amy O'Donnell
US Geologic Service (USGS)	Jeffery Sullivan

A**ction Items:**

- MES will provide the group with the meeting presentation and meeting recording. *(Documents were uploaded to the Mid-Bay Google Drive)*
- Ms. Sowers will follow up with Mr. Bruce regarding the locations of the currently monitored reference wetlands.
- Ms. Staver or Ms. Poynter will send Mr. Bruce the year that the Cell 4D inlet was converted from metal pipes to an open inlet.

1.0 Introductions

- Ms. Morris conducted roll call and welcomed everyone to the meeting.
- Ms. Morris reviewed the outline of the meeting and noted that the meeting would be recorded.

2.0 Barren Island Phase I Construction – Angie Sowers [US Army Corps of Engineers (USACE)]

- Ms. Sowers provided a construction update.

  - Ms. Sowers noted that the Barren Island Construction Safety Figure was distributed on 3/10/2023.
  - Phase I Construction is underway at Barren Island and will focus on the installation of the new sills.
  - A meeting is scheduled with the watermen on 4/13/23 to discuss the safety figure, current construction updates, and the sand borrow area that will be utilized in Phase II Construction.
- Ms. Sowers provided a brief update on the profilers, which were deployed around Barren Island in October 2022.
  - Consistent water velocity information was collected from the three profilers deployed.
  - Data was downloaded from the profilers in December 2022 and February 2023.
  - T Additional buoys were deployed to mark the profilers for safety reasons.

3.0 Barren Island Phase II/III Planning – Angie Sowers (USACE)

Borrow Area

- Ms. Sowers explained the Barren Island supplemental Environmental Assessment (EA) did not include use of a borrow area, so an additional supplemental EA (sEA) is being completed.
  - Sand is required for foundation remediation in the northeast, constructing the Bird Islands, and the internal dredged material containment structures (possibly geotubes) during Phase II Construction.
- The current focus for Barren Island Phase II Construction is the evaluation of the borrow area.
  - Two smaller focus areas have been identified as the preferred alternative based on the geotechnical data and current evaluations.
    - Evaluations to locate a borrow area looked at the suitability of material (grain size), quantity of material available, impacts to commercial fisheries, impacts to habitats, size of impacted area, and overall costs.
    - Through coordination with watermen, the preference is to site the borrow area as far north as possible within the larger southern borrow area. Additional input may be received from stakeholders and natural resource agencies when the National Environmental Policy Act (NEPA) evaluation is put on public review.
  - Cultural surveys in the two smaller areas are underway.
  - The USACE is determining the best way to contract the borrow area dredging. Dredging contracts typically provide a maximum allowable depth for the contractor, and it is most efficient to dredge at least 5 feet of depth at a time, any shallower than 5 feet and the effort becomes less efficient.

Confinement Recommendation and Decisions

- Regarding dredged material containment, various recommendations have been received; the USACE has selected geotubes for this effort. Once the placed dredged material is stable geotubes will be opened and the sand will be graded into the wetlands.
  - Geotubes were selected in order to ensure material is retained to reach the desired elevations, maintain water quality during dewatering to stay within permitting

requirements, and ensure material is not lost to the existing wetlands or the open Bay.
    - This approach is anticipated to result in non-hardened channel shorelines within the wetland cells. Regarding channel formation, after reviewing lessons learned from Poplar Island and the USACE Engineering with Nature team, it was determined that main channels and most likely secondary channels would need to be mechanically formed; however, the lower order channels will likely be able to form naturally.
    - There may be flexibility in containment in southern wetlands due to the scraped edge. The USACE is determining if the existing shoreline could serve as internal containment, thus reducing the amount of sand and geotubes that will be necessary.

Sand Needs

- Estimates of sand needs were given for containment, foundation replacement and habitat creation.
- The current budget will allow dredging of about 200,000 cy from the Honga River. That material will be used to create wetland cells.
- Ms. Spendiff asked about the timeline of wetland creation in the south cell and suggested collaboration between agencies. Mrs. Sowers said that the timeline could vary but there will be opportunity for input.
- Mr. Watson expressed concerns about impacts to aquatic systems related to the dredging of the borrow area.
    - Mr. Delwiche explained that using material from the Honga River to create the bird islands, as originally discussed, would lead to more uncertainty. The material would not be free draining and may cause structural concerns.
    - It was explained that the USACE would continue to look for ways to reduce the amount of sand required.
    - Ms. Phipps-Dickerson explained that dredging deeper to impact less area within the borrow area could lead to permitting issues, if the permitted depth (5-7 feet) is surpassed.

Updates

- The plan is to have two reefs structures, hopefully made of reef balls, in front of the bird islands to enhance habitat value.
- Mr. Watson expressed support for reef ball habitat. Mr. Bruce expressed the importance of increasing the heterogeneity of the fish habitat.
- Doug agreed with the reef ball plan and mentioned potentially using a concrete formula that uses dredged material as a potential demonstration project. He noted, in order to support oysters, the reef balls would need to be at least 1/2 meter off the Bay floor.
- Mr. Callahan expressed concern for bald eagle and heron nesting habitat in the southwest area.
    - It was explained that all time of year restrictions would be followed. Coordination with natural resource agencies and Maryland Department of the Environment will be performed if impacts are anticipated.

4.0 James Island Supplemental Environmental Impact Statement (sEIS) – Angie Sowers (USACE)

- Ms. Sowers review actions for the James Island sEIS to date.
    - Notice of Intent was provided on 11/7/22.
    - Coordination Letter to Cooperating Agency was also sent in November 2022
    - Concurrence Point 1 – Purpose and Need – January 2023
    - Concurrence Point 2 – Alternatives – Initiated in March 2023, in progress
    - Cultural Surveys in progress.
    - Schedule
        - Draft sEIS for internal review – May 2023
        - Public Review – September 2023
        - Record of Decision – May 2024
        - Water Quality Certification/Tidal Wetlands License - Summer 2025

Habitat Development Workgroup

5.0 Wetlands Design Discussion – Angie Sowers (USACE)

- Ms. Sowers shared potential design parameters.
    - Geometry
    - Percent ponding on marsh surface
    - Sinuosity
    - Drainage Density
    - Channel length ratio
    - Bifurcation ratio
    - Channel distribution ratio
    - Hydroperiod
    - Tidal prism

Evolution of Wetland Design at Poplar – Lorie Staver [University of Maryland Center for Environmental Science (UMCES)]

- Ms. Staver explained that the Chesapeake Bay will experience sea level rise at a higher rate than the rest of the world and that rate is increasing. This needs to be kept in mind with marsh design.
- Marshes can respond to sea level rise through transgression, which is the lateral migration of the marsh and vertical accretion, which occurs via sediment trapping and organic matter deposition from macrophytic vegetation. Ms. Staver noted that organic matter deposition is the major contributor to accretion rates at Poplar Island.
    - Vegetation density can promote vertical accretion by allowing sediment trapping.
    - Macrophyte biomass production has a parabolic response curve to elevation. Biomass production is lower at elevation higher or lower than the optimal elevations. At lower elevations, biomass production will decrease in response to sea level rise (less “elevation capital”), while at higher elevations, biomass production will increase in response to sea level rise (more “elevation capital”).
        - To increase “elevation capital” higher initial elevations of each zone within the tidal range can be used or shifting of the high marsh/low mash ratio can be adjusted.

- The Poplar team is working with Mr. Jim Morris who created the Costal Wetland Equilibrium Model that examined different high marsh/low marsh ratios under different sea level rise scenarios. The main findings were move to a 50/50 high marsh/low marsh ratio based on survival and carbon sequestration results.
- Mr. Watson discussed the ratio of low versus high marsh and asked if the model allows us to know when intervention will be necessary to maintain the vegetated area. Ms. Staver said the model is capable of that, but data is not available to hindcast to validate the model. She suggested deferring to Mr. Morris for future discussion on this.
- Mr. Bruce expressed concern over the uniformity of channel widths around Poplar Island and letting the smaller channels form naturally. He asked what the dimensions are of the "natural channels" Ms. Staver says she has not observed natural channels development other than due to muskrat activity. Also, it can depend on how the sediment is handled. Natural channel formation could occur if the sediment is left wetter and not meant to be driven over.
- Mr. Bruce suggested mechanical methods to create smaller channels. Like farmers creating drainage in their fields.

Hummock Design Guidance – Peter McGowan [US Fish and Wildlife Service (USFWS)]

- Mr. McGowan began by showing a figure of the eight manmade hummocks in Poplar Island Cell 3C.
- Hummocks were proposed at Poplar Island at the end of 2011 to create habitat and topographical diversity within the marsh and focused on American black duck nesting habitat.
    - Construction of the eight hummocks in 2016.
    - A hummock monitoring plan that focused on wildlife usage was completed and initiated in spring of 2021.
- Hummock benefits were reviewed and include:
    - Increase plant and animal diversity.
    - Provide isolated areas within the marsh interior for wildlife use.
    - Important area for secretive marsh birds and American back duck that are easily disturbed by humans.
    - Nesting habitat for saltmarsh sparrow.
    - Can have a positive effect on hydrology and soil chemistry.
- The elliptical, 0.22-acre hummocks were constructed in the low marsh at an elevation of +3.5 - 4.0 feet.
- The hummock monitoring plan includes both wildlife monitoring and vegetation monitoring. Results will determine if hummocks are warranted in future wetland cells.
    - Wildlife monitoring
        - Small mammal live traps, game cameras, direct observation of wildlife presence.
        - Monitoring is conducted five consecutive days four times per year during the midpoint of each season.
    - Vegetation monitoring
        - Three transect lines were establish across each hummock.
        - Stem height, percent cover, percent abundance, species diversity were all measured.

    - Results for the 2 years of monitoring completed include the following:
        - 31 total animal species were observed (25 avian, 5 mammalian, and 1 herpetofauna species).
            - Seven avian nesting species, including gadwall.
        - 20 species of plants were observed (shrubs, forbs, and grasses).
            - None of the original forbs that were planted were found.
- Mr. McGowan review his final recommendations:
    - The elevation should be high enough to prevent overtopping by high tides.
    - Monitoring should occur the year planting takes place to record plant survival and wildlife damage.
    - Identify target wildlife species and plant accordingly.
- Ms. Morris asked if there were reference habitats used to select what was planted. Mr. McGowan said that reference hummocks were not used, but species that would tolerate the saltmarsh habitat were selected.
- Ms. Sowers asked about the size and slope of the hummocks between the high marsh and these habitats. Mr. McGowan stated that it is a gentle slope, and the hummocks are about 0.22 acres.
- Ms. Sowers asked if the hummocks should be located to the interior of a cell rather than near the dikes. Mr. McGowan confirmed that isolation is better to avoid disturbances, but added they should be near a channels. Ms. Sower asked if there should be any connectivity between hummocks. Mr. McGowan stated that they are less than 100 yards away from one another. Mr. McGowan suggested planting shrubs to 30-40% of the coverage if a target species is American black duck.
- Mrs. Poynter added that the Poplar Island supplemental EIS included the recommendation to include hommocks for waterfowl. In 2006, through adaptive management, they established the criteria of a target of approximately 1 acre and the vegetation target of about 40%. There are 1.5 acres in the developed wetland.
- The hummocks are made of a mix of dredged material and sand.
- Mr. Watson suggested varying the material makeup of the hummocks based on the nesting needs of terrapins versus ducks versus snakes, etc.
    - Ms. Poynter confirmed that there will be habitat features created specifically for terrapins (dune like habitat). She also confirmed that these hummocks are included in the low marsh acreage.
- Mr. Watson asked if Mr. McGowan has observed other species like killifish using the hummocks
    - Ms. O'Donnell said that there are ponding that could support these species. Killifish are observed in vegetated portions of the wetland.
- Ms. Morris asked Ms. Poynter when the nest dune type habitat will be constructed. Ms. Poynter confirmed that the next wetland cell would finish receiving inflow this winter. This dune habitat is adjacent to the existing terrapin habitat and would utilize a portion of a cross-dike. This cross-dike is to be removed and then some of the sand would be transferred adjacent to the inlet.
    - Terrapin monitoring would be conducted after construction.

Poplar Island Restored and Reference Marshes – Robbie Callahan (USFWS)

- Mr. Callahan stated marsh monitoring at Poplar Island is conducted annually for the first five years after a restored cell is planted.
- Reference marshes were first monitored in 1996. Beginning in 2003, they were monitored every four years.
- A survey based transect method that has four transects in each of the marsh areas is used. There are four sampling locations along each one of those transects (two in the low marsh and two in the high marsh) to get a marsh average.
    - Percent cover, stem length, and species diversity are determined and used for tracking adaptive management goals, current wetland management, and future wetland designs.
    - Marsh migration is also monitoring in the restored cells. All restored marshes, except for one are showing marsh migration. The low marsh is moving up into the high marsh by 2-10 meters on average.
- The original objective of reference marsh sampling was to determine a baseline marsh community and to gain a better understanding of how the natural processes are affecting the natural marshes and to look for any trends that may develop and document change or stability in the reference marsh vegetation. Mr. Callahan explained some of the challenges when using reference marshes.
    - The reference marshes are hundreds or thousands of years old, whereas the restored marshes are at most 20 years old.
    - The material composition is different.
    - Nutrient availability in restored marshes is high, which leads to a wave of boom/bust cycle of stem heights.
    - There is a difference in diversity levels due to age and limited planting stock.
    - There is a difference in marsh cover and accretion rates.
- Mr. Callahan reviewed his final recommendations:
    - Reference marshes have useful functions and data but direct comparisons to restored marshes are limited.
    - Comparing restored marshes from previous projects may prove to be more useful.
    - Reference marshes in projects area are a barometer for local conditions.
    - Consider having local and previously restored marshes as reference marshes for the project.
- Ms. Sowers asked if they had considered using seeds from other species rather than live rooted material when planting the wetlands. Mr. Callahan said there was limited success with this method; live rooted stock was more cost effective.
- Mr. Bruce suggested having reference marshes for James Island at locations in the Honga River or Little Choptank River. Mr. Callahan agreed.
- Ms. Poynter clarified that the Poplar EIS stated that the low marsh would be dominated by Spartina alterniflora and a percentage was specified in the tidal wetlands license. Although the percentage of other species recommended by USFWS has increased in recently developed cells, a target in the adaptive management plan of greater than 80% S. Alterniflora is listed.

6.0 Path Forward to Establish Design Criteria – Angie Sowers (USACE)

- Ms. Sowers reviewed future steps for establishing habitat design criteria.
    - Use reference sites with a primary focus on Poplar Island and Barren Island Wetlands. Other potential sites include Fishing Creek. Blackwater NWR, Swan Island, Deal Island.
        - Mr. Watson advised that Swan Island and Deal Island not be used as reference sites for low marshes.
        - Ms. Phipps-Dickerson said she believes it is important to include a naturally occurring wetland as a reference site. Mr. Watson and Mr. Callahan agreed.
        - Ms. Sowers asked Mr. Callahan where the reference marshes on his slides were located. He said that there is one reference marsh on Coaches Island and the rest are on the Eastern Shore starting north of Poplar Island and ending at south Tilghman Island. It was agreed that these are too far north to be referenced for James Island.
        - Ms. Sowers suggested using the USGS UVVR to identify potential reference marshes. Ms. Staver agreed for larger-scale marshes, but possibly not small-scale marshes.
        - Mr. Watson suggested considering the distance to higher marsh edge when selecting a good reference marsh and to consider edge erosion as a factor.
    - For Elevation – utilize data from Poplar Island, Barren Island, and Swan Island relating to elevations and vegetation type to identify target elevation under existing conditions. A planning trajectory for sea level rise should be included to identify target elevations for a future implementation point.
        - Ms. Staver suggested transects on Barren Island and Swan Island from the water line to upland edge. This could be fed into the coastal wetland equilibrium model.
        - Ms. Morris clarified that you need tidal date for that model, and they agreed that data from the tidal gauge at Solomon's island could be used.
    - Low to high marsh ratio: evaluate results of CWEM to determine if 50/50 is the most suitable ratio to balance need for sufficient low marsh resources and habitat value with high marsh capital to enable low marsh progression with sea level rise.
        - Ms. Morris confirmed that the model will be used to look at elevation and that ratio whereas the reference marshes will be used to look at how we are doing in the long run and to make comparisons to the natural environment.
        - Mr. Watson said that they will have concerns about less low marshes as we plan for sea level rise. He stated that creating more high marshes will not solve all the issues related to sea level rise, it needs to be managed.
        - Mr. Bruce suggested maintaining a creek edge habitat and open water pond habitat (within the low marsh complex) with the expected lessening of the low marsh due to sea level rise.
        - Ms. Poynter said that the Poplar team are in the process of calculating that water to marsh edge. That will be an attribute that is tracked in the

adaptive management plan moving forward so that we can capture the benefits to fish.

- Selecting design metrics: The Project Delivery Team will recommend metrics to the HWG for selection based on 1) applicability to the project, 2) the ability to design features into the project responsive to the metric, 3) the ability to incorporate into a modelling, 4) the ability to measure/monitor the metric, and 5) existing information available to inform setting targets. We also want to be able to evaluate the capability to apply adaptive management measures.
  - Mr. Bruce said that inlet outlet structure is important, either maximizing size or increasing the number. Ms. Sowers agreed.
  - Ms. Poynter added that the intention is to eventually remove the box culvert inlets at the developed wetland cells in the future. However, during the island's construction, you have to be able to maintain driving and equipment access throughout the island. Not all the wetland cells could have natural openings.
  - Ms. Staver mentioned that the original inlet of Cell 4D was metal pipes that later collapsed, and they were replaced with an open inlet. That could be used as a before and after if we have data throughout the whole time period. Mrs. Poynter said that the data is sporadic so we would need to look at specific years.
  - Mr. Bruce suggested increasing the complexity of quick creek networks, including increased stream order, size, higher heterogeneity in stream width, and amount of edge.
  - Mrs. Morris confirmed and expressed the importance of balancing all the needs of the group to get the best product.
  - Mr. Watson expressed striking a balance between natural formation and adaptive management versus engineered. Focusing on the function that we want, and then the means that will best get us there.
  - Ms. Sowers agreed.

- Mrs. Morris concluded the meeting.

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting – NEPA and Habitat Working Group

29 June 2023; 9:00 a.m. – 11:30 p.m.

1. Introductions (15 minutes) – Maura Morris/MES

2. Barren Island Phase I Construction Update (15 minutes) – Angie Sowers, USACE

NEPA

3. Barren Island (30 minutes) – Angie Sowers, USACE
    a. Borrow Area
        i. sEA Schedule
        ii. Cultural Survey Results
        iii. Preferred Alternative
        iv. Dredging Design

4. James Island
    a. Modeling Update (15 minutes) Trevor Cyran and Ian Delwiche, USACE
        i. Schedule
        ii. Path Forward

Break (15 minutes)

Habitat Working Group

5. Barren Island Southern Wetland Discussion
    a. Updated Wetland Development/Design (15 minutes) – Angie Sowers, USACE
    b. Habitat Development Updates (15 minutes) – Michelle Osborn, MES

6. Discussion (30 minutes)

7. Wrap up/Action Items

Agency Coordination- NEPA and Mid-Bay Habitat Development Workgroup Meeting
Virtual Microsoft Teams Call
June 29, 2023, 9:00am – 11:30am

Attendees:
Chesapeake Bay Foundation (CBF): Doug Myers
Critical Areas Commission (CAC): Jennifer Esposito
Environmental Protection Agency (EPA): Carrie Traver
Maryland Department of the Environment (MDE): Mary Phipps-Dickerson, Matt Rowe, Danielle Spendiff
Maryland Department of Natural Resources (DNR): Gwen Gibson, Limpert,
Maryland Department of Transportation Maryland Port Administration (MPA): Dave Bibo, Amanda Peñafiel,
Maryland Environmental Service (MES): Maura Morris, Christine Offerman, Michelle Osborn
National Marine Fisheries Service (NMFS): Bruce Vogt, Jonathan Watson
University of Maryland Center of Environmental Science (UMCES): Peter Goodwin
US Army Corps of Engineers Baltimore District (USACE): Joe Chandler, Trevor Cyran, Ian Delwiche, Chris Johnson, Angie Sowers
US Fish and Wildlife Service (USFWS): Carl Callahan, Sabrina Deeley
US Geological Survey (USGS): Jeffery Sullivan

A**ction Items:**
- Ms. Sowers will provide her presentation to the Workgroup. (*Complete. All meeting materials are now available on google drive*).

1.0 Introductions – Maura Morris (MES)
- Ms. Morris conducted roll call and welcomed everyone to the meeting.

2.0 Barren Island Phase I Construction Update – Angie Sowers (USACE)
- Ms. Sowers provided an update on Barren Island construction.
    - Phase I construction began on 3/10 with completion targeted for October 2024
    - Approximately 12% of Phase I has been completed but work is not occurring sequentially due to various environmental time of year restrictions.
    - The profilers continue to monitor; data will be collected again in August 2023 and an update will be provided at the September 2023 meeting.

National Environmental Policy Act (NEPA) Update

3.0 Barren Island – Angie Sowers (USACE)
- The USACE is working on the supplemental Environmental Assessment (sEA) to evaluate the sand sources for Phase II and III construction.
        - Sand is needed for bird island construction, geotubes for containment of dredged material, and foundation replacement on the northeast side of Barren Island.

        - Public and agency review is anticipated in September 2023 with a signed Finding of No Significant Impacts (FONSI) in January 2024.
        - Solicitation of the Phase II/III contract is anticipated in late winter 2024 and award in April 2024.
    - The cultural surveys were completed for the southern borrow area; there were no areas of concern identified.
    - Ms. Spendiff asked for clarification regarding the sEA review in September.
        - Ms. Sowers clarified that the document will be available for a 30-day public and agency review; comments would be due at the end of the 30-day period.
        - Ms. Morris noted that a modification of the Tidal Wetlands License (TWL) is required as well as a new Water Quality Certification (WQC) to support the borrow area.
    - Ms. Sowers provided a preview of the preferred alternative of the southern borrow area which focuses on area 'B'.
        - The watermen would prefer shallow dredging (5 feet) and use of Focus Area B.
        - Focus Area A would only be utilized if material in Area B does not meet expectations.
        - The sEA covers impacts to both Focus Area A and B.
        - Ms. Sowers provided a summary of impacts and evaluations made when considering both the northern and southern borrow areas Honga river and quarry alternatives.
        - The USACE is investigating alternative options to provide sand reduction for the project such as coir logs deployed at Mean High Water (MHW) to provide containment.
        - Coordination is needed with USFWS as they are the property owners to determine the feasibility of some of the sand reduction efforts.
        - The USACE determined that a land-based source of sand would cost 13 times more than the dredging options.
        - The USACE determined that the use of Honga River channel material was not optimal due to the additional time needed to dewater the material, the confinement needed, as well as concerns regarding stabilization.
    - Mr. Rowe asked if there were options for additional sand reduction in the northern end of the island.
        - Ms. Sowers replied that the USACE is currently investigating options to reduce the amount of sand needed.
    - Mr. Watson noted that removal of productive crabbing bottom is not something that National Oceanic and Atmospheric Administration (NOAA) can support and expressed a concern regarding submerged aquatic vegetation (SAV) in the southern borrow area.
        - Ms. Sowers noted that there is no SAV located in the southern borrow area.
    - Mr. Watson asked if Focus Areas A and B were within the southern borrow area.
        - Ms. Sowers clarified that the Focus areas were within the southern borrow area.

- Mr. Limpert asked if the final depth after material removal will be connected to an existing contour depth.
  - Ms. Sowers replied that the material removed would follow the current contours and the slope would remain throughout the dredged area.
  - The plan is to dredge the area and not leave undisturbed areas as to provide enough material for the project from one location.
- Ms. Phipps-Dickerson asked for clarification of the Honga River being removed from consideration for dredging.
  - Ms. Sowers clarified that the Honga River was removed from consideration as a supply of sand, but the location will still be dredged for material to construct the wetlands.
- Mr. Watson expressed a concern regarding the borrow area becoming a hole.
- Ms. Phipps-Dickerson asked if dredging could be made deeper in shallower areas rather than deeper in deeper areas to minimize creating a hole.
  - Ms. Sowers replied that the plan is to contour with the existing bottom, but the team is open to ideas.
  - Mr. Delwiche stated that the area of impacts could be greatly minimized if the dredging went a lot deeper, but the USACE is trying to avoid the creation of a deep hole and create a relatively shallow hole of 5 feet.
  - Ms. Sowers suggested the group keep these ideas in mind when reviewing the sEA and to provide comments which can be discussed and taken into consideration.
  - Ms. Sowers reminded the group of the in-depth conversations held with the watermen who indicated they were comfortable with a 5-foot depth and believed it would infill naturally fairly quickly.

4.0 James Island – Trevor Cyran and Ian Delwiche (USACE)

- Mr. Cyran and Mr. Delwiche provided the NEPA modeling update for James Island.
  - Hydrodynamic (coastal/storm) modeling has occurred.
  - Currently the project is undergoing the lifecycle cost analysis which should be completed in August 2023.
    - The life cycle cost analysis is trying to determine a balance between upfront cost for the project and operations and maintenance costs of the lifetime of the project.
  - Once rock sizes are determined, the team can look towards incorporating nature-based features; a workshop can then be held to discuss the options followed by Engineering with Nature modeling to determine the feasibility of the suggestions.
  - The full design is the last step of the modeling process implementing engineering with nature (EWN) and nature-based features. This process should be completed by July 2025.
- Ms. Spendiff asked how the James Island modeling aligned with NEPA.
  - Ms. Sowers noted that the draft is under development and should be available during the August/September timeframe to discuss the findings/decisions within the document.

- Mr. Rowe asked if a collaboration was to occur to provide a reef structure or some structure outside of the James Island footprint to dampen the tidal effects; would the team be able to utilize smaller stone dikes or configure softer solutions.
    - Mr. Cyran stated that the EWN Toolkit has a modeling program which could apply the suggestion and determine the feasibility; the team would need to coordinate an optimal time to meet with the EWN modelers to investigate the suggestion.
- Mr. Rowe asked once the stone size is selected from the life cycle costs analysis; would the sizing be able to be re-evaluated after the EWN modeling is conducted.
    - Mr. Cyran replied that once the hydrodynamic modeling and life cycle cost analysis is completed, the design team will have an idea on the amount wiggle room allowed within the design for changes.
- Mr. Delwiche noted that the Hydrodynamic modeling determines the wave conditions, water levels for various storms (i.e. 10-year storm, 50-year storm, etc.).
    - The island does not impact the model; the same results would be received if the island was not present within the model. The results are used to determine the wave conditions to the perimeter of the island which allows the team to select stone sizes to prevent erosion.
- Ms. Peñafiel asked, in reference to a reef outside of the project footprint, would it be part of the authorized project.
    - Mr. Cyran replied that there may be room for its inclusion as its providing defense against wave energy; it would have to be investigated if the team decides on that course of action.
    - From a NEPA perspective, the footprint would be changed, which could cause other issues.
- Mr. Delwiche stated that reefs constructed offshore would be comprised of stone.
    - The benefit of the dike is it is comprised of mostly sand with the armored stone around it.
- Ms. Peñafiel noted that the risks determined are related to risk of the future and potential operation and management costs; the State of Maryland will be 100% responsible of the costs once the project is complete.
- Mr. Delwiche detailed the lifecycle cost analysis.
    - Lifecycle cost analysis is a tool used to determine the most cost-effective design for the project.
    - The lifecycle cost is the initial cost of constructing the project (first cost) plus the cost of fixing the project over its lifespan (maintenance cost).
    - Inputs to the lifecycle cost include storm modeling results (wave heights, wave periods, water levels), sea level rise scenarios, and project lifespan.
    - Design alternatives include dike alignments, top of dike elevation, stone size, toe dike elevation and slopes.
    - A series of design alternatives are selected; first costs and maintenance costs are determined for each scenario which are then used to determine the total cost.
        - For the first costs, in relation to severity of design criteria, the least costly design will have the smallest stone, but it will not be able to hold up to more severe storms, while the costliest design will have the largest stones and be able to hold up against the anticipated storms and longest times.

        - For the maintenance costs, the least costly design will have the largest stone as replacement of stone will not be as likely.
        - The design scenario outputs provide curves for the first and maintenance costs, which when combined, provide a curve for the total costs; the low point on the total costs curve provides the most cost-effective design.
    - Currently the USACE and Engineer Research and Development Center (ERDC) are interpreting the storm modeling data, performing quality control checks and preparing design alternatives.
    - Nature-based design alternatives and costs will be developed with the EWN group at ERDC after the costs for the stone alternatives are understood.
        - The biggest question for the nature-based solutions is where they would fall on the life cycle cost plot.
        - Nature-based solutions typically fall towards the left side of the plot for first costs denoting a low construction cost, but maintenance costs are anticipated to be greater.
        - Mr. Delwiche noted that nature-based designs are not as understood as stone design in relation to effects from future impacts.
- Ms. Phipps-Dickerson asked what is used to calculate the maintenance costs of the project.
    - Mr. Delwiche replied that the storm model results provide the team with wave conditions and water levels; the Monte Carlo modeling, which randomly selects storms, provides data regarding damages from the storms on the island.
    - From the damages seen during the Monte Carlo runs, the team reviews the costs to fix those damages and average costs of the simulations is used for the maintenance cost; this is completed for each design alternative.
- Ms. Phipps-Dickerson asked if the costs were current costs or included anticipated cost increases of the future.
    - Mr. Delwiche replied that one of the complexities is that costs increase over time.
    - An inflation rate is used as well as a discount rate; the discount rates are taken from Office of Management and Budget reports.
- Mr. Rowe asked if the maintenance costs of Poplar Island have been compared to the projected costs of the lifecycle analysis.
    - Mr. Delwiche replied that Poplar Island has been fortunate to have not had a lot of damages except for a dike breach from Hurricane Isabel; it is difficult to compare to predicted costs as the project is only a few years in and the 100-year predicted storm is only a 1% chance of occurring a year.
- Mr. Rowe also asked if there was accounting for the economic benefit of nature-based solutions.
    - Mr. Delwiche replied that it is difficult to quantify; the analysis assumes that all design alternatives serve the same function, which is to protect our wetlands in the in inside the islands.
    - Incorporating various benefits into the economic analysis introduces a new level of complexity.

  - Regarding the costs of nature-based solutions, construction costs are easily calculated but it adds much more complexity in determining the maintenance costs; the team will be working to determine the maintenance costs of the nature-based solutions.
- Ms. Phipps-Dickerson asked how much weight the cost analysis plays into making the final design.
  - Mr. Delwiche replied that the design is based on the cost analysis, but the lowest cost may not be the correct choice depending on current funding availability among other factors.
  - Mr. Cyran noted that once the cost analysis is complete the USACE and MPA will need to have a conversation regarding the optimal option between both parties regarding the funding responsibilities as the MPA is responsible for 100% of the maintenance costs.
  - Ms. Sowers noted that the team may determine a few design options that are suitable from a design and cost approach which will then be integrated with EWN options as feasible within the determined design constraints.
- Ms. Peñafiel asked at what point will discussions be held regarding risks to be taken with the design.
  - Mr. Cyran stated that if there is allowance for lesser sized stones to be used, that may be the point where CENAB would ask if there was interest in converting that feature to a nature-based solution; the EWN team would be consulted regarding what type of nature-based solution could be utilized to obtain the same protections as the stone.
  - It was noted that the process would be iterative.
- Mr. Rowe asked for clarification regarding the incorporation of suggestions from the Workgroup into the design and inclusion of nature-based features once the step with the EWN Group begins.
  - Mr. Delwiche replied that once the life cycle costs are completed, the design team will bring the results to the Workgroup for discussion and determine which nature-based solutions are desired for implementations.
  - CENAB will begin coordination with ERDC to determine the input process.
  - Mr. Cyran noted that ERDC will be looking at projects from all over the country to assist in determining which nature-based solutions would be feasible, but will be provided with the recommendations from the Workgroup for consideration.
- Mr. Rowe provided a comment and question in the chat before he signed off and it was not answered.
  - Has EWN been involved in these designs for Barren? [I don't believe the EWN ToolKit was used for Barren Island. With that said, softened shorelines and natural reefs (i.e. reef balls not just rock) should be examined during the channel and bird island design].
  - Mr. Rowe expressed a desire for a natural channel formation approach, so the channels naturally form and adjust according to waves/currents.

Mid-Bay Habitat Development Workgroup

5.0 Barren Island Southern Wetland Discussion

- Ms. Sowers reviewed the wetland cell development conceptual plans.

  - Estimated quantities of material was provides for each of the three wetland cells to be developed as well as estimated material available from the Honga River at various depths.
  - The current plan is to begin with development of the southern cell due to the amount of material available as well as to alleviate concerns of erosional effects impacting the colony of colonial waterbirds.
  - There is additional risk for wetland creation in the northern cells as the goal is to not impact the existing wetlands; additional time for consideration is needed to develop a solution.
  - The USACE is investigating the possible use of coir logs along the shoreline instead of geotubes; geotubes would still be needed in the gap between the northern and southern island remnants during wetland development and could then be removed for softer design approach.
  - Ms. Sowers provided an image of the 3rd order channel network design and inlet locations.
    - There are hummocks placed within the wetlands and 50/50 ratio for low marsh/high marsh.
    - Sand habitat and ponds are located at each inlet.
- Mr. Watson asked for clarification regarding the wetland cell heights.
  - Ms. Sowers replied that the goal is to raise, on average, the wetlands surface to +2 foot.
  - Ms. Sowers noted that consolidation of the material would occur.
- Mr. Watson noted that to complete the southern cell a 2-foot over depth would be needed when dredging the Honga River and could be taken into consideration as the NOAA would typically prefer only 1-foot over depth dredging.
- Mr. Watson noted that he is not comfortable with including the channel in the low marsh calculations.
  - Ms. Sowers stated that the low marsh can be calculated without the channel; the team was utilizing the same method done at Poplar Island.
- Mr. Watson asked if the hummocks were also calculated with the low marsh.
  - Ms. Sowers replied that the hummocks are calculated with the high marsh for the Barren Island southwestern cell.
- Mr. Watson asked if there would be two sub cells to split the high marsh and hammocks.
  - Ms. Sowers replied that is unknown at this time.
- Mr. Watson suggested that the design team keep transgression potential in mind as the wetland design is developed further.
- Mr. Watson noted that he supports the ponds and inlets and noted that those types of habitats are successful features at Poplar Island for fisheries habitat value.
- Dr. Goodwin asked if the inlets would require periodic maintenance.
  - Ms. Sowers replied yes, but that some internal rock may be placed to assist in stabilization.
- Mr. Rowe asked, regarding construction sequence, if the idea was to close off the cell, fill, allow for consolidation, sculpt the channels and then open it to flushing.
  - Ms. Sowers confirmed and noted that the containment that will prevent material from going on the existing island still needs to be determined.

- Mr. Bruce suggested using Poplar Island Cell 4A as a template for a future solution to the opening in the northern end of the cell and asked if the two creeks would be able to be connected in the future.
    - Ms. Sowers stated that findings at Poplar Island indicated that inlets with two openings caused the channels to fill in, but noted that there may be an option for a partial connection, at high tide for example.
- Ms. Osborn clarified, regarding low marsh/high marsh calculations, that currently a line separates the plantings which is why the channels are included in the low marsh calculations; if a hummock is placed in the low marsh platform, it would be included in the low marsh acreage.
- Ms. Osborn stated, regarding Poplar Island Cell 4D, that the inlet was opened after construction; the area is heavily armored with additional armoring inside to prevent scarping.
- Mr. Osborn recommended against a pond connecting the two channels as it would ultimately fill in; a second channel may be needed instead, or if the high marsh could be concentrated in the northern area and the channel opening remain in the southern area.
- Mr. Watson asked for clarification regarding the water in the low marsh calculation.
    - Ms. Osborn stated that all water is counted as low marsh as there are only two areas tracked for low marsh/high marsh tracking.
    - Ms. Watson suggested a third area of a mud flat or some other shallow water area to support fisheries habitat.
    - Ms. Osborn stated that these conversations can continue for Poplar Island as well.
- Mr. Callahan agreed with the suggestion of high marsh in the northern section and a larger and deeper channel in the southern section.
    - Ms. Sowers stated that a few scenarios could be modeled to determine viability.
    - Mr. Watson recommended concentrating the high marsh towards the existing upland to open up a nicer pathway.
- Mr. Callahan asked if the high marsh was connected to the island or if there was another waterway.
    - Ms. Sowers replied that the high marsh is connected to the island, the wetland is allowed to touch the existing land up to mean high water.
    - Ms. Peñafiel stated that the Maryland Port Administration (MPA) legal department is working out the logistics and the project does not intend to go above mean high water; the agreement should be available in the next month or so.
- Ms. Osborn provided habitat development updates.
    - The intent is to model Mid-Bay after the Poplar Island Cell 5D which is the most recent wetland cell at Poplar Island and has multiple constraints similar to James and Barren Islands.
    - The constraints include shallow areas outside of the inlet and high marsh located over previously what was a deep hole in the middle of the cell from a previous sand reclamation effort.
    - For Cell 5D the team looked at connecting the habitat types rather than channels since that would lead to shoaling and focused on creating terrapin habitat using vegetation rather than a hardened option to prevent the erosion of the sand dune areas.
    - For applications at Barren Island the development plan for Cell 5D provides a deeper look at how the channels are designed allowing for flexibility based on site constraints and protecting the sand habitat.

  - Assessments have been occurring regarding how changes to the 80/20 low marsh/high marsh ratio could impact resiliency as well as how the marsh functions in general, including impacts to aquatic resources.
  - Results of the modeling indicate that the 80/20 ratio is not ideal for the current rate of sea level rise and recommended a 50/50 ration which would extend the life of the wetland while also providing low marsh habitat functionality in real time.
  - Following the recent Poplar Island Habitat Working Group meeting and the suggestions of the group, the team started working with NOAA to look at the past monitoring data and identify any relationship that can be found between the marsh edge per acre and fish usage of the Poplar Island wetlands.
  - The model utilized for Poplar Island can be used for Mid-Bay utilizing site specific data.
  - The model can also be used to determine if thin lift placement is a possibility, and if used, what the schedule should be; the edge targets can also be used for the Mid-Bay channel designs.
- Mr. Watson stated that NOAA is happy to continue the conversations and evaluate the tradeoffs with adjusting the low marsh/high marsh ratios to ensure enhanced resiliency while preserving function.

Mid-Bay Island Ecosystem Restoration Project:
James Island

Natural and Nature-based Solutions Workshop

11 September 2023; 12:00 - 3:00 p.m.

1. Introductions
2. Workshop Purpose
3. Project Purpose
4. Modeling Progress / Path Forward
5. Preliminary Stone Size Overview
6. Potential EWN Solutions Discussion
7. Wrap Up / Action Items

Mid-Bay – James Island – Engineering with Nature Workshop

Focus: Island Perimeter

Concept	**(1) What are the positives about the concept?**	**(2) What are the negatives about the concept?**	**(3) What is environmentally beneficial about the concept?**	**(4) What is environmentally negative about the concept?**	**(5) What would you change (add, remove, etc.) about the concept?**
Stone Revetment					
Offshore Segmented Breakwaters (or alternate products such as reef ball, oyster castles, etc.*) *USACE can't specify brand name products					

Stone & Vegetated Revetment					
Vegetated Sand Revetment					
Agency Idea #1					

Agency Idea #2					
Agency Idea #3					
Agency Idea #4					

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting – NEPA and Habitat Working Group

26 September 2023; 9:00 a.m. – 12:00 p.m.

1. Introductions (5 minutes) – *Maura Morris, MES*

2. Barren Island Phase I Construction Update (5 minutes) – *Angie Sowers, USACE*

NEPA (10 minutes)

3. James Island sEIS Update – *Angie Sowers, USACE*

4. Barren Island sEA Update – *Angie Sowers, USACE*

Habitat Working Group (1 hour 40 minutes)

5. Natural and Nature-Based Solutions
    a. Define goals/objectives – *Group*
        i. Protect the restored area
        ii. Maximize connectivity between habitats to enhance use by wildlife (ex. softened shorelines)
        iii. Provide heterogeneity in habitats (ex. reef balls/oyster reefs)
        iv. Additional goals?
    b. Define constraints – *Angie Sowers, USACE*
        i. *Legal/funding*
        ii. *Design*
    c. Discuss additional ideas – *Group*

Open Office Hour (time as needed)

6. Questions on Barren Island Borrow Area sEA (comments due by 10/9/23) – *Group*

Mid-Bay Agency Coordination – NEPA and Habitat Development Workgroup Meeting
Virtual Microsoft Teams Call
September 26, 2023, 9:00am – 11:30am

Attendees:
Anchor QEA: Karin Olson
Chesapeake Bay Foundation (CBF): Doug Myers
Critical Area Commission (CAC): Jennifer Esposito, Annie Sekerak
Environmental Protection Agency (EPA): Megan Fitzgerald, Katherine Kent, Carrie Traver
Maryland Department of the Environment (MDE): Danielle Spendiff, Jonathan Stewart
Maryland Department of Natural Resources (DNR): Gwen Gibson, Becky Golden, Roland Limpert, Lindsey Sestak, Rebecca Thur
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Dave Bibo
Maryland Environmental Service (MES): Benjamin Langer, Maura Morris, Michelle Osborn, Alexa Poynter
National Marine Fisheries Service (NMFS): David Bruce, Jonathan Watson
University of Maryland Center of Environmental Science (UMCES): Lorie Staver
US Army Corps of Engineers Baltimore District (CENAB): Trevor Cyran, Ian Delwiche, AJ De Rosset, Christopher Johnson, Angie Sowers
US Fish and Wildlife Service (FWS): Robbie Callahan, Amy O'Donnell, Sabrina Deeley
US Geological Survey (USGS): Jeffery Sullivan

A**ction Items:**
- Follow-up meeting materials will be provided to the Workgroup for review.
- Ms. Staver will provide a study on water elevations in relation to the draft target wetland platform elevations.

1.0 Introductions – Maura Morris (MES)
- Ms. Morris conducted roll call and welcomed everyone to the meeting.

2.0 Barren Island Phase I Construction Update – Angie Sowers (USACE)
- Phase I construction began on 3/10 with completion targeted for October 2024.
- Approximately 29% of Phase I has been completed; construction is not occurring sequentially due to various environmental time of year restrictions.
- The USACE in the process of determining if the colonial waterbird nest on the southern Barren Island remnant is active this year and asked the Workgroup to provide any available information.

National Environmental Policy Act (NEPA)

3.0 James Island Supplemental Environmental Impact Statement (sEIS) Schedule Update – Angie Sowers (USACE)
- The internal draft James Island sEIS is near completion. Internal reviews and updates associated with the developing engineering with nature (EWN) components are expected to occur from October 2023 through spring 2024.

- The USACE has tentatively allocated 30 acres beyond the island footprint for external EWN features.
- The public agency review is targeted for spring 2024 with a signed Record of Decision (ROD), to complete the NEPA review process, anticipated for October 2024.
- Permitting is anticipated to be completed in early to mid-2025 with construction following shortly after.

4.0 Barren Island Borrow Area supplemental Environmental Assessment (sEA) Schedule Update – Angie Sowers (USACE)

- The Barren Island Borrow Area sEA is currently undergoing public and agency review. The review period concludes on 10/9/23.
- Comments will be addressed, and internal review of the final document will be conducted from October through December 2023.
- The signed Finding of No Significant Impact (FONSI) document, to complete the NEPA process, and completed permitting is anticipated for January 2024.

5.0 Natural and Nature-Based Solutions - USACE

- EWN Formulation Update
  - The life cycle cost analysis was completed in September 2023. This analysis is used to help determine the perimeter dike stone sizes.
  - The first James Island EWN/Natural and Nature-Based Solutions Workshop was held on 9/11/23 to obtain stakeholder feedback and suggestions.
  - The USACE is currently working on developing and refining the stakeholder suggestions, interfacing with the Engineer Research and Development Center (ERDC) team and conducting evaluations and modeling.
  - A second workshop will be held in early 2024 to discuss any results of the evaluations and modeling and which EWN components will be incorporated into the design plans.
- Overview of the USACE Project Process
  - The feasibility study was conducted from 2002 to 2009. The USACE worked with a sponsor to evaluate the opportunities, constraints, and goals associated the project. Alternatives were documented, modeling was conducted, and the NEPA process was completed.
  - A Chief's Report was completed in 2009 and the recommended alternative was presented to and authorized by Congress for construction under the Water Resources Development Act (WRDA) of 2014.
  - The Barren Island Phase I design phase began in 2019, was completed in 2022, and has since progressed to the construction phase.
  - The remainder of the design will be conducted under the construction phase of the project.
- The authorized recommended plan components for James Island consists of:
  - Constructing a 2,072-acre island with a habitat proportion of 45% upland to 55% wetland
  - Constructing a +20-foot upland dike (the dike heights will be built higher than +20 feet in order to contain the dredged material prior to dewatering)
  - An option to reconfigure the wetlands and upland ratios during design

- Providing 90 to 95 million cubic yards (mcy) of capacity to place clean dredged material over more than a 30-year period
- Constructing approximately 45,000 linear feet of armored dikes, breakwaters, and/or other structures
- Creating an access channel and turning basin off the northwest corner of the island, and
- Constructing a personnel pier and facilities needed for site operation.

- James Island Construction Sequence
  - Phase one of the initial construction is anticipated to begin in 2025 and will consist of constructing the upland dikes and stockpiling sand from the upland borrow area. The second initial phase will consist of building the personnel pier and site facilities.
    - Mr. Myers inquired about the dredged material capacity obtained from dredging sand from the upland borrow area. Mr. Delwiche responded that approximately 15-20 mcy of sand is estimated to be within the borrow area; therefore, the borrow area could provide up to approximately 20 mcy of dredged material placement capacity.
  - The wetland cells are currently planned to be constructed from south to north.
    - Mr. Myers inquired about the sequencing for dredged material placement. Ms. Sowers responded that dredged material will be placed in the upland area after placement in the wetland cells.

Constraints

- Congressional authorization limits project alterations without undertaking a Limited or General Reevaluation Report, which takes a minimum of three years to complete.
  - The feasibility study does include flexibility for some features:
    - "Tidal Guts – Further hydrodynamic analysis will be conducted in the Pre-Construction Engineering and Design (PED) phase to determine if the entrances to the tidal gut from the Chesapeake Bay will require a limited reach of stone armor." Ms. Sowers stated that this allows the potential incorporation of offshore breakwaters and reef structures to soften the inlets as construction progresses.
    - "Habitat Enhancement – Design Details will be investigated during the next project phase, PED, which would likely enhance the habitat value of the proposed island. For example, NMFS suggested diversification of proposed shorelines to provide more habitat benefits to finfish using adjacent waters. Specifically, small coves lined with smooth cordgrass marsh would be attractive foraging habitat for juvenile summer flounder. The east side of James Island could be diversified with a series of small coves and/or crenulations. The cove should tie into the 9' to 10' depth contour, to increase its value to recreational fishing. The southern tip of the preposed James Island may also be suitable to a cove. Maximizing the number of tidal ports is another design element that would enhance the export of detritus and other energy from the wetland cells."
  - Regarding the perimeter feature only;
    - Solutions cannot cost more than the perimeter dike recommended to Congress.
    - Solutions cannot create operation and maintenance requirements above and beyond those estimated in the recommended plan to Congress ("2% or less of project cost", approximately $2M/year using 50-year life cycle).

        - Solutions are limited to the footprint of the recommended plan to Congress except for "shorelines to provide more habitat benefits for finfish using adjacent waters." There is also some flexibility with tidal gut entrance design.
    - Solutions must have a similar level of resiliency as the stone solution.
    - Upfront and maintenance costs must be able to be predicted over the life of the project.
    - Solutions must not utilize more sand resources than what are available. There are approximately only enough sand resources to implement the authorized plan.
    - Solutions must not reduce the island's dredge material capacity.
    - Solutions must provide for control of sediment during inflow.
    - All options should generally maintain the authorized project footprint.
    - The design process must maintain schedule to provide placement capacity as Poplar Island reaches capacity.
    - Access for construction (roadway) is required.
    - Ms. Sowers also noted the sand borrow area limits the location of wetlands, which has associated ramifications for connecting uplands and wetlands (constraint for internal habitat development).

Goals/Objectives

- Solutions must add habitat value (particularly for fisheries)
- Increase connectivity between fisheries to wetlands habitat, uplands to wetlands, and others.
- Provide capacity for high marsh to develop into low marsh as sea levels rise.
- Provide capacity for thin layer placement (TLP) at a future time(s) to maintain marsh elevation in face of sea level rise (SLR).
- It was asked what the purpose/goals were for reducing the hard structures.
    - Mr. Watson stated that softening shorelines complements the goal of increasing connectivity by creating a steppingstone of suitable habitats for larger fishes and aquatic life to enter into the island. The goal should be to maximize the ecological utility of the interior and exterior of the island to ensure the productivity of the wetland cells are exported into the Bay and thereby benefitting aquatic life and offsetting some of the impacts associated with filling 2,000 acres of Bay bottom.
    - Mr. Myers stated that another purpose of reducing hardscape would be to lower portions of the dike to a bathymetry that would support oyster reef development. This could be conducted in a later phase so as not to impact inflow and consolidation requirements. The hardscape could be removed/reused as oyster habitat.
        - Ms. Gibson stated that Mr. Chris Judy and Ms. Jodi Baxter of DNR Fisheries were provided with the James Island bathymetry map to identify optimal locations for oyster habitat enhancements. Ms. Sowers stated that the recent harvest for the oyster bars surrounding James Island has been added to the master plan.
        - Mr. Callahan asked if the toe dike for the stone revetment would act as a reef structure and naturally colonize oysters. Ms. Sowers responded that all the toe dike depths should be suitable for spat set and added that she has high hopes for natural colonization of oysters from the Little Choptank River and other restored tributaries in the area. Mr. Watson added that increasing the heterogeneity of the homogeneous nature of stone revetments would increase spat set.
        - Ms. Staver stated that her colleague and a graduate student have modeled oyster larvae dispersal in the Choptank and Little Choptank Rivers. Based on this model

and the changes to the hydrodynamics due to island construction, certain areas of the island would be better candidates for subtidal rock structures for oyster settlement.

- Mr. Cyran asked how softening large portions of the stone dikes would support marine species. Mr. Watson responded that softening the dike would increase the chance for marsh and shoreline-oriented species to colonize the interior of the island and increase nektonic assemblages.

- Other goals/objectives:
  - Maximize the heterogeneity, aquatic habitat complexity created by exterior containment structures.
  - Maximize the overall function of the island as an ecological system of interconnected habitats and its hydrologic connection to the aquatic environment.
  - Mr. Watson provided a link (https://www.sesync.org/resources/audio-interview-socio-environmental-resilience) to a podcast regarding three core characteristics of healthy systems from an ecological perspective; connectivity, disturbance regime, and heterogeneity. NMFS would appreciate approaches that take these concepts into consideration.

Proposed Ideas

- Diversify exterior dike to add heterogeneity utilizing structures such as reef balls and or stone reefs.
- Incorporate oysters into the dike matrix and exterior of the island; create stone reef complexes similar to the offshore rock pile adjacent to Poplar Island Cell 2C in 9-10' depths.
- Greater hydrologic connection of James Island with the Bay, including using living shorelines and natural materials in exterior containment design.
- Provide for TLP at a future time; maintain an upland cell to source material.
- Design the main inlets to be natural from the start, with weirs confined to areas inside the project footprint; if not possible, utilize large weirs for inlets.
- Incorporating trees and hardwood into the dike matrix.
  - Mr. Watson provided this comment after the meeting ended: [While the value in woody debris as estuarine fish habitat has been described in the literature (for a local example - Everett and Ruiz 1992), we are not advocating for its use on the exterior of the project. Our perspective is that it is not a structural component of a shoreline project in a high-energy setting (i.e., max fetch > 1 mile) and that the benefits are not equivalent to those observed in more quiescent sub-estuaries. They should be considered to add structured habitat in internal pond areas.]

James Island Master Plan Updates

- Ms. Sowers presented a revised version of the James Island master plan incorporating prior feedback as well as EWN ideas. The changes made to the plan include:
  - A fourth inlet on the southern portion of the island
  - Moving the channel network eastward in order to connect the high marsh habitat
  - Adding an array of 300' by 100' stone reefs set 300' apart along the western shoreline with reef balls set in-between
  - Offshore structures in front of the inlets
  - Vegetated islands in some of the channels

- Other design features under development and therefore not included in the current plan include adding intricate design features, such as hummocks, mudflats, and beach habitats, redesigning the channels to have a sinuosity between 1.7 and 2.2, and shifting the northern main channel layout to enable a higher swath of high marsh habitat.
- Ms. Staver asked if Dr. Peter Goodwin's suggestion regarding self-design for the tidal creeks was considered. Ms. Sowers responded that the lowest order channels will be allowed to self-design. Ms. Morris added that after coordination with the EWN staff at ERDC it was determined that enabling the entire channel network to self-design may lead to a failed wetland due to the low grain size of the dredged material not lending towards a more natural stream process.
- Mr. Bruce asked if there are hydrological constraints that prohibit conductivity between the lower order channels, i.e. connecting all the channels together. Ms. Morris responded that some interior dikes were removed at Poplar in order to connect the lower order streams. This resulted in a dropout or settling of material between the connected channels and the channels began to shoal in. For Mid-Bay, it was decided to focus on the connectivity of habitat types instead, i.e., connecting the low marsh habitats.
    - Mr. Watson provided this comment after the meeting ended in regard to Mr. Bruce's question and the answer provided regarding Poplar: [It seems possible that the same phenomenon is not guaranteed to occur at James. Factors that may drive a different response include channels connecting at different aspects of the project shoreline (and therefore differential "pressures" - see Bernoulli principle) and differences in channel size. We request that this question be addressed through modeling. I think some of the modeling work that William Nardin has completed at Poplar would be insightful if adapted to James.]
- Ms. Osborn stated that she is concerned that four inlets will not be enough to flood the low marsh and asked if the number of inlets and associated flooding will be modeled in advance of determining the number of inlets needed. Ms. Sowers responded in the affirmative and stated that the first modeling the USACE will be conducting will be to investigate channel sizing and flushing.
- Mr. Watson provided this comment after the meeting ended: [The channel network and marsh schematic looked generally good, and NMFS appreciates the attention to channel design, with sinuosity as an emphasis. NMFS also agrees that the high marsh to upland connectivity should be maximized, including connections to any surface water features (e.g., freshwater wetlands). While I know that fine-scale habitat features (e.g., hummocks) will be added later, we encourage your team to work toward greater heterogeneity along the platform. For example, the figures presented in Joe Smith's presentations (for example, see: https://www.youtube.com/watch?v=72eY20U7PX8&t=3s , minute 13) indicate that interior ponds and high (relative) relief are common on (unditched) marsh platforms - these would be good to emulate to the maximum extent possible. Joe has frequently remarked that ponds on the interior of large high marsh platforms help to maintain marsh hydrology in dry periods (and provide suitable habitat for black rail). A connection with the uplands could also help to maintain this hydrology and establish more heterogeneous salinity regimes.]
    - Ms. Sowers stated that the follow-up meeting materials will include a timeframe for the group to provide feedback. Ms. Sowers asked the group to provide feedback on location, size, material, and configuration/orientation of the stone reefs and reef ball structures,

how much impact area we want to have, and accumulatively how much of this habitat we want to provide; a placeholder of 30 acres is currently in the sEIS but this amount can be revised. Ms. Sowers added that we want to make sure the sEIS captures all of the footprint impacts for NEPA.

- Mr. Watson provided this comment after the meeting ended: [NMFS supports the inclusion of reefs and believe that some study of broad hydrodynamic conditions should be considered in siting these structures/complexes. This likely deserves additional discussion among a variety of regional biologists. We can work to put together a meeting sometime this fall. Is there a deadline for this feedback, or will the placeholder in the draft James sEIS document suffice for now? The results of the ADCIRC modeling along with any model outputs illustrating anticipated current velocities (similar to those generated for Barren Island) will also be helpful to inform that discussion.]

- The USACE will continue to investigate ideas for softening the eastern shoreline.
- The initial island parameters for the project and a matrix of parameters were shown to the Workgroup and will be provided for review. The initial proposal for the first round of modeling for James Island will use the following parameters: Inlet width between 150' and 200', inlet depth at existing depth, channel width of 150' for 3rd order, 50' for 2nd order, and self-design for 1st order. Wetland elevations are based on Poplar Island data and relationship of WLM, LHM, and HMU breaklines to MLLW, the Barren Island digital elevation model from 2020 LiDAR, and tidal datum projected to 2022 using high sea level curve. Based on this, the platforms at Barren Island ranges between 1.05' and 1.82' for low marsh and 1.82' and 4.31' for existing high marsh. Ms. Sowers asked for input regarding draft target elevations for the James Island marsh platforms.
  - Ms. Morris inquired about the process for determining the Poplar Island marsh platform elevations. Ms. Osborn responded that the initial elevations were determined at design but increased with each new wetland cell due to new data.
  - Ms. Morris asked if UMCES has or knows of any applicable research. Ms. Staver responded in the affirmative and stated that she will provide the research to the Workgroup.
  - Mr. Watson provided this comment after the meeting ended: [NMFS agrees that marsh platform height should be set based on the estimated tidal datum at the time of wetland development (i.e., initial planting). I think the final elevation could be set through some kind of adaptive management approach, given the timescale of the project. It sounds like Ms. Staver has references to provide and I suspect she can direct you to colleagues at VIMS or UMCES for this technical information. We can also reach out to our colleagues at the National Center for Coastal and Ocean Science. If that would be helpful, please let me know.]
- Mr. Stewart provided a comment on behalf of Mr. Matt Rowe based on discussions between the MDE Director's Office and Secretary's Office: MDE may be requiring mitigation for the James Island project due to approximately 2,000 acres of impacts to the Bay bottom. Ms. Spendiff added that the need for mitigation may be dependent on the incorporation of some of the proposed features to the master plan.
  - Mr. Myers asked if mitigation funding was included in the authorized project. Ms. Sowers responded in the negative. Mr. Myers asked who would be responsible for funding any

required mitigation. Ms. Osborn responded that the State would be responsible for funding the mitigation as the USACE will not pay for mitigation for a restoration project.

- Wrap Up/Next Steps
    - The USACE will be discussing ideas regarding EWN with ERDC to determine if any additional analyses or modeling are needed and will continue to develop EWN features/approaches.
    - A second EWN Workshop will be held in late 2023 or early 2024.
    - The USACE will be working to complete the public review for the Barren Island Borrow Area sEA, initiating internal review of the James Island sEIS, continue permitting efforts with the Barren Island Borrow Area, and conducting an initial channel/wetlands modeling for James Island focused on channel sizing to provide sufficient hydrologic connectivity.

6.0 Questions on Barren Island Borrow Area sEA

- Ms. Sowers asked the group if there were any questions or comments on the Barren Island Borrow Area sEA.
    - Ms. Spendiff stated that MDE's comments will be provided by the deadline (10/9/23) and may include mitigation for impacts associated with the borrow area.
    - Mr. Waston stated NMFS would provide a letter with concerns by the October deadline.
    - Mr. Myers asked if borrow area dredging would occur in one cycle or several. Ms. Sowers responded that the borrow area will have three purposes, first to provide material for foundation replacement under the northeast sill, second for the bird islands, and third for any geotube containment structures. Additional material will most likely be needed as material cannot be stockpile on the island. These additional dredging(s) will be from a different location than the original dredging but will still be within the borrow area. Mr. Myers asked if the material in the geotubes will be reused after consolidation. Ms. Sowers responded that the material in the geotube will be reused to grade the shorelines.

Mid-Bay Island Ecosystem Restoration Project

Agency Coordination Meeting – NEPA and Habitat Development Workgroup

14 November 2023; 12:30 p.m. – 2:30 p.m.

1. Introductions (5 minutes) – *Maura Morris, MES*

2. Barren Island Phase I Construction Update (5 minutes) – *Angie Sowers, USACE*

NEPA (20 minutes)

3. James Island sEIS Update – *Angie Sowers, USACE*

4. Barren Island sEA Update – *Angie Sowers, USACE*

Habitat Development Workgroup (1 hour)

5. Natural and Nature-Based Solutions/EWN – *USACE*
    a. Schedule
    b. Constraints and proposed alternatives

Wrap Up (30 minutes)

6. 2024 Meeting Schedule (4th Tuesday) – *Maura Morris, MES*
    a. January 23rd – MWG
    b. Winter (TBD – Holding 2/27) – EWN Workshop
    c. March 26th – HWG/NEPA
    d. June 25th – HWG/NEPA
    e. September 24th – HWG
    f. Fall (TBD– Holding 11/19) – Annual Meeting
7. Action Items and Questions – *Group*

Mid-Bay Habitat Development Workgroup (MB HWG)
Virtual Microsoft Teams Call
November 14, 2023, 12:30pm – 2:30pm

Attendees:
Chesapeake Bay Foundation (CBF): Doug Myers
Critical Area Commission (CAC): Annie Sekerak
Environmental Protection Agency (EPA): Carrie Traver
Maryland Department of the Environment (MDE): Mary Phipps-Dickerson, Matt Rowe
Maryland Department of Natural Resources (DNR): Maggie, Cavey, Gwen Gibson, Becky Golden, Roland Limpert, John Moulis, Tony Redman, Lindsey Sestak, Rebecca Thur
Maryland Environmental Service (MES): Maura Morris, Michelle Osborn, Alexa Poynter
Maryland Historical Trust (MHT): Troy Nowak
Maryland Port Administration (MPA): Dave Bibo, Amanda Peñafiel
National Marine Fisheries Service (NMFS): Bruce Vogt, Jonathan Watson
University of Maryland Center of Environmental Science (UMCES): Lorie Staver
US Army Corps of Engineers Baltimore District (CENAB): Trevor Cyran, Charles Leasure, Angie Sowers
US Fish and Wildlife Service (USFWS): Robbie Callahan
US Geological Survey (USGS): Jeffery Sullivan

A**ction Items:**
- The USACE will provide the natural and nature-based solutions screening matrix to the agencies for review.
- MES will send meeting invites for the 2024 meetings.

1.0 Introductions – Maura Morris (MES)
- Ms. Morris conducted roll call and welcomed everyone to the meeting.

2.0 Barren Island Phase I Construction Update – Angie Sowers (USACE)
- Phase I construction began on 3/10/2023 with completion targeted for October 2024.
- Approximately 33% of Phase I has been completed; construction is not occurring sequentially due to various environmental time of year restrictions.

NEPA Update – Angie Sowers (USACE)

3.0 James Island Supplemental Environmental Impact Statement (sEIS) Update
- The draft James Island sEIS was completed and internal review has commenced.
- Public agency review is scheduled to occur in spring 2024.

4.0 Barren Island Borrow Area supplemental Environmental Assessment (sEA) Update
- The public and agency review period ended in early October 2023.
- The USACE is currently working to address the 69 comments received from the EPA, MDE, MDNR, NOAA/NMFS, USFWS, MD State Clearintghouse, and CBF and revise the sEA.

- The signed Finding of No Significant Impact (FONSI) document, which will complete the NEPA process, is anticipated for January 2024. Once signed, contracting can commence.
- Comments received on the sEA included:
    - Provide further explanation on how potential borrow areas were identified.
        - Ms. Sowers explained that the borrow areas were identified through the 2001 reconnaissance investigation conducted for several of the potential island alignments and refined in order to avoid submerged aquatic vegetation and oyster habitat and their protective buffers.
        - Ms. Thur added that there are aquaculture leases south of Barren Island, within the upper portion of Long Cove, and in the Honga River near the southernmost portion of the Upper Hoopers Island peninsula.
    - Clarify why the focus is on the Honga River versus other local navigation channels.
    - Clarify dredging plans and timing/frequency.
    - Develop a monitoring plan to determine impacts and track recovery of benthics within the borrow area.
    - Provide further justification regarding conclusions made on noise impacts from dredging.
    - Concerns with impacts to commercial watermen who use the area (crabbing).
    - Use of geotubes for containment are likely unnecessary.
        - Ms. Sowers stated that geotubes will still be used as alternatives such as a hay bale containment, similar to those used at Deal Island for the Wicomico River Channel dredging placement, were not successful.
        - The USACE had to issue a contract modification to repair the hay bale containment before dredging started as it was damaged by the wave climate from tropical storm Ophelia. The USACE is issuing another contract modification to repair the hay bale containment now that dredging has started because the inflow is actively deteriorating the containment.
    - Avoid dredging previously undisturbed bottom to source sand; if this can't be avoided, leave undisturbed bottom within the dredging area.
        - Ms. Sowers provided a proposed dredging plan for Focus Area B which would leave the central ~10 acres undisturbed by the first dredging effort. Approximately 15 acres on either side of this central area will be dredged; the total estimated area of impact is ~20-30 acres. This first dredging equates to ~ 90% of the sand needed for the southern wetland containment geotubes, northeast foundation replacement, and the bird islands. At a future time, remaining sand needs would be obtained from either the central area or other options could be considered (other options would need to be documented in the NEPA assessment) to provide sand for the northeast and northwest containment.
        - Mr. Watson asked if the undisturbed central area could be aligned with the existing shoal and if the undisturbed area could be interspersed to leave an artificial area of ridges consistent with the original bathymetry. Ms. Sowers responded that the plan would be revised to adjust the alignment of the undisturbed area but, based on

feedback from the engineers, interspersed narrow strips of undisturbed areas are not feasible.

- Mr. Rowe inquired about woody debris found during dredging operations and downed trees along the Barren Island shoreline and asked if the wood could be reused. Mr. Cyran responded that all large debris that halts dredging operations are typically placed in a separate scow to be disposed of but the contractor could be directed to segregate woody debris for reuse; the USACE would need to know how/where the debris should be used/placed. Downed trees along the shoreline are not moved unless they interfere with the geotube placement. Ms. Sowers asked the group to provide any feedback or guidance regarding how to utilize the woody debris.
  - Mr. Rowe suggested the USACE develop a plan to reuse woody debris as a part of engineering with nature (EWN) if the other agencies think it feasible. Mr. Cyran responded that the engineers would not want to use the woody debris for the initial dike as an organic anomaly would potentially cause a dike failure. The debris could be collected for future use at a later stage of the project, but storing the wood could be a challenge.
  - Mr. Callahan stated that woody debris is not typically found while dredging and is not expected to be found during the James Island construction. Woody debris washes up on the rocks at Poplar Island above the waterline and some below the water line that does provide some structure.
  - Ms. Osborn informed the Workgroup that the wood placed in ponded areas within Cell 5AB at Poplar floated away and washed up in areas that the wood was not wanted.
  - In lieu of recovering and using woody debris for shoreline habitat creation, Mr. Vogt suggested putting more effort/resources towards oyster restoration and utilizing reef balls for shoreline stabilization.
  - Ms. Traver added that if woody debris is used in the design, the debris would need to be anchored to prevent it from moving.
- Better document the connection between benthic habitats and higher trophic levels in the food web.
- Continue to look for ways to minimize sand needs.
- Consider more expansive oyster habitat restoration.
- Limit over dredge depths to one foot rather than two feet.
  - Ms. Sowers stated that the two foot over dredge will remain as decreasing the over dredge would increase the likelihood of additional sand being needed from another location.
- Avoid dredging during warmer months.
- Consider other potential sand sources – York Spit channel material, which is placed at Wolf Trap, Focus Area A. Draw out timeframe to use sand generated from future channel dredging or from the James Island footprint, if excess exists.

        - Ms. Sowers stated that transportation costs are prohibitive for using material dredged from the York Spit channel, Focus Area A will be a borrow area option at a future time.
    - Support for selection of southern borrow area as it avoids oysters and SAV habitat.
    - Agreement on the shallow depth of dredging as it will not require mitigation and is not expected to lead to anoxic conditions.
    - USFWS concurrence on not likely to affect determination during the Endangered Species Act (ESA) consultation and it is not necessary to re-initiate ESA with NOAA.
    - Time-of-year restrictions for dredging within 500 yards of oyster bars.

Habitat Development Workgroup

5.0 James Island – Natural and Nature-Based Solutions/EWN

- Schedule
    - Round 1 of the Life Cycle Cost Analysis was completed in October 2023. The modeling was run without cost data to expedite the determine of which, if any, cross sections would experience damage. Based on the results, only dikes using stone sized for the 10-year event or smaller received damage. Therefore, the 20 and above year storm models do not need to be re-run with cost data. The next step is to review the data to determine which sections of the dike received damage.
    - The USACE is currently in the process of determining which softer EWN features will work in lieu of stone revetments. In collaboration with Engineer Research and Development Center (ERDC) EWN staff, a constraints matrix was developed in order to determine which solutions to move forward with modeling, the next modeling process, and design steps. During this process, it was discovered that the EWN Tool Kit can only determine if the EWN features can obstruct a wave attack. An additional model or other method will be needed to determine if the EWN features will survive a wave attack.
        - Mr. Myers asked if overtopping the EWN features is an option instead of the feature needing to obstruct the wave and if the EWN Tool Kit can model soft solutions and incorporate operation and maintenance to upkeep the soft solutions. Mr. Cyran responded that EWN features can be overtopped as long as the feature does not get destroyed and stated that the EWN Tool Kit was designed for flood risk management and if the tool kit cannot be utilized to model soft solutions than a different model or method for analyzing the EWN features will be needed.
    - Round 2 of the Life Cycle Cost Analysis is anticipated to be conducted in January 2024 in order to re-run modeling with cost data for specific cross sections and softer EWN solutions.
    - The 2nd EWN Workshop will be held in February 2024 to discuss design and modeling outcomes/results.
- Constraints and Proposed Alternatives
    - Authority Constraints
        - The initial cost of the solution is in-line with the recommended project initial cost.
        - Operation and maintenance cost of the solution is in-line with the recommended project O&M cost.

        - Solution can be built within the recommended project footprint with little to no deviation.
        - Solution does not reduce the recommended project's dredged material capacity.
        - Mr. Myers inquired about the feasibility of utilizing geotubes to protect a sand dike solution. Mr. Cyran responded that the consistency of the channel dredged material being placed at James would not be conducive to geotubes; dredged material with a higher sand content would be needed.
        - Solution can provide the same level of protection as the recommended project.
            - Ms. Phipps-Dickerson asked for clarification regarding the 'same level of protection'. Mr. Cyran responded that the solution would need to have minimal risk of failure during a 50-year storm event. Ms. Sowers suggested modifying the header to be more intuitive.
            - Mr. Myers asked if all portions of the dike must have an equal level of protection of if the level of protection differs depending on the portion of the dike in question. Mr. Sowers responded that the level of protection is unique to each portion of the dike.
    - Design/Environmental Constraints
        - O&M costs of the solution are predictable/can be determined.
        - Solution does not require additional sand resources.
        - Solution does not allow for the egress of sediment during inflow.
    - Mr. Rowe asked if ecological benefits could be prioritized. Ms. Sowers stated that habitat/environmental opportunities could be added to the matrix to determine if the solutions have any overlap of benefits.
    - Ms. Gibson asked if the matrix can be provided for agency review/comment prior to ERDC. Ms. Cyran responded that the matrix can be provided for agency review while ERDC is working on it in order to keep on schedule.
    - Mr. Callahan stated that the Poplar expansion has a stone revetment exterior with internal sand dikes to divide up the area into separate cells. While this area is very protected with little fetch, wind, and wave energy, one of the berms has blown out and the other berms within the cells are experiencing massive erosion. The only portions of the expansion not experiencing erosion are at the rock-lined spillway. Mr. Callahan recommended that, in terms of long-term sustainability and ecological uplift, the island's protection be prioritized in order to safeguard the future interior ecological habitat.
    - Mr. Myers inquired about who would be developing the variables associated with the solutions to be used in modeling. Mr. Cyran responded that the USACE Baltimore District will develop 10% concept designs for the solutions that make it through the screening matrix. In regard to offshore breakwaters, Mr. Myers requested that the depth of the structures be included in the 10% concept designs for modeling.

6.0 Wrap Up

- 2024 Meeting Schedule (4th Tuesday):
    - January 23rd – MWG
    - Winter (Holding 2/27) – EWN Workshop
        - Ms. Morris stated that the date for the 2nd EWN Workshop will be based on when the cost analysis modeling results are received.

- March 26th – HWG/NEPA
- June 25th – HWG/NEPA
- September 24th – HWG
- Fall (TBD – Holding 11/19) – Annual Meeting

- Next Steps:
  - Revise and send the Barren Borrow Area sEA draft Final document through internal reviews to achieve a signed FONSI in January 2024.
  - Continue to work through the internal review process for the Janes Island sEIS.
  - Coordinate initiating modeling/evaluation of EWN measures with ERDC and the engineering team.

Monitoring Workgroup Meeting
Mid - Chesapeake Bay Island Ecosystem Restoration Project
January 23, 2024 – 9 AM – 11 AM
Virtual Meeting

1. **Introductions (5 minutes)** **Maura Morris, MES**

2. **Monitoring Schedule Discuss Additional Monitoring Needs (35 minutes)** **Maura Morris, MES**
    a. Borrow Area Benthic Monitoring
    b. Nesting Monitoring to Support TOYR

3. **Detailed Look at 2023 and 2024 Monitoring (60 minutes)**
    a. Turbidity – Kiersten Miller, EA
    b. Submerged Aquatic Vegetation – Rebecca Golden, DNR
    c. Shellfish Bed Sedimentation – Anna Gilmor, MGS
    d. Profiler Monitoring – Angie Sowers, USACE

4. **Discuss 2024 and 2025 Activities (20 minutes)** **Maura Morris and Alexa Poynter, MES**
    a. AMP Updates
    b. Monitoring Framework

B5: Draft sEIS Public Review Comments and Responses

Agency Comments

REGION 3
PHILADELPHIA, PA 19103

May 15, 2024

VIA ELECTRONIC MAIL

Dr. Angela Sowers
U.S. Army Corps of Engineers
Baltimore District Planning Division
2 Hopkins Plaza
Baltimore, MD 21201

RE: Draft Supplemental Environmental Impact Statement for the Mid-Chesapeake Bay Islands Ecosystem Restoration Project at James Island, CEQ #20240053

Dear Dr. Sowers:

Thank you for providing the draft Supplemental Environmental Impact Statement (SEIS) for the Mid-Chesapeake Bay Island Ecosystem Restoration Project: James Island. The U.S. Army Corps of Engineers (USACE), Baltimore District is developing the Mid-Chesapeake Bay Island Ecosystem Restoration Project (Mid-Bay Island Project) in partnership with the Maryland Department of Transportation Maryland Port Administration (MDOT MPA). The Mid-Bay Island Project is located at James Island and Barren Island in Dorchester County, Maryland. This SEIS focuses on the James Island component of the project and updates the September 2008 *Mid-Chesapeake Bay Island Ecosystem Restoration Integrated Feasibility Report and Environmental Impact Statement (EIS)*.

The Mid-Bay Island Project addresses the need to restore remote island habitats to benefit wildlife including a diverse assemblage of birds, fish, herpetofauna, and invertebrates, and to develop an acceptable long-term approach for dredged material placement. Construction is slated to begin in 2025 and extend over 43 years. Upland placement capacity would last at least two years beyond anticipated wetland placement. The project has a 50-year service life following construction.

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). The CAA Section 309 role is unique to EPA. It requires EPA to review and comment on the environmental impact on any proposed federal action subject to NEPA's environmental impact statement requirements and to make its comments public.

EPA did not identify significant public health, welfare, or environmental quality concerns to be addressed in the final SEIS and is providing limited comments at this time to improve the assessment and/or environmental outcome of the proposed action as we expect to remain engaged in the project

development. EPA has worked collaboratively with the USACE and anticipates having further discussions as the Mid-Bay Island Project is developed through the work groups and interagency meetings.

As stated in our December 7, 2022 scoping comments, the need to restore island habitat and support a diverse assemblage of birds, fish, herpetofauna, and invertebrates should not only guide the design of James Island and its habitat features, but also inform appropriate monitoring and benchmarks to ensure that the project goals are being met. We expect that discussions among the USACE and other agencies will identify the ecological communities and habitat components for target species or assemblages that will drive the project goals and inform the Adaptive Management Plan.

Overall, minimizing potential tradeoffs and adverse impacts, providing suitable habitat for target species, and reducing risks to vulnerable species (invasive species, predators, mortality from flooding, etc.) should be key considerations in design, operation, and maintenance of the project. We also recommend clearly incorporating minimization of impacts into design components of the project where possible, including the access channel and turning basin.

- We note that Section 6.15 discusses lighting impacts on humans, including nearby residents. Lighting impacts on species should also be assessed and reduced where possible, especially during nesting and migratory seasons.

- As outlined in Section 6 (Impacts to Project Area), developing management plans for avifauna or mammals may be necessary as well as with invasive species management.

- During planning phase of the project, it will be critical to fully address potential issues such as access, trespass, and human-caused damage/vandalism. As noted on page 95 "Human visitation would be controlled throughout the construction period of the James Island project…It is likely that after the project is completed and turned over to the local sponsor there could be both controlled and uncontrolled visitation." Recreation appears to be an expected use as described in 6.22.2. If sensitive, rare, or breeding species become established on the island, human disturbance may present a significant issue.

We appreciate the inclusion of nature-based design where possible. We understand the need for stabilization; however, natural islands are generally dynamic systems and the need for stability must be balanced with the overall restoration goals by providing accessible habitat to a range of species such as diamondback terrapins and horseshoe crabs. We look forward to further conversations regarding areas where nature-based solutions and features can be incorporated.

EPA also appreciates the incorporation of climate change and sea level rise in the SEIS. We support the consideration of resiliency, including planning for successional habitats, and encourage the USACE to continue to evaluate appropriate monitoring and adaptive management actions based on the best available data.

EPA agrees that monitoring with applicable success standards and timely adaptive management will be critical to for the success of a project that meets the goals of restoration as well as dredged material

management. The design plans for the wetlands should include reference sites and target conditions, performance standards, monitoring and adaptive management to ensure the projects will result in ecological uplift. As outlined in 5.1.6 (Site Operation and Maintenance), "An integral component to the site operations and maintenance at James Island is the Adaptive Management Plan (AMP) and monitoring framework..." EPA would like to continue to be involved in developing the AMP and monitoring framework.

Thank you for the assessment and discussion included in 6.13.1 Greenhouse Gas Emissions. While we appreciate that cumulative carbon sequestration estimate from wetlands restoration greatly exceeds the project's estimated greenhouse (GHG) emissions, given the urgency of the climate crisis and consistent with the Council on Environmental Quality's 2023 GHG guidance, EPA recommends incorporating measures to reduce emissions where practicable, such as those identified on page 97 ("The project could implement measures to reduce emissions such as using low sulfur fuel or clean diesel, limits on unnecessary idling, and diesel controls such as particulate filters, diesel oxidation catalysts, or the use of electric equipment.")

Section 8.1 describes outreach and coordination efforts to date. We recommend that the Final SEIS clearly indicate how public input from meetings and outreach informed the design. We also suggest that the SEIS discuss future public outreach and communication efforts as the project moves forward.

Again, we greatly appreciate the ongoing coordination with EPA and other agencies regarding the Mid-Chesapeake Bay Islands project and look forward to additional conversations regarding design, standards, and adaptive management. Please feel free to contact me at 215-814-2775 or witman.timothy@epa.gov. The Region 3 staff contact for this project is Carrie Traver, who can be reached at traver.carrie@epa.gov or 215-814-2772.

Sincerely,

Timothy Witman
NEPA & Technical Assistance Branch, Chief
Environmental Justice, Community Health, &
Environmental Review Division

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904

IN REPLY REFER TO:

May 14, 2024

4112.1
ER 24/0128

Colonel Estee S. Pinchasin
District Engineer
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21201

Attn: Angie Sowers, Planning Division, 10th Floor

RE: Draft Supplemental Environmental Impact Statement (DSEIS) for the Mid-Chesapeake Bay Island Ecosystem Restoration Project, James Island, Dorchester County, Maryland.

Dear Angie Sowers:

The Department of the Interior (Department) has reviewed the Draft Supplemental Environmental Impact Statement for the James Island component of the Mid-Chesapeake Bay Island Restoration Project (DSEIS).

Background

As noted in the document, the purpose of this DSEIS is to update NEPA for the recommended plan authorized by the 2009 Chief's Report due to the time that has elapsed and changed conditions since the completion of the initial Feasibility Report/EIS in 2009. There are two proposed alternatives: alternative one, a no action, and alternative two, implement a modernized version of the feasibility study's recommended plan, constructing a 2,072-acre island with a habitat design ratio of 45 percent upland and 55 percent wetland and a +20 feet mean lower low water final upland dike height, including the option to reconfigure the wetlands and upland ratios during design.

The selection of alternative two as the preferred alternative will construct approximately 47,000 linear feet of perimeter dike, plus internal dikes to contain 90 to 95 million cubic yards of clean dredged material placed to restore remote island habitat. Total cumulative project impacts to Chesapeake Bay bottom habitat are calculated at 2,477 acres. While this is significant impact to Bay bottom habitat, projected overall impact of the project is a net benefit for the environment; island and beach habitat in the Chesapeake Bay region declined almost 3,000 acres

(over 1,200 hectares) from 1986 to 2016 (Marbán et al. 2019). Approximately 1,043 acres of wetlands, and 853 acres of uplands will be created. The current projected ratio of wetlands will consist of approximately 50 percent low marsh and 50 percent high marsh.

Comments

The modernized project adopts principals from the Army Corps of Engineers, Engineering with Nature (EWN) to the extent feasible. The Department supports the EWN initiative and believes it should be considered whenever possible or practicable; the project's proposal to use clean dredge material to reestablish lost island habitat being one example. The planned incorporation of projected sea level rise into the design of the project and future wetland cells is critical to maintaining the success of the project. Reuse of dredge material for habitat development and creation will benefit many different fish and wildlife species while also incorporating sustainability and resiliency into the project. The Department also supports the planned use of EWN in the construction phase of the project. The use of reef balls and offshore breakwaters will create oyster and fish habitat while also reducing wave energies and velocities, adding longevity to the project, and maximizing habitat connectivity and biodiversity, thus increasing overall estuarine habitat adjacent to the project area.

The U.S. Fish and Wildlife Service (Service) recommends creating as many high marsh areas as possible to assist with marsh migration and to add longevity to the life of the marshes while also creating essential habitat for Service priority species such as, saltmarsh sparrow (Ammodramus caudacutus), monarch butterfly (Danaus plexippus) and the federally threatened Eastern black rail (Laterallus jamaicensis). Incorporation of vegetated and unvegetated nesting bird islands within the wetland cells, along with inclusion of hummocks as noted in the document, will benefit colonial nesting waterbirds along with Maryland state species of concern, the state endangered common tern (Sterna hirundo), threatened least tern (Sternula antillarum) and Atlantic Coast Joint Venture and National Fish and Wildlife Foundation Chesapeake Bay Business Plan priority species the American black duck (Anas rubripes).

Inaccurate Data from Unites States Geological Survey (USGS) Reference

U.S. Army Corp of Engineers (USACE) states in the DSEIS (p. 19) that "USGS predicts 1.3 – 5.2 feet of sea level rise over the next 100 years.". The only reference to USGS in the document is Fact Sheet 102-98 (1998). No where in the fact sheet is this range in values mentioned. The science of SLR and predictions has advanced since 1998 and more recent information from the USACE would be more appropriate. The USACE's Sea Level Analysis Tool may provide a source of updated information.

The Department suggests the DSEIS be revised to correct the above information in the Final SEIS and recommends that USGS be included on both the project development team and technical advisory team as the project develops.

The Department encourages continued communication and engagement with stakeholders on all aspects of the Mid-Bay project. If you have any questions please contact Robbie Callahan, of the Chesapeake Bay Ecological Service Field Office at carl_callahan@fws.gov or Jon Janowicz, USGS Manager for Environmental Document Reviews, at (609) 771-3941 or at jjanowicz@usgs.gov.

Thank you for the opportunity to provide these comments.

Sincerely,

John Nelson
Regional Environmental Officer

References:
National Fish and Wildlife Foundation Chesapeake Bay Business Plan. August 2012 (Revised August 2018). https://www.nfwf.org/sites/default/files/chesapeake/Documents/chesapeake-business-plan.pdf. Paul Ramón Marbán, Jennifer M. Mullinax, Jonathan P. Resop, Diann J. Prosser, Assessing beach and island habitat loss in the Chesapeake Bay and Delmarva coastal bay region, USA, through processing of Landsat imagery: A case study, Remote Sensing Applications: Society and Environment, Volume 16, 2019, 100265, ISSN 2352-9385, https://doi.org/10.1016/j.rsase.2019.100265.

Electronic distribution: midbayislands@usace.army.mil

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Wes Moore, Governor
Aruna Miller, Lt. Governor
Josh Kurtz, Secretary
David Goshorn, Deputy Secretary

May 15, 2024

Angie Sowers, Ph.D., WRCP
U.S Army Corps of Engineers, Baltimore District
2 Hopkins Plaza, 10-E-04
Baltimore, MD 21201

Subject: Mid-Bay Island Restoration Project: James Island Draft Supplemental Environmental Impact Statement (sEIS)

Dear Dr. Sowers,

The Maryland Department of Natural Resources (DNR) has reviewed the Draft Supplemental Environmental Impact Statement (sEIS) for the Mid-Chesapeake Island Ecosystem Restoration Project for James Island. The comments below are in addition to the comments that DNR has provided for previous study documents and in inter-agency coordination meetings to date.

Section 1.2 and Section 1.3.1 - The source of dredged material for the James Island restoration project as described in Section 1.2 is less inclusive than the geographic range of dredging projects described in Section 1.3.1 and shown in Figure 4. Although the potential for dredged material from Federal channels under the jurisdiction USACE-Baltimore District outside of Dorchester County being placed at James Island may be small, DNR recommends maximizing placement of dredge material from those smaller navigation channel dredging projects at Barren Island to preserve capacity at James Island to maximum extent possible for material from the dredging of the Baltimore Harbor approach channels.

Section 1.3.3 - The USACE should investigate maximizing the capacity for dredge material placement at the James Island restoration site by potentially utilizing James Island as an intermediate staging location for the beneficial reuse of dredge material at other wetland restoration/rebuild projects in Dorchester County. Utilizing dredged material placed at James Island for offsite wetland restoration would recapture additional placement capacity at James Island.

Section 3.8.6 - As discussed, common bottlenose dolphins (*Tursiops truncatus*) are frequent visitors to the Chesapeake Bay and tributaries of the lower to middle Bay shorelines (i.e. Potomac, Rappahannock, and York Rivers). It may be appropriate to discuss their potential presence in the project area as well as the Little Choptank River and the Choptank River in this section. Section 3.8.6 does not appear to convey the same message as Section 6.8.6.

Section 3.17.2 - DNR's consistency determination under the Coast Zone Management Program (CZMP) is pending and will be provided under separate cover.

Section 4.2.2.1 - DNR supports utilizing a 50:50 ratio of low marsh to high marsh when constructing the wetland cells at James Island to increase the resilience of the constructed marshes to projected sea level changes.

Section 4.2.4 - Please clarify the utility of 5 acres of bulkhead that will be placed at the turning basin of James Island and the utility of a 5-acre footprint for a personnel pier on the northeast shoreline. How does the size of these features compare to similar features at the Poplar Island restoration site?

Section 5 - Any utility line crossing of a legally defined Natural Oyster Bar (NOB) and the 500-yard buffer to the NOBs should abide by both the December 16 through March 14 and June 1 through September 30 time of year restrictions regardless of the crossing method. The area within the boundaries of the NOBs is specifically established, reserved, and protected from activities and impacts considered detrimental to oyster populations or destruction of the bottom. If the cables are placed by trenching/jet plowing through an NOB, DNR would require mitigation for area of impacts to the bottom within the boundaries of the NOB at a 3:1 ratio. The use of hydraulic directional drilling (HDD) techniques to bore under the NOB to place the utility line without disturbing the surface of the bottom within the boundaries of the NOB would not require mitigation. However, HDD has the potential for a “frac-out” or inadvertent return of drilling fluids which, if it occurred within the NOB boundaries, would require mitigation for the impacts at the 3:1 ratio for the area within the NOB that was impacted.
Additionally, it may be beneficial to address potential impacts associated with a new electric service on Taylor’s Island.

Section 5.1.1.1 - DNR supports the investigation of Engineering With Nature approaches to softening the exterior dike design of James island. The goal of Engineering With Nature should be to replace the aquatic and terrestrial habitats and overall ecological value that has been lost since James Island disappeared. Maximizing productivity should be a priority when creating habitat features in and around James Island and the wetland cells should be designed to maximize use by a variety of species and age classes of fish. However, softening of the shoreline may have to be considered in future phases of the project once dredged material is stabilized.

Section 6.5.2.3 - Please provide a definition of thin layer placement using current data and implementation as an adaptive management strategy in response to relative sea level change. Is there a maximum placement depth of dredged material on a marsh and still be considered “thin” layer placement?

Section 6.8.1 - Please provide additional clarification on methods that will be utilized to monitor vegetation and control the spread of invasive species within the project area.

6.8.4 - While the James Island Restoration is not directly in anadromous fish spawning areas, additional coordination with DNR regarding potential time of year restrictions may be needed to minimize impacts to anadromous fish species transiting the area during the spring to reach the nearby spawning rivers. The Choptank River is designated as a striped bass spawning river (COMAR 08.02.15.03). A portion of the Choptank River is also designated as a striped bass spawning reach. Striped bass spawning reaches are established within the designated striped bass spawning river for special conservation actions.

Section 6.8.5.2 –

- The proposed access channel would cross a Yates Bar known as the James Point Bar. The James Point Bar was not incorporated into the legal boundaries of a Natural Oyster Bar. DNR is not requesting a time of year restriction for the dredging of the access channel through the James Point Bar. However, if possible, hydraulic and mechanical dredging within the James Point Bar should be avoided from June 1 through September 30 and mechanical dredging should be avoiding from December 16 to March 14 in order to protect any residual oyster habitat in the James Point Bar. The preservation and utilization of any recovered shell during dredging operations to rehabilitate oyster bar habitat is a priority for DNR.
- To protect any live oysters in the access channel proposed in the James Point Bar, the US Army Corp of Engineers (USACE) should investigate potentially removing the living oysters in the access channel prior to dredging. Please contact Chris Judy in DNR's Shellfish Division (chris.judy@maryland.gov) to further discuss James Point Bar oyster recovery and the placement location of any recovered oysters.

Section 6.10 - The James Island draft sEIS should acknowledge the project area is within an area designated as a Historic Waterfowl Concentration Area under the State's Critical Areas law.

Section 6.14.1 - Please continue to coordinate with DNR regarding noise impacts associated with the restoration at James Island. DNR may require time of year restrictions to prevent any noise related impacts to Colonial Waterbirds and other bird species that could nest on James Island in the future.

Section 6.17.1 - How does the 6,920 barge-loads of dredged material estimated to be required to build James Island (90-95 million cubic yards of capacity) over the life of the project compared to the number of barge-loads of dredge material already deposited at Poplar Island and projected to be needed to complete the Poplar Island restoration (68 mcy of capacity)?

Section 6.19 - Please continue to coordinate with commercial fisheries and crabbing to minimize impacts to those activities from the construction of the James Island restoration project.

Thank you for the opportunity to review and comment on these documents. If you have any questions concerning these comments, please feel free to contact Ms. Gwen Gibson of my staff at gwendolyn.gibson@maryland.gov.

Sincerely,

Tony Redman, Director
Environmental Review Program
Department of Natural Resources
Tawes State Office Building, B-3
Annapolis, MD 21401

May 15, 2024

US Army Corps of Engineers
Baltimore District- Planning Division
Attention: Angie Sowers
10th Floor, 2 Hopkins Plaza
Baltimore, MD 21201

Via email: midbayislands@usace.army.mil

Re: Mid-Chesapeake Bay Island Ecosystem Restoration Project, James Island Draft sEIS

Dear Ms. Sowers:

The Maryland Department of the Environment (MDE) has reviewed the Draft Supplemental Environmental Impact Statement (sEIS) for the James Island component of the Mid-Chesapeake Bay Islands Ecosystem Restoration Project. This project is located in Dorchester County, Maryland and is proposed to restore remote island habitats and provide a site for long-term dredged material placement. This sEIS is being drafted to update the original EIS which was last updated in 2009.

Since the original James Island EIS and the August 2009 submittal of the Chief's Report to Congress, there have been statutory, regulatory and policy developments in Maryland which have a bearing on James Island design and authorization of environmental impacts. Examples include passage of the 2008 Living Shorelines Protection Act and subsequent regulations, and there have also been federal executive orders and policy updates which merit additional consideration in project design and approach, such as Justice40, the White House Report "Opportunities to Accelerate Nature-Based Solutions: A Roadmap for Climate Progress, Thriving Nature, Equity, and Prosperity", and theApril 22, 2024 Department of the Army policy memo entitled "Incorporation of Nature-Based Solutions in Civil Works Projects". MDE has a responsibility to ensure that new statutes, regulations and policies are adhered to when authorizing projects, and lessons learned from the Poplar Island Restoration Project (which began construction in 1998) also inform MDE's review considerations for the James Island project.

MDE has the following general comments on the James Island sEIS, with more specific comments and questions attached in tabular format:

1. Please provide an overall impacts summary table quantifying the type of project impacts (in square feet and acres), whether that impact is to aquatic or terrestrial habitat, whether those impacts are temporary or permanent, as well the habitat restoration or enhancement acreages proposed from the project and whether it is aquatic or terrestrial habitat that is being created. Currently this information is spread throughout the document in narrative form and is difficult to evaluate. This information will help MDE assess net impacts and uplift from the

project/restoration design, any additional nature-based features being implemented through the modernized project, and to determine whether additional avoidance, minimization or mitigation may be necessary to offset impacts to regulated resources.

2. Specific environmental commitments should be documented in the sEIS so that the resource and regulatory agencies can evaluate the full scope of the project and extent of nature-based enhancements proposed. Currently the sEIS identifies nature-based features as not designated and "still being studied", or as an indefinite commitment that is not currently underpinned by an engineering analysis (e.g., page 71, "up to 50 acres of nearshore features".) Identifying the specific nature-based enhancements determined to be feasible in the Final sEIS will allow MDE to determine overall project restoration measures to avoid, minimize and mitigate the project's aquatic habitat impacts. They can also be fully summarized and accounted for in the impacts summary table recommended in Item 1 above.
3. SAV protection and restoration is cited as a critical component of the project per the 2009 Chief's Report. However, there is no SAV restoration component of the project other than an assumption that SAV will be protected once the island is restored thereby reducing the erosion. Active SAV restoration measures, including SAV monitoring and enhancement/planting commitments, would ensure project goals are met and will also help mitigate aquatic habitat loss with island restoration.
4. In total, there are permanent losses and/or significant impacts to fisheries habitat, including pound nets, blue crab, or oysters, which have been raised during the public participation process. Further measures to lessen/mitigate fisheries impacts should be identified, quantified and committed to in project design. Such measures may include: reusing any oyster shell dredged from the access channel in reef structures or living shorelines; and specific commitments for enhancing, restoring, or creating fisheries habitat which can be credited in the impacts summary table recommended in Item 1.

Thank you for sharing the draft James Island sEIS and providing this opportunity for comment. MDE looks forward to continued coordination with USACE to review this important project. If you have any questions or if I can be of assistance, please contact me at 410-537-4023 or danielle.spendiff1@maryland.gov.

Sincerely,

Danielle A. Spendiff, Chief
Regulatory & Customer Service Division

Cc: Matt Rowe, MDE
Heather Nelson, MDE
Mary Phipps-Dickerson, MDE
Gwen Gibson, DNR
Holly Miller, MPA

sEIS Section or Page No.	MDE Comment
Summary, Pages i and ii	Impacts are acknowledged to be "direct and indirect, potentially moderate, and both short and long term in duration." It is also acknowledged that island creation will bury aquatic habitat. The summary goes on to state that while the project will "impact nearly 2,500-acres of open water habitat, similar habitats are abundant within the adjacent waters and Chesapeake Bay." This includes the 99-acre impacts to the James Point oyster bar from dredging the access channel. Although there is other open-water habitat in Chesapeake Bay, this does not relieve the project sponsors from mitigating impacts to State wetlands which cannot be avoided or minimized to the extent practicable. The requested impact table and summary will help to justify ecological trade-offs through the quantification of impacts, and whether they are temporary or permanent, and identification of the nature-based features or other project elements which are proposed to offset any impacts.
Section 1	**Introduction**
Project Location and Setting, page 1	The original island footprint is identified as covering approximately 1,350-acres, yet the proposed island restoration covers 2,072-acres. The proposed size of the project exceeds the original footprint by approximately 700-acres and is outside the scope of James Island restoration.
Section 1.3.1, Page 3	This section describes potential sources of dredged material, but there should be further description that the dredged material will need to meet the specifications for beneficial use.
Section 1.3.4 Large Scale Oyster Restoration Efforts, page 11	Page 11 mentions the oyster restoration initiative and that three of the areas (Little Choptank, Harris Cr. and Tred Avon) are located in the vicinity of James Island. This section explains the plans and goals for oyster restoration in the area, but there is little information on how this project will benefit oyster restoration.
Section 2	**Purpose, Need, and Objectives**
Purpose, page 12	The sEIS should be updated to document changes in conditions and/or impacts since the initial study was completed and to document investigations at modernizing the design by including EWN approaches for exterior dike design.
Need and Objective, page 12	The island as proposed exceeds the original footprint by over 1,100-acres if using the total proposed island area of 2,477 acres. These 1,100 additional acres exceed the restoration objective to restore an island that was originally 1,350-acres

	Describe how the island configuration affects tidal current and local erosion/depositional patterns, as part of the project objective is to reduce local erosion. Also, provide details as to how the island configuration promotes recolonization of oysters, which is another objective.
Section 2.3 - Objectives Page 13	Objectives listed include preserving embayments and promoting oyster recolonization, but the project description does not include much information about how these objectives will be attained.
Section 3	**Existing Resources**
Page 13 - Section 3	James Island is described as a privately-owned island. The island is also described as having totally eroded to the point that none of it is above water at mean high water (MHW). MDE would like to clarify that once land has eroded to the point that it is below water at MHW, it is considered State tidal wetlands, and held in trust for the citizens of the state (i.e., no longer privately-owned).
Page 24 -Figure 9	The access channel appears different in this figure as compared to the figure on page 17. This occurs on other figures in the report, as well.
3.8.5.3 Blue Crab, page 47, 3.8.5.5 Finfish, page 49	The James Island restoration footprint is located in a well utilized crabbing area - about 1,000 crab pots/year. This is also a fairly extensive fishing area. Can you please provide public comments you have received regarding fisheries impacts, and how those specifically are being addressed and considered in project design?
Section 3.20 EJ, page 66	No mention of Justice40.
Section 4	**Alternatives**
Section 4.1-Alternatives Considered, Page 69	The third option of building with more natural structures (recommended by MDE) has been combined into Option 2 with the justification that, “only alternatives that would be viable and meet current expectations would need to maximize NBS or Natural and Nature-based Features”. Option 2 is the +20’ MLLW upland dike, including the option to reconfigure the wetlands and upland ratios during design. This option does not address the request that the design be revised to incorporate softer containment in areas where energy levels allow. It is not clear that the third option proposed by MDE is being addressed in Option 2.
Section 4.1.2 Alternative 2 Page 69	Alternative 2 is described as constructing a 2,072-acre island with a habitat proportion 45% upland to 55% wetland and a +20-foot MLLW final upland dike including an option to reconfigure the wetlands and upland ratios during design. This description does not provide assurance that the request to include nature-based elements will be a

	part of this alternative. An "option to reconfigure the wetlands and upland ratios" could allow for the design to become more hardened or have a higher percentage of uplands or structures. The description should include the total area of disturbance is 2,477 acres. Alternative 2 is described as having armored dikes (approximately 47,000 linear feet), breakwaters, and/or other structures which would be constructed to approximate the island's historical footprint. However, the historic island footprint has been described as 1,350 acres in 1660 and the recent island remnants are not incorporated into the footprint. The final design is still being discussed, with MDE and other resource agencies expressing concern over the footprint and hardened structures. The breakwaters and other structures should be better described in order to evaluate the impacts vs. benefits. Later in the document the dike is described as being temporarily built to 25 feet. The maximum proposed top elevation should be specified as well as a projected timeline for the higher height. Alternative 2 would include up to 50 acres of nearshore features adjacent to the dike and within 150 feet of the perimeter dikes on the eastern and southern shoreline, but these features are not well described nor is the obligation to actually construct them.. According to this section of the sEIS, this evaluation is for the footprint of the project and not the full habitat design. However, with the design still being evaluated, it may be too soon to know the final footprint or impacts.
Section 4.1.2 - Alternative 2, page 71	Alternative 2 would include up to 50 acres of nearshore features within 150' of the perimeter dikes as described. This could include breakwaters, reefs, or other structures that would enable enhancements to soften the shoreline. How was this 50-acre maximum be determined and quantified? What modeling or hydraulic studies were used to determine these amounts?
Section 5	**Recommended Plan**
Section 5 - Recommended Plan Page 75 & 76 –	The report says, "An updated plan is underway but will not be presented in this sEIS" This makes it challenging to evaluate the benefits vs. the impacts. More information should be provided about the following: ● Explain why the bulkhead needs a 5-acre footprint. This seems excessive for a bulkhead impact. ● The access channel is described as impacting 99 acres of the James Point oyster bar and is 10,000 linear feet and 600 feet wide and will be dredged to 15 to 26 feet deep MLLW but may be revised.

	● 50 acres of shoreline features are mentioned, but there are no details. ● There is mention of an office trailer. At what point will this be placed at the site? How will water and sewage disposal be provided?
Section 5.1.1.1 Incorporation of Engineering with Nature into the Design, Page 77 –78	This section discusses designs being considered but says that inclusion of EWN approaches for the design of internal habitat features will occur later. The current measures that are being evaluated for the exterior of the perimeter dikes are listed, but methods for evaluating these options are still under discussion and continue to be evaluated to identify a final design. The section does not identify a specific commitment to incorporating natural or softened designs.
Section 5.1.1.1, Incorporation of EWN into the Design, Page 78	This section states, “the measure does not allow for the loss of sediment during inflow that would violate permit requirements.” This is not properly stated. MDE’s permitting process ensures that proper controls are in place to prevent loss of sediment during inflow. Compliance is achieved as long as those controls are approved via the permit and implemented accordingly. This should be restated to say that, “the measure has controls approved by MDE to prevent sediment loss during inflow.” Another NBS feature could be SAV planting to help with SAV restoration and to help dampen wave energy in conjunction with living shorelines and reefs.
Section 5.1.2 Construction procedures, Page 78	There is mention of construction-quality sand from the borrow areas being stockpiled; please confirm whether the borrow areas are within the proposed island footprint.
Section 5.1.4 Upland Cell Development, Page 80	The description mentions that the dikes will be built to the 20’ MLLW height and then raised over time to 25’ MLLW. How long will they need to stay at that height? Please clarify whether this will require them to also be wider to accommodate the additional height. If they do need to be made wider, this number should be provided in the impact table.
Section 6	**Setting**
6.1 Setting, Page 82	This project will impact a total of 2,477 acres of Bay bottom with 2,072 acres of that being considered habitat restoration. There should be clarification on what areas are being considered habitat restoration vs. structure. For example, approximately 1,043 acres of wetlands will be developed within cells separated by dikes and there will be 853 acres of uplands equaling 1,896 acres. An additional 97 acres of wetlands and 79 acres of uplands are to be built on the side slopes of the perimeter and separator dikes that make up the remaining 176 acres of the 2,072 acres of habitat restoration. The dikes, breakwaters,

	and bulkhead are listed separately from the 2,072 habitat restoration but are still areas where Bay bottom is being converted to uplands. The area of wetland habitat vs. uplands being created should be clarified.
6.4 Topography and Bathymetry, Page 84	Under Alternative 2, how will existing topography and bathymetry be maintained when the proposal is to fill open water to an elevation of 20 to 25' MLLW?
Page 85-86 – Section 6.6 Water Quality	The access channel may become hypoxic or anoxic during the warmer months. Stating that the benthic organisms can avoid this area during a low oxygen period does not provide a sufficient justification for adverse impacts to water quality. The creation of new hypoxic/anoxic areas is not consistent with Clean Water Act requirements that water quality standards be maintained.
Section 6.5.3 - Tidal Currents. Page 85	Due to the island restoration increasing current velocities between the project and Taylors Island, additional reefs or breakwaters may be considered to reduce those impacts.
Section 6.8.2 - Submerged Aquatic Vegetation. Page 85	SAV planting should be considered to promote SAV re-establishment and mitigate open water habitat impacts from island creation. SAV protection and restoration is part of the Chiefs Report and authorization.
Section 6.7 Sediments, Page 86	Potential impacts to littoral drift should be discussed. Disturbance to sediments from the electric/communications line should be shown and the method of placement should be included.
Section 6.8.4 Fish, Page 89	The dike is described as not providing a substantial amount of natural shoreline but is expected to diversify the habitat, as well as to protect SAV and potentially allow an increase in abundance Since the increase or benefit to SAV and its related benefits to fish is being presented as an offset to impacts, MDE may require monitoring to document that the proposed benefits actually occur.
6.8.4.1 - Essential Fish Habitat, Page 90	Minor adverse impacts to Essential Fish Habitat are identified for summer flounder and bluefish. The document states that no mitigation is proposed, but reefs and softer shorelines will help offset these impacts. The reef features should be included in the project proposal in this case, not solely as an option to be considered.
6.8.5.2 - Eastern Oysters. Page 91	DNR previously recommended saving and reusing the shell from impacts to James Point Bar. The oyster shell that is removed is to be used to rehabilitate oyster bar habitat at a location to be determined. Since this project involves an impact to oyster habitat and restoration of oyster habitat is a goal, more oyster habitat restoration should be incorporated into the design.

6.8.5.4 Horseshoe Crab, Page 93	The project is said to have a long-term beneficial impact to horseshoe crab nesting by **potentially** providing new nesting habitat on sand dikes and beaches. If these features are described as benefiting horseshoe crabs, the new nesting habitat should be incorporated into the design.
Section 6.13.1 – Greenhouse Gas Emissions, Page 98	The report says that, if the dredged material does not go to James Island, it would likely be transported to the ocean, which is then used as a comparison (distance to James Island vs. distance to some place out in the ocean) to help show a benefit for greenhouse gas emissions. This is a false comparison, since it assumes that there is no other place to take the material.
6.14.1 Noise, Page 100	This project is about 3,300 feet from Taylors Island and may negatively impact the mainland neighbors. Has there been any outreach to these neighbors? Are the neighbors opposed to the project?
Section 6.15 –Light, Page 105	It is noted that the primary complaint from the Poplar Island project is the loss of darkness. Work is expected to occur 24 hours a day. The report states that, while the light may be visible for many miles, it would not be perceived as bothersome. This is an assumption and has the potential to have a significant impact on the neighbors, although the area is rural so there are not many. The report mentions different ways of shielding the light to reduce the effects but the commitments should be described more fully.
Section 6.16 – Hazardous, Toxic, and Radioactive Wastes, Page 106	There is mention of the fuel bank that will be installed. At what time will this be done? Since there are no uplands at the site now, some uplands would have to be created first.
Section 6.17.1 Navigation and Navigable Channels, Page 106	This project will require watermen to go around the area that is currently navigable. This will add to the time and cost for them to work the area. Has the project been viewed favorably by watermen?
Section 6.18 – Impacts to Cultural and Archeological Resources, Page 108	Buried paleochannels have been recorded within the turning channel. Are these paleochannels connected to aquifers that are used as a source of potable water? Would breaching confining layers for a turning basin potentially impact the quality of the water in these aquifers from saltwater intrusion or introduction of fuel or contaminants from the vessels?
Section 6.19.3.3 - Blue Crab Fishery, Page 109	The James Island footprint is a productive commercial crabbing area. SAV planting/re-establishment should be a component to offset these losses.
Section 6.19. 3.4 Finfish Fishery, Page 111	The economic impact is described as being a negative during site development followed by a long-term positive economic impact. 2,450 acres of bottom will be removed from use by finfish, but a

	reduction in abundance in the area is not expected since they will go somewhere else. The bottom fish habitat is expected to be offset by improving the quality of nearby fish habitat, reducing turbidity and providing underwater habitat structure in the form of rock reefs as well as the expected increase in SAV. If rock reefs are being proposed as a method of offsetting the impacts, they should be incorporated into the design. Since an increase in SAV as a result of this project is being presented as an offset to the impacts, there should be monitoring to show that the increase actually occurs. If there is no improvement, other methods of habitat improvement may be required.
6.20 - Impacts to EJ	The document notes potential impacts to disadvantaged watermen populations; how will these be addressed?
Section 22.2 Recreation, Page 113	Proposing the island for use for recreational and educational experiences may be in conflict with the goal of providing a remote island habitat with little human activity.
6.23.1 - Cumulative Impacts, Page 116	The limit of 50 acres seems inconsistent with the notion that EWN should be maximized. There should be clarification that there are 2,072 acres of impacts from habitat restoration at James Island but the total impacts are 2,477 acres.
Section 6.23.1 – Cumulative Adverse Impacts, Page 116	The report says that proposed island restoration projects (Poplar Island, James Island, Barren Island) would cause a loss of approximately 4,700 acres of bottom and open water loss, however, much of it had been island habitat in the past and with sea level rise (SLR) and erosion, shallow water habitat is abundant. Based on this, there is a determination that there is “no significant cumulative negative impact”. MDE notes that filling open water habitat is proposed and these offsets or resource trade-offs should be quantified, which may require additional justification.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

May 29, 2024

William P. Seib, Chief
Operations Division
Baltimore District
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

Re: Draft Supplemental Environmental Impact Statement for Mid-Chesapeake Bay Islands Ecosystem Restoration Project at James Island

Dear Mr. Seib:

We have reviewed the draft supplemental Environmental Impact Statement (sEIS), including the essential fish habitat (EFH) assessment and associated materials, provided on March 29, 2024, for the Preconstruction Engineering and Design (PED) phase of the James Island component of the Mid-Chesapeake Bay Island Ecosystem Restoration Project (Mid-Bay Island Project) in, Dorchester County, Maryland. The Mid-Bay Feasibility Report was released in 2009 and the project was subsequently authorized under Section 7002 of the Water Resources Reform and Development Act of 2014. The record of decision was signed in 2019, thus initiating the PED phase of the study. The US Army Corps of Engineers (USACE) Baltimore District (the District) prepared this sEIS in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.) to assess the potential environmental impacts from the proposed action. The District is developing this project in partnership with the Maryland Department of Transportation Maryland Port Administration (MDOT MPA).

The draft sEIS contains updated information from the Feasibility Report relevant to James Island. While we are concerned about the cumulative impacts of the larger scale Mid-Bay project, which are briefly considered in your NEPA documents, our comments in this letter are directed in response to the Phase I proposal described in the PED and primarily focused on activities planned around James Island. We anticipate extensive future coordination as other phases are developed. Furthermore, our comments reflect our current understanding of the project. Several design elements and associated impacts to our trust resources remain unclear. As a result, our comments and EFH conservation recommendations reflect that lack of clarity and missing information. We hope that the responses you provide to our comments and EFH conservation recommendations will help resolve those issues and more clearly describe the proposed action. We may then be able to revisit our EFH conservation recommendations.

Project Description
The designated Preferred Alternative, Alternative 2, includes the construction of 2,150 acre island in the approximate location of the historical footprint of James Island, which has completely eroded over the last many decades. We note that this island is approximately twice the size of the island as described in historical accounts from the 19th century. The overall project will accommodate approximately 90 - 95 million cubic yards (MCY) of dredged material from the District's federal navigation channels, primarily the Baltimore Harbor Channel and Approaches. The following design elements are considered during the current project phase:

- 47,000 linear feet of stone "armored dike" structure approximately 60 feet wide, with a crest elevation of + 20 ft. MLLW. The total footprint of this structure will fill approximately 78 acres of existing aquatic habitat and enclose an area of approximately 2,072 acres. The dike is designed with reference to anticipated storm events and relative sea level rise (RSLR).
- Within the footprint of the stone dikes, dredge material will be placed in a manner to create approximately 45% uplands and 55% wetlands. In the wetland areas, the target elevations will support 50% high and low marsh. This represents a change from the current approach at Poplar Island, in which the created marshes are primarily (80%) regularly-flooded low marsh.
- A 240-acre access channel with an associated turning basin, approximately 10,000 ft. long and 600 ft. wide, with 3:1 side slopes. This area will be dredged to a target depth of -26 ft. MLLW. Suitable sand material from this dredged channel will be used for dike construction
- Breakwaters to diminish wave energy in the proposed turning basin. The designs of these structures have not been described, but may be constructed in approximately 25 acres of existing aquatic habitat.
- A section of the shoreline along the constructed dike at the turning basin will be faced with a bulkhead, with a total footprint of approximately five acres.
- A personnel pier, the dimensions and design of which have not been described, with a total footprint of approximately five acres.
- Electrical supply and communications lines constructed from the adjacent mainland to the personnel pier. This will be buried in the existing subaqueous substrate to a depth of approximately eight feet below the mudline. The means of installation (e.g., jetplow, dredging) have not been defined.
- The potential incorporation of Natural and Nature-Based Features (NNBF) into portions of the dike structure to provide structural stability and additional habitat value throughout the service life of the project. These include:
    - Vegetated sand dikes along the external portions of the perimeter of the island, with potential stone sills, offshore breakwaters, and/or cobble beach features to attenuate wave energies.
    - Embedded tree materials in the proposed vegetated sand dike structures.
    - Reef structures along the toe of the armored dike, such as reef balls or stone piles. Up to 50 acres of these structures may be constructed.
    - Nature-like tidal inlets at the proposed outlets of the constructed wetlands. These inlets will likely include some structures (e.g., reefs) to attenuate wave energies.

Authorities

The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires federal agencies such as the USACE to consult with us on projects that may adversely affect EFH. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process. Please see our website (https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations) for further information regarding your agency's obligations in this process, including the required response to our EFH conservation recommendations (CRs). In addition, the Fish and Wildlife Coordination Act (FWCA) requires all federal agencies to consult with us when proposed actions might result in modifications to a natural stream or body of water. It also requires that federal agencies consider the effects that these projects would have on fish and wildlife and provide for the improvement of these resources.

Consultation History

We provided comments and recommendations dated May 20, 2005, in response to your EFH assessment drafted for the Mid-Chesapeake Island Ecosystem Restoration Integrated Feasibility Report & Environmental Impact Statement (EIS). These comments included recommendations to limit the source of material used for wetland restoration at James Island to navigation-related projects, to generally increase the number of tidal inlets in these projects, and to include crenulations along proposed stone structures to present additional habitat complexity. It remains unclear whether these recommendations will be fully implemented.

We provided further comments in our May 12, 2017, letter issued in response to the updated EFH assessment provided April 10, 2017. That letter requested updated biological information to inform our review of the project and included recommendations that areas of mapped SAV be avoided, and low marsh habitat creation be maximized. The most recent EFH assessment contains much of the information requested in that letter and we appreciate the extent to which additional biological data were collected and presented in this update.

While not part of this consultation, we have engaged with the District, MDOT MPA, and other state and federal agencies on multiple restoration, enhancement, and dredge material reuse projects, including the John Sarbanes Poplar Island Ecosystem Restoration Project. Since 1995, NOAA Fisheries has conducted annual surveys to assess the relative success of the Poplar Island project in provisioning habitat for aquatic estuarine species. Given the thematic similarities between the Mid-Bay Island Project and those activities undertaken at Poplar, the designs of this project should be improved by building upon the knowledge gained through that research and other technical expertise available.

Aquatic Resources and Anticipated Impacts from Proposed Actions

The project area presents a wide range of conditions and habitats suitable for a diverse suite of aquatic organisms. Several of these species are federally managed and have designated EFH. Since EFH also includes those waters, their associated qualities (e.g., turbidity, dissolved oxygen), and prevalent prey species, the proposed project will adversely impact EFH through a

variety of complex and interacting pathways. Several additional species that are not federally managed but are of concern to our agency due to their ecological, economic, and/or historical value also occur in the project area. Impacts to these species are largely dismissed in your EFH assessment for reasons ranging from relative sea-level rise (RSLR) presenting greater quantities of aquatic habitat to certain life stages being "good swimmers." While these concepts may be true in the most basic sense, they lack a nuanced perspective of aquatic habitats and the complexities of estuarine food web dynamics. As a result, we remain concerned that all practical efforts are not being made to minimize the impacts of these substantial dredging/filling activities and to offset unavoidable impacts through the creation of productive aquatic systems. Furthermore, we are concerned that the continuous construction of dredge material containment islands (i.e., Hart Miller Island, Poplar Island, and now James Island) may not maximize the ecological benefit that could potentially be realized relative to other uses for dredged sediments - namely, thin layer placement in appropriate wetland settings. We briefly describe these resources and associated considerations in the subsections below.

Federally Managed Fish Species and Prey Species

As you are aware, the project area contains designated EFH for seven species of fish, including bluefish (*Pomatomus saltatrix*), summer founder (*Paralichthys dentatus*), black sea bass (*Centropristis striata*), windowpane (*Scophthalmus aqueous*), butterfish (*Peprilus triacanthus*), clearnose skate (*Raja eglanteria*), and scup (*Stenotomus chrysops*). These species use the shallow waters and the intertidal marshes around James Island as forage, nursery, and refuge habitat. Based upon the information provided in Appendix C, the placement of dredged material in the shallow waters around James Island will have a direct adverse effect on EFH for several species and their prey by converting existing shallow-water habitats to stone, uplands, and tidal marsh. The data presented in that survey indicates that federally-managed species such as bluefish and summer flounder use this habitat seasonally and that estuarine-resident prey species (e.g., menhaden *Brevoortia tyrannus*) are present throughout much of the year. This area also likely serves as seasonal foraging ground for other recreationally and commercially valuable species (e.g., striped bass *Morone saxatilis*) due to the documented presence of preferred prey items such as bay anchovy (*Anchoa mitchilli*) and structured habitats (e.g., oyster reef).

The majority of the resulting impacts to EFH, including nursery habitat and prey species, will occur through the permanent conversion of subtidal shallows to stone sills/breakwaters and areas filled with dredged material. Compensatory mitigation has not been proposed to offset this loss of habitat and associated ecological functions. However, some of the lost or diminished aquatic habitat and functions can be restored and possibly enhanced in the future through the creation of intertidal low marsh, tidal flats, creeks/inlets, and potentially fish reef structures as part of the later phases of the project. Information gathered during years of study at Poplar Island and the surrounding marshes should be used to inform the design of these elements to maximize their aquatic habitat value. This includes maximizing the width and depth of tidal inlets, connecting constructed tidal creeks to potential freshwater sources, and providing a diversity of structured habitat (e.g., vegetation, reefs) to create a continuity of refugia for aquatic life.

Emergent Tidal Wetlands

Intertidal marshes of the Delmarva Peninsula provide many ecological functions including fish and wildlife habitat, primary productivity via plant/microalgae/fungal growth, nutrient

transformation, sediment retention, and carbon sequestration. Colonization by different species of emergent tidal marsh vegetation is dictated primarily by the frequency and duration of tidal inundation (hydroperiod). The assemblages of other primary producers (e.g., microalgae) and the associated benthic, epibenthic, and macrofaunal communities also exist along this continuum (Visser et al. 2019, Ziegler et al. 2020). The extent to which the productivity of these vegetative communities contributes to overall estuarine productivity is mediated in large part by the frequency of tidal flooding and their connectivity to tidal channels. The primary production of low marsh (i.e., regularly flooded) wetlands forms the base of the food web that supports invertebrates and forage fish that are then prey for larger fish such as bluefish. The low marshes, creeks, and open waters in the project vicinity also provide habitat for a number of federally managed species and their prey. Tidal creeks and intertidal flats are an especially important habitat for juvenile summer flounder and their prey.

The surface elevation of intertidal emergent wetlands exists in dynamic equilibrium as influenced by a variety of factors including tidal inundation, plant growth, and sediment availability (Cahoon et al. 2009). For example, the mobilization of sediments from an eroding marsh edge allows for liberated sediments to be deposited on adjacent marshes, thus maintaining elevation relative to sea level (Ganju, 2019). Similarly, tidal creeks in stable marshes also exist in equilibrium whereby net sediment transport is at or near zero (Lazoni and Seminara, 2002, Ganju et al. 2017). They also serve as conduits for the delivery of sediment-laden waters to the marsh platform, which is one mechanism that can facilitate marsh platform accretion and long-term marsh persistence relative to sea level (Pratolongo et al. 2019). The dynamic nature of these systems points to the importance of establishing an understanding of the sediment budget for a particular site and incorporating this information into the design of created wetlands. We encourage you to consider these complexities during the formulation of wetland cell designs in future project phases to maximize the resilience of constructed features.

We recognize that island habitats and their corresponding fringing low marsh in the Chesapeake Bay are negatively influenced by erosion and RSLR (Beckett et al. 2016, Kirwan et al. 2016) which historically has led to the contraction/loss of islands and extensive upland conversion to tidal marsh (Schieder et al. 2018). However, low marsh habitat in the broader Chesapeake Bay is eclipsed by high marsh at a ratio of 3 to 1 (Correll et al. 2018). Fringing marshes of the Chesapeake Bay are experiencing ongoing, significant edge erosion associated with storm activity and RSLR, which threatens the ecological integrity of the Chesapeake Bay estuary. For example, the changes in fish assemblages observed between surveys completed for this project (2003 compared to 2020/2021) reflects the loss of diversity and abundance associated with tidal marsh erosion at James Island. For this reason, some level of disturbance may be appropriate to ensure the long-term integrity of these marsh/island complexes, provided the adverse effects to EFH and federally managed species are minimized and unavoidable impacts are offset through the creation of intertidal marsh that is connected to other near-shore fisheries habitats (e.g., reefs, SAV) via expansive tidal creek complexes.

The sEIS describes the extent to which tidal marshes on the Delmarva Peninsula are threatened by RSLR and includes several examples where dredged material has been used to build elevation in/near existing marshes in an attempt to stem these losses. Such efforts have demonstrated mixed success in the Chesapeake Bay region and evaluations of similar projects in other

microtidal settings have described similar results (NJDEP and TNC 2023). Nevertheless, several recent studies and guidance documents (e.g., Ganju et al. 2017, Raposa et al. 2020, Davis et al. 2022, Raposa et al. 2022, Yespsen et al. 2023) provide a framework for responsible site selection and implementation of sediment addition efforts. The continued need (3.2 mcy/year) for dredged material management by MDOT MPA and the District presents a unique opportunity to put dredged sediments to their most ecologically-advantageous use both within the proposed James Island footprint and in Dorchester County marshes more broadly.

Submerged Aquatic Vegetation

As described in Appendix C, areas in the vicinity of the proposed placement site are also annually colonized by submerged aquatic vegetation (SAV), primarily widgeon grass (*Ruppia maritima*) and horned pondweed *(Zannichellia palustris*). SAV is designated a habitat area of particular concern (HAPC) for summer flounder because it has been demonstrated to be preferred feeding and resting habitat (Orth and Heck, 1980, Lascara, 1981, Rogers and Van Den Avyle, 1983, Heck and Thoman, 1984) for this recreationally and commercially valuable species. HAPCs are a subset of EFH that are either rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. Because of this, individual, cumulative and synergistic effects are a particular concern in these habitats. The Mid-Atlantic Fishery Management Council has defined the summer flounder HAPC as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. Because SAV, especially widgeon grass, can exhibit large spatial fluctuations from year to year the widely accepted practice for defining SAV habitat is to consider areas identified by the Virginia Institute of Marine Science (VIMS) as supporting SAV based on surveys conducted in the five most recent years. Any area mapped in those five years is considered to be habitat that supports SAV, even if SAV is not found there on a given date during the growing season.

While the proposed footprint of James Island will not likely adversely affect SAV habitat, we anticipate potential indirect effects associated with attending infrastructure. For example, the installation of utility lines from Taylors Island to the constructed James Island could potentially impact mapped SAV. Since the route and method of utility line construction is not described, we cannot assess whether this is likely to occur. Similarly, the sEIS describes the establishment of a land base, though offers few details other than the "likely" location in Slaughter Creek. Since the shallow waters along Slaughter Creek support mapped SAV, the expansion of boat traffic and potential construction of access structures could also potentially impact SAV. Overall, the planning of this infrastructure should incorporate avoidance and minimization measures to ensure that this sensitive habitat is not destroyed or otherwise degraded.

Oyster Reef

Oyster reef habitats have been identified as productive fish habitat in the Chesapeake Bay and throughout their range. In their analysis, McGinty et al. (2019) determined that almost all productive fishing grounds in the Maryland portion of Chesapeake Bay occur in the immediate vicinity of natural oyster bars and offer a review of the literature linking oyster bars with fish habitat in this region. The waters surrounding James Island present oyster reef habitat which is valuable for a variety of commercially (e.g., black sea bass, striped bass) and recreationally important species of fish and their prey. The proposed dredge and fill activities associated with

the access channel will result in direct impacts to a documented oyster bar which should be offset through habitat enhancements (e.g., reef creation, oyster reef enhancement) elsewhere. Furthermore, we recommend that the District recover shell material dredged from the proposed access channel and reuse this material for reef enhancements in the immediate project vicinity.

Concerns and Recommendations

Overall, the Mid-Bay Island Project will convert approximately 2,200 acres of shallow-water habitat into rock sills, intertidal wetlands with tidal creeks, infrequently flooded high marsh, and uplands for the primary purpose of dredged material management. Of these two islands, only approximately 1,750 acres was historically documented (ca. 1875) to be occupied by uplands and intertidal wetlands. While we acknowledge the value of remote island habitat for a variety of species, we strongly recommend that impacts to existing priority habitats (e.g., SAV, oysters) be minimized and that productive intertidal and subtidal habitats be created to offset these losses. Furthermore, we continue to encourage the District to investigate whether dredged material could be responsibly used to enhance existing tidal wetlands in the broader area.

We support efforts to re-establish regularly flooded low marsh, tidal flats, tidal channel complexes, and reef structures to ensure continued function for aquatic resources. This sEIS indicates that the District and MDOT MPA intend to change the high:low marsh ratio from what was previously established during the feasibility stage (i.e., 80% low and 20% high marsh) due to anticipated RSLR. These changes have not been adequately justified and the justifications presented in the sEIS appear to be based on simplistic representations of marsh ecosystems and their responses to RSLR. In many respects, RSLR is an adaptive management challenge that can be addressed through careful sediment addition and monitoring both within the proposed island footprint and beyond.

Reducing created low marsh habitat will diminish the ability of these projects to offset proposed losses, which include extensive shallow-water fill with stone and dredged material, altered hydrodynamic conditions, shallow-water habitat alterations, and new access dredging. All biota found in this remote Chesapeake Bay island habitat, including several target avian species, depends heavily on aquatic biological productivity associated with regularly inundated salt marshes, tidal flats, creeks/inlets, SAV, and other shallow water habitats. The losses of tidal marsh elsewhere in the region due to RSLR, erosion, and upland development are not sufficient justification for these proposed fills. Rising sea levels pose substantial challenges to tidal wetlands. However, the best mitigation for those challenges is not through the expansive creation of high marsh, but rather through careful planning and adaptive management to achieve project goals. These measures include using updated tidal datums (anticipated 2025), establishing low marsh above the mean tide level (see: Raposa et al. 2016), and planning for adaptive management measures that introduce sediment into created marshes (e.g., thin layer placement). Creating high marsh is most reasonable where they tie into existing elevations of adjacent marsh communities. We will continue to discuss how best to achieve an ecologically-relevant balance of habitats from these projects that, with adaptive management, will continue to provide productive estuarine habitat for the foreseeable future.

Overall, we support the creation of productive aquatic habitats as a means to minimize the negative impacts associated with the disposal and management of dredged sediments. The model implemented at Hart Miller Island and further refined at Poplar Island represents a significant achievement towards this end. Nevertheless, there has been an increasing understanding that existing tidal marshes in microtidal settings such as the mid-Chesapeake Bay are not likely to maintain elevation relative to rising sea levels (Kirwan et al. 2016, Morris et al. 2021). The marshes of Dorchester County are among the most vulnerable to near-term and permanent degradation. This phenomenon presents diminishing function for aquatic biota and is anticipated to further release significant stored carbon. Without significant intervention, much of these vegetated areas are predicted to be permanently converted to shallow open water (Ganju et al. 2017, Morris et al. 2021) with significant ramifications for regional carbon sinks (Unger et al. 2016, Van Allen et al. 2021, Warnell et al. 2022).

Future design phases and coordination

The Mid-Bay project builds on past examples where dredged material and stone have been used to build/restore islands in the Chesapeake Bay. The decades of studies at Poplar Island provide an invaluable resource to inform the design and development of James Island. We appreciate the extent to which the District has considered the design guidance we have offered based on these studies. Our primary concern revolves around the construction of productive aquatic habitats that offset the temporary and permanent impacts associated with the proposed 2,150 acres of substantial habitat modification. We will continue to work with you to ensure that the designs of each of these features maximizes aquatic habitat value.

While we acknowledge that remote island habitat present benefits for many estuarine species, including colonial nesting waterbirds, research indicates that the extent to which this habitat is used by a diverse array of fish species is dictated by proximity to other area marshes (Meyer and Posey 2019). Since the created habitat will be located at least several miles from significant area estuaries, we may anticipate that fish diversity may be limited in the created wetland cells. We have worked with the District to develop a series of habitat features that could help to maximize habitat value for transient estuarine fishes. Specifically, we continue to recommend that the District establish naturalized channel inlets, large tidal channels with intertidal flats, near-shore reef structures, and nature-like shorelines along the exterior of the dyke.

Future design considerations should maximize tidal connectivity through the establishment of broad tidal inlets to constructed interior marshes. In the sEIS, it is indicated that connectivity will initially be established through outfall structures such as culverts. As has been demonstrated on Poplar Island (NOAA, 2011, Meyer and Teer, *in press*), the hardened and constricted nature of traditional outfall structures is not conducive to fish movement and can present significant challenges to aquatic connectivity. Thus, these inlets should be augmented to allow for greater nekton connectivity. They could also afford the opportunity to establish additional pocket beaches, intertidal mudflats, and other habitat features that are not colonized by emergent vegetation. Reef structures should be used at/near these inlets and throughout the exterior of the island to provide deeper-water structured refugia and, where appropriate, attenuate wave energies.

Island construction is one method to use dredged material in a manner that presents certain functional aquatic habitats, though we are concerned that island construction alone may not maximize the aquatic habitat benefits in the context of RLSR. The District and MDOT MPA currently anticipate placing approximately 3.2 mcy of sediment at James Island each year. At that rate, the District estimates that the James Island project will reach capacity after approximately 30 years of service. When this project is near capacity, we anticipate that the District will either propose to expand the project footprint, similar to what occurred at Poplar Island, or build another island for dredge material containment. Over the past decade, we have repeatedly encouraged the District and MDOT MPA to examine the possibility of establishing a program to divert a proportion of the dredged sediment to nearby marshes for the purpose of building marsh elevation and resilience to RSLR. We recommend that this effort be formally evaluated in this EIS. The District has not explicitly evaluated that practice in this sEIS despite the fact that it may further maximize project benefits, including the stated project goal to "increase wetlands acreage in the Chesapeake Bay watershed to assist in meeting the Chesapeake 2000 (2014) Agreement goals." Such an evaluation would be aligned with interim guidance (88 FR 1196) from the Council on Environmental Quality (CEQ) which recommends "agencies use the information developed during the NEPA review to consider reasonable alternatives that would make the actions and affected communities more resilient to the effects of a changing climate." Should this practice be realized, we recommend also considering increasing the wetland:upland ratio to maximize aquatic productivity while maintaining project capacity to receive dredged material.

Enhancing impaired tidal marshes through sediment addition on a broad scale will likely mitigate coastal flooding (Temmermen et al. 2013, Möller et al. 2014) and improve long-term "blue" carbon sequestration outcomes (Elsey-Quirk et al. 2011, Mcleod et al. 2011, Macreadie et al. 2017). As Davis et al. (2022) note, one of the primary challenges of performing relatively thin (e.g., placement depth < 20 cm) marsh elevation enhancements is matching maintenance dredging requirements with the ecological needs of the receiving marsh. We recommend that the District explicitly consider the possibility of establishing a beneficial reuse handling facility within the footprint of the proposed upland portion of James Island. This facility would serve as a source of sediment for marshes that present both elevation vulnerability signs of degradation in the project vicinity. Such an approach would help to alleviate the potential challenges demonstrated by other projects (e.g., containment failure at Deal Island Wildlife Management Area) in the region. It may also be more cost effective when considering the eventuality of future island construction following the completion of James Island. This approach, if realized, should help to alleviate the need to dredge solely to source sediment, which is frequently proposed by regional practitioners, but generally inadvisable from a geomorphological and ecological perspective.

Magnuson Stevens Fisheries Conservation and Management Act EFH Conservation Recommendations

As discussed above, the project will adversely affect EFH for federally managed species such as bluefish and summer flounder due to the loss of habitat for these species and their prey. Additional information anticipated in future NEPA documents is necessary to fully evaluate the adverse effects and options for avoidance and minimization. Further consultation with us under

the MSA and FWCA is also necessary as this information is developed and future phases of the overall project are planned.

Based upon the information available for the current phase of the project (i.e., Phase I of the James Island component of the Mid-Bay Islands Project), we recommend that you adopt the following EFH conservation recommendations to minimize adverse impacts on EFH and aquatic resources of national importance pursuant to Section 305(b)(4)(A) of the MSA:

1. Develop a work plan that avoids dredging activities within 500 feet of a designated natural oyster bar during June 1 through September 30 (mechanical and hydraulic) and December 15 through March 15 (mechanical only), in any year.
2. Evaluate the potential to harvest shell material during dredging of the proposed access channel. To the extent practicable, reuse any harvested shell to create/enhance oyster reef habitat in the immediate project vicinity.
3. Low marsh habitat in Chesapeake Bay marshes is vitally important habitat for numerous species and is generally eclipsed by high marsh at a ratio of 3 to 1 (Correll et al. 2018). As a result, the Corps should adequately prioritize the creation, enhancement, and long-term maintenance of low marsh habitat, typically found at or below Mean High Water (MHW).
4. Reinitiate consultation with us when the following project features are more fully designed (e.g., 60% design):
    a. The breakwater structures proposed to protect the access channel and turning basin. We recommend that you evaluate the practicality of using reef complexes or other NNBF in lieu of linear breakwaters to maximize the potential habitat value of these features.
    b. The personnel pier, including justification for the water-dependence of a five-acre structure.
    c. The electrical and communications conduit connections, including installation method(s), proposed route, anticipated benthic recovery timeline, and anticipated maintenance/replacement schedule.
    d. The mainland facility, including any in-water structures (e.g., piers) and/or navigational dredging.
    e. Natural and nature-based features proposed along the exterior dike structure, including a timeline for implementation.
    f. Nature-like tidal inlets with corresponding timeline for installation
    g. Nearshore reefs structures and proposed locations and corresponding water depths.
5. In the final EIS, make the following adjustments:
    a. Clarify whether you performed the Island Community Unit (ICU) Model analysis assuming that low marsh would be allowed to drown, rather than be adaptively managed to maintain suitable elevation for vegetative growth. If the ICU Model analysis did not consider adaptive actions to maintain targeted habitats over time, we recommend the District complete that analysis and present the estimate in your summary.

b. Remove qualitative statements about EFH (e.g., designations of "infrequent or transient"). EFH is dictated by suitable water depths/salinities at the indicated time of year established by the fisheries management councils.
c. Remove the statement indicating that escalator dredging of the Chesapeake Bay bottom is not detrimental to EFH, as this is inaccurate.
d. Clarify that the erosion/subsidence of tidal wetlands and subsequent conversion to shallow water is not beneficial to fisheries resources, as is indicated in the attached Planning and Aid Report.

6. Evaluate the potential to establish a beneficial reuse handling facility within the proposed upland footprint of James Island for the purposes of redistributing dredged material to nearby marshes (e.g., Blackwater NWR) through the application of thin (i.e., < 20 cm) layers of sediment. Work with us and other agency partners to develop this program for the purposes of enhancing wetland resilience to RLSR, extending the useful life of the James Island project, and maximizing aquatic habitat benefits as well as carbon sequestration potential of area marshes.

Endangered Species Act (ESA)

Endangered species under the jurisdiction of NOAA Fisheries may be present in the project area. On February 5, 2018, you determined that the proposed action may affect, but is not likely to adversely affect listed species under our jurisdiction, and submitted your determination of effects along with justification and a request for concurrence. We concurred with your determination that the action is not likely to adversely affect listed species or critical habitat per the justification you provided and consultation was completed on February 5, 2018.

On August 14, 2020, we received a request for re-initiation of consultation regarding the District's Mid-Chesapeake Bay Island Ecosystem Restoration Project. We reviewed the information attached to your email requesting a determination from us regarding re-initiation of consultation and, based on the effect analysis from the previous consultation on the project, the information that you have provided indicating no changes to the project description, and the fact that no new listed species or designated critical habitat overlap with the action area, we provided a response on August 18, 2020, stating that it was not necessary to re-initiate the consultation we completed on February 5, 2018.

Reinitiation of consultation is required and shall be requested by the federal agency or by the Service, where discretionary federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (c) if a new species is listed or critical habitat designated that may be affected by the identified action. Should there be additional changes to the project plans or new information becomes available that changes the basis for this determination, further coordination should be pursued. Please contact Brian Hopper of our Protected Resources Division (brian.d.hopper@noaa.gov), should you have any questions regarding these comments.

Conclusion

We look forward to working with you and your staff as the Mid-Bay Island Project progresses. We encourage early coordination with us as future phases of the project are developed. If you have any questions regarding EFH in the project area, please contact Jonathan Watson in our Annapolis, MD field office (jonathan.watson@noaa.gov).

Sincerely,

For

Louis A. Chiarella
Assistant Regional Administrator
For Habitat and Ecosystem Services

cc: A. Sowers, C. Leasure (USACE)
A. Peñafiel (MDOT MPA)
K. Greene, B. Hopper, K. Schabow (NMFS)
A. O'Donnell, C. Callahan (USFWS)
C. Mazzerella, C. Traver (USEPA)
T. Roberson, M. Phipps-Dickerson (MDE)
T. Redman (MDNR)
C. O'Keefe (NEFMC)
C. Moore (MAFMC)
S. Kaalstad (ASMFC)

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PROJECT: James Island draft sEIS

Public Review - Agency Comments and USACE/MPA Responses

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
1	DOI/FWS	5/14/2024		The modernized project adopts principals from the Army Corps of Engineers, Engineering with Nature (EWN) to the extent feasible. The Department supports the EWN initiative and believes it should be considered whenever possible or practicable; the project's proposal to use clean dredge material to reestablish lost island habitat being one example.	Concur. Comment acknowledged.
2	DOI/FWS	5/14/2024		The planned incorporation of projected sea level rise into the design of the project and future wetland cells is critical to maintaining the success of the project.	Concur. Comment acknowledged.
3	DOI/FWS	5/14/2024		Reuse of dredge material for habitat development and creation will benefit many different fish and wildlife species while also incorporating sustainability and resiliency into the project.	Concur. Comment acknowledged.
4	DOI/FWS	5/14/2024		The Department also supports the planned use of EWN in the construction phase of the project. The use of reef balls and offshore breakwaters will create oyster and fish habitat while also reducing wave energies and velocities, adding longevity to the project, and maximizing habitat connectivity and biodiversity, thus increasing overall estuarine habitat adjacent to the project area.	Concur. Comment acknowledged. A Reef Proposal Technical Memo has been developed and provided for agency consideration.
5	DOI/FWS	5/14/2024		The U.S. Fish and Wildlife Service (Service) recommends creating as many high marsh areas as possible to assist with marsh migration and to add longevity to the life of the marshes while also creating essential habitat for Service priority species such as, saltmarsh sparrow (Ammodramus caudacutus), monarch butterfly (Danaus plexippus) and the federally threatened Eastern black rail (Laterallus jamaicensis).	Concur. The project is planned to provide 50% high/50% low marsh to provide benefits to both the species listed in the comment as well as to fisheries, while providing ability to migrate.
6	DOI/FWS	5/14/2024		Incorporation of vegetated and unvegetated nesting bird islands within the wetland cells, along with inclusion of hummocks as noted in the document, will benefit colonial nesting waterbirds along with Maryland state species of concern, the state endangered common tern (Sterna hirundo), threatened least tern (Sternula antillarum) and Atlantic Coast Joint Venture and National Fish and Wildlife Foundation Chesapeake Bay Business Plan priority species the American black duck (Anas rubripes).	Concur. These habitats are incorporated into the master plan.
7	DOI/FWS	5/14/2024	p 19	U.S. Army Corp of Engineers (USACE) states in the DSEIS (p. 19) that "USGS predicts 1.3 –b5.2 feet of sea level rise over the next 100 years.". The only reference to USGS in the document is Fact Sheet 102-98 (1998). No where in the fact sheet is this range in values mentioned. The science of SLR and predictions has advanced since 1998 and more recent information from the USACE would be more appropriate. The USACE's Sea Level Analysis Tool may provide a source of updated information.	Concur. Our team has developed an updated SLR analysis using USACE's Sea Level Analysis Tool. Section 3.5.2.2 will be updated accordingly. USGS does have representatives on the technical team as it relates to bird island development. Please provide a contact that could be a technical advisor for this topic.
8	MDNR	5/15/2024	1.2, 1.3.1	The source of dredged material for the James Island restoration project as described in Section 1.2 is less inclusive than the geographic range of dredging projects described in Section 1.3.1 and shown in Figure 4. Although the potential for dredged material from Federal channels under the jurisdiction USACE-Baltimore District outside of Dorchester County being placed at James Island may be small, DNR recommends maximizing placement of dredge material from those smaller navigation channel dredging projects at Barren Island to preserve capacity at James Island to maximum extent possible for material from the dredging of the Baltimore Harbor approach channels.	Concur. Revisions made to item 3) Federal navigation projects in the vicinity of James and Barren Islands in Dorchester County (Sec 1.2), as it did not agree with 'other Federal navigation channels that require periodic maintenance dredging and could potentially use James Island as a placement site are listed in Table 1...and shown in Fig 4. (Sec 1.3).
9	MDNR	5/15/2024	1.3.3	The USACE should investigate maximizing the capacity for dredge material placement at the James Island restoration site by potentially utilizing James Island as an intermediate staging location for the beneficial reuse of dredge material at other wetland restoration/rebuild projects in Dorchester County. Utilizing dredged material placed at James Island for offsite wetland restoration would recapture additional placement capacity at James Island.	See response to comments #99 and 121.
10	MDNR	5/15/2024	3.8.6	As discussed, common bottlenose dolphins (Tursiops truncatus) are frequent visitors to the Chesapeake Bay and tributaries of the lower to middle Bay shorelines (i.e. Potomac, Rappahannock, and York Rivers). It may be appropriate to discuss their potential presence in the project area as well as the Little Choptank River and the Choptank River in this section. Section 3.8.6 does not appear to convey the same message as Section 6.8.6.	Concur. Revisions have been made.
11	MDNR	5/15/2024	3.17.2	DNR's consistency determination under the Coast Zone Management Program (CZMP) is pending and will be provided under separate cover.	Acknowledged. CZM Conditional Concurrence received July 9, 2024 and added to appendices.

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
12	MDNR	5/15/2024	4.2.2.1	DNR supports utilizing a 50:50 ratio of low marsh to high marsh when constructing the wetland cells at James Island to increase the resilience of the constructed marshes to projected sea level changes.	Acknowledged.
13	MDNR	5/15/2024	4.2.4	Please clarify the utility of 5 acres of bulkhead that will be placed at the turning basin of James Island and the utility of a 5-acre footprint for a personnel pier on the northeast shoreline. How does the size of these features compare to similar features at the Poplar Island restoration site?	With further designs, the size of these structures has been refined. The 5 acres were an initial set aside to cover the footprint impact. The design is now for a 0.4-acre impact for the personnel pier and 1-acre impact for the bulkhead. The project impacts have been updated with the revised acreage.
14	MDNR	5/15/2024	5	Any utility line crossing of a legally defined Natural Oyster Bar (NOB) and the 500-yard buffer to the NOBs should abide by both the December 16 through March 14 and June 1 through September 30 time of year restrictions regardless of the crossing method. The area within the boundaries of the NOBs is specifically established, reserved, and protected from activities and impacts considered detrimental to oyster populations or destruction of the bottom. If the cables are placed by trenching/jet plowing through an NOB, DNR would require mitigation for area of impacts to the bottom within the boundaries of the NOB at a 3:1 ratio. The use of hydraulic directional drilling (HDD) techniques to bore under the NOB to place the utility line without disturbing the surface of the bottom within the boundaries of the NOB would not require mitigation. However, HDD has the potential for a "frac-out" or inadvertent return of drilling fluids which, if it occurred within the NOB boundaries, would require mitigation for the impacts at the 3:1 ratio for the area within the NOB that was impacted. Additionally, it may be beneficial to address potential impacts associated with a new electric service on Taylor's Island.	The pathway for the utility line will not go through or under any defined NOB. USACE will not use HDD under a NOB. USACE has located the utility line outside the defined NOB. Construction will observe the TOYR as the pathway is situated to be within the 500-yard buffer of NOB 14-6 and 15-1. Text added to Sections 5.1.6.1 (description of action), 6.6 (WQ impacts), 6.7 (Sedimentation impacts), and 6.8.5.2 (oyster impacts).
15	MDNR	5/15/2024	5.1.1.1	DNR supports the investigation of Engineering With Nature approaches to softening the exterior dike design of James island. The goal of Engineering With Nature should be to replace the aquatic and terrestrial habitats and overall ecological value that has been lost since James Island disappeared. Maximizing productivity should be a priority when creating habitat features in and around James Island and the wetland cells should be designed to maximize use by a variety of species and age classes of fish. However, softening of the shoreline may have to be considered in future phases of the project once dredged material is stabilized.	Acknowledged.
16	MDNR	5/15/2024	6.5.2.3	Please provide a definition of thin layer placement using current data and implementation as an adaptive management strategy in response to relative sea level change. Is there a maximum placement depth of dredged material on a marsh and still be considered "thin" layer placement?	USACE-Philadelphia District (NAP) has been placing material in the New Jersey Back Bays at a number of sites (in partnership with the Wetlands Institute as part of the Seven Mile Living Laboratory - wetlandsinstitute.org/smiil-2-2/). NAP has moved away from using 'thin' to talking about sediment enrichment or sediment enhancement on marshes. In NJ, NAP now permits for a landscape approach with a range of thicknesses and natural and nature-based features/habitat areas. They have found that if you go too 'thin' in a degrading marsh, the disturbance can be enough that the marsh won't recover and will turn into open water. In the NJ applications, placing more sediment on the marsh with natural recruitment versus planting has proven much more successful in the face of SLR. Recent work by ERDC has indicated that 'thin' can be a foot or 2 thick if the system dictates. USACE/MPA is committed to working with the resource agencies to determine if/when TLP (aka sediment enrichment) should be an adaptive management tool for the James Island project, and if so, what the appropriate thickness would be for a specific wetland. The Coastal Wetland Equilibrium Model developed by the University of South Carolina could be used to calculate the most useful depth and frequency of application to maintain elevations in the face of SLR. Additionally, USACE's Thin-Layer Placement of Dredged Material website is another resource: https://tlp.el.erdc.dren.mil/.
17	MDNR	5/15/2024	6.8.1	Please provide additional clarification on methods that will be utilized to monitor vegetation and control the spread of invasive species within the project area.	This will be defined in the Monitoring and Adaptive Management Plans that will be developed with partners through the working groups. Best management practices including mechanical and chemical control will be administered as appropriate.
18	MDNR	5/15/2024	6.8.4	While the James Island Restoration is not directly in anadromous fish spawning areas, additional coordination with DNR regarding potential time of year restrictions may be needed to minimize impacts to anadromous fish species transiting the area during the spring to reach the nearby spawning rivers. The Choptank River is designated as a striped bass spawning river (COMAR 08.02.15.03). A portion of the Choptank River is also designated as a striped bass spawning reach. Striped bass spawning reaches are established within the designated striped bass spawning river for special conservation actions.	Acknowledged,

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
19	MDNR	5/15/2024	6.8.5.2	The proposed access channel would cross a Yates Bar known as the James Point Bar. The James Point Bar was not incorporated into the legal boundaries of a Natural Oyster Bar. DNR is not requesting a time of year restriction for the dredging of the access channel through the James Point Bar. However, if possible, hydraulic and mechanical dredging within the James Point Bar should be avoided from June 1 through September 30 and mechanical dredging should be avoiding from December 16 to March 14 in order to protect any residual oyster habitat in the James Point Bar. The preservation and utilization of any recovered shell during dredging operations to rehabilitate oyster bar habitat is a priority for DNR.	Concur. USACE will continue to investigate the feasibility of recovering shell. It is difficult to determine definitive plans at this point without clarity on how to separate the shell or potential quantities that would be needed to make this a beneficial effort. If shell were recovered, partners would need to discuss how to use the shell. It is unclear if DNR is requesting any recovered shell to be set aside for them to pick up/transport to another application or if the shell should be incorporated into the reefs that will be constructed for the project. Funding would need to be considered. USACE/MPA funding would likely require the shell to be used within the project, but it is possible the shell could be stockpiled for use and funds by others. USACE will continue to work with resource agencies to investigate how this could be conducted, plans for use of the shell, and cost ramifications.
20	MDNR	5/15/2024	6.8.5.2	To protect any live oysters in the access channel proposed in the James Point Bar, the US Army Corp of Engineers (USACE) should investigate potentially removing the living oysters in the access channel prior to dredging. Please contact Chris Judy in DNR's Shellfish Division (chris.judy@maryland.gov) to further discuss James Point Bar oyster recovery and the placement location of any recovered oysters.	USACE has conducted this type of effort at a site in the Tred Avon River prior to restoration of an alternative substrate oyster reef. It involves hiring a waterman to dredge up the oysters and then moving them to a designated spot. It took a day to clear a few acres (<2 ac). This is a much larger area. Once the results of the MGS survey are obtained, we will have some information on the type of habitat present within the access channel. The James Point Bar can be harvested using all gear types except power dredge. As this is a harvest area, it would be more productive to request that some watermen work the area for harvest rather than trying to collect oysters for relocation.
21	MDNR	5/15/2024	6.1	The James Island draft sEIS should acknowledge the project area is within an area designated as a Historic Waterfowl Concentration Area under the State's Critical Areas law.	Concur. Text has been revised in Section 3.10 to recognize the waters around James Island as a Historic Waterfowl Concentration Area.
22	MDNR	5/15/2024	6.14.1	Please continue to coordinate with DNR regarding noise impacts associated with the restoration at James Island. DNR may require time of year restrictions to prevent any noise related impacts to Colonial Waterbirds and other bird species that could nest on James Island in the future.	USACE will continue to coordinate with DNR throughout the construction phase.
23	MDNR	5/15/2024	6.17.1	How does the 6,920 barge-loads of dredged material estimated to be required to build James Island (90-95 million cubic yards of capacity) over the life of the project compare to the number of barge-loads of dredge material already deposited at Poplar Island and projected to be needed to complete the Poplar Island restoration (68 mcy of capacity)?	This sentence has been stricken from the document as it is not current, and barge loads is not a standard metric given that scows vary in size. In discussions with the Poplar team, contractors will use scows of varying size that hold anywhere from 3,000 to 8,000 cy of dredged material. A typical assumption is that an average scow can hold approximately 5,000 cy. The scow sizes are expected to be similar between the Poplar and James projects. Thus far, 45.3 MCY of material has been placed at Poplar Island. That is half of what is planned for the James Island project over its full construction phase. Using the assumption of 5,000 cy per scow, it will take at least 18,000 scows of that size to deliver 90 M cy of material to James Island. Additional text added to Section 6.17.1 is "For comparison to Poplar Island, the James Island project is planned to receive 90 – 95 MCY of dredged material over the course of the project. Poplar Island has received 45.3 MCY to date since 2001, and is planned to receive 68 MCY in total."
24	MDNR	5/15/2024	6.19	Please continue to coordinate with commercial fisheries and crabbing to minimize impacts to those activities from the construction of the James Island restoration project.	Concur. We will continue to do so.
25	MDE	5/15/2024		Please provide an overall impacts summary table quantifying the type of project impacts (in sq ft and ac), whether that impact is to aquatic or terrestrial habitat, whether those impacts are temporary or permanent, as well the habitat restoration or enhancement acreages proposed from the project and whether it is aquatic or terrestrial habitat that is being created. Currently this information is spread throughout the document in narrative form and is difficult to evaluate. This information will help MDE assess net impacts and uplift from the project/restoration design, any additional nature-based features being implemented through the modernized project, and to determine whether additional avoidance, minimization or mitigation may be necessary to offset impacts to regulated resources.	Concur. The requested table has been compiled. Text in Sections 5 and 6 has been revised and updated in response to development of the table. The table has been added to the sEIS in Section 6.

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26	MDE	5/15/2024		Specific environmental commitments should be documented in the sEIS so that the resource and regulatory agencies can evaluate the full scope of the project and extent of nature-based enhancement proposed. Currently, the sEIS identifies nature-based features as not designated and 'still being studied', or as an indefinite commitment that is not currently underpinned by an engineering analysis (e.g., page 71, "up to 50 acres of nearshore features".) Identifying the specific nature-based enhancements determined to be feasibile in the Final sEIS will allow MDE to determine overall project restoration measure to avoid, minimize, and mitigate the projects' aquatic habitat impacts. They can also be fully summarized and accounted for in the impacts summary table recommended in Item 1 above.	The full breadth of additional EWN enhancement will not be determined prior to completion of the Final sEIS. To fulfill and complete NEPA, this sEIS evaluates the footprint of the project and the full extent of impacts. It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate. Similar to the design process at Poplar Island, coordination will be undertaken with partners over the course of the 30-year construction period to complete timely habitat designs. EWN implementation will occur in phases associated with completion of wetland complexes. The South Wetland Complex will be completed first, followed by the Central, and finally the North Wetland Complex. Any initial EWN measures implemented at the South Wetland Complex will advise implementation in the North and Central Complexes. EWN designs will be developed and completed as part of the Construction Phase and Adaptive Management Process. The goal is for the sEIS to update prior NEPA by covering the full breadth of impact so that adaptive management and lessons learned can be employed throughout development of future designs. Additional details on the development of EWN measures were provided to resource agencies on August 29, 2024, for their consideration and discussion at the September Habitat Workgroup Meeting.
27	MDE	5/15/2024		SAV protection and restoration is cited as a critical component of the project per the 2009 Chief's Report. However, there is no SAV restoration component of the project other than an assumption that SAV will be protected once the island is restored therby reducing the erosion. Active SAV restoration measures, including SAV monitoring and enhancement/planting commitments, would ensure project goals are met and will also help mitigate aquatic habitat loss with island restoration.	The Chief's Report identifies that the Mid-Bay project will add value by protecting the SAV beds east of Barren Island, and contribute to a number of Chesapeake 2000 Agreement goals including protection and restoration of SAV. The authorized project does not include any direct SAV restoration components. The objectives of the project include "Promote conditions to establish and enhance submerged aquatic vegetation". Others could partner to undertake further SAV restoration measures.
28	MDE	5/15/2024		In total, there are permanent losses and/or significant impacts to fisheries habitat, including pound nets, blue crab, or oysters, which have been raised during the public participation process. Further measures to lessen/mitigate fisheries impacts should be identified, quantified, and committed to in project design. Such measures may include: reusing any oyster shell dredged from the access channel in reef structures or living shorelines; and specific commitments for enhancing, restoring, or creating fisheries habitat can be credited in the impacts summary table recommended in Item 1.	Public participation (non-agency stakeholders) has not raised significant concerns to fisheries. Pound nets are not active. The biggest impact is to crabbers and USACE/MPA will continue to work with them to coordinate activities, building on the relationships developed during the Barren Island construction work. Reefs and wetlands are expected to have benefits to crabs and fisheries. USACE/MPA will continue efforts to improve connectivity of project features in the design. Regarding recovering oyster shell from dredging, please see response to Comment #19.
29	MDE	5/15/2024	Summary, Pages i and ii	Impacts are acknowledged to be “direct and indirect, potentially moderate, and both short and long term in duration.” It is also acknowledged that island creation will bury aquatic habitat. The summary goes on to state that while the project will “impact nearly 2,500-acres of open water habitat, similar habitats are abundant within the adjacent waters and Chesapeake Bay.” This includes the 99-acre impacts to the James Point oyster bar from dredging the access channel. Although there is other open-water habitat in Chesapeake Bay, this does not relieve the project sponsors from mitigating impacts to State wetlands which cannot be avoided or minimized to the extent practicable. The requested impact table and summary will help to justify ecological trade-offs through the quantification of impacts, and whether they are temporary or permanent, and identification of the nature-based features or other project elements which are proposed to offset any impacts.	Refer to the impacts table developed for comment #25.

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30	MDE	5/15/2024	Project Location and Setting, page 1	The original island footprint is identified as covering approximately 1,350-acres, yet the proposed island restoration covers 2,072-acres. The proposed size of the project exceeds the original footprint by approximately 700-acres and is outside the scope of James Island restoration.	Per the 2009 FR/EIS and plan formulation (that included all agency stakeholders), the decision was made to select the alternative that included restoration at James Island via a large dredge-material island, and restoration at Barren Island focused on shoreline stabilization with some minor wetlands restoration to protect the SAV beds in Tar Bay. The four cost-effective alternatives (2009 FR/EIS) were two Barren-only alternatives (Barren A 50/50, Barren A 45/55) and two James and Barren alternatives (James 5/Barren D 45/55 and 40/60). At the time, it was recognized that the impacts to habitat and commercial fisheries would be more extensive from the construction of a large-dredged material island at Barren compared to implementing at James. To avoid the impacts to constructing either Barren A or Barren D, a revised alternative was developed (with agency input) that was named James 5/Barren E. This alternative is our current recommended plan. It was selected due to its ability to meet the dredged material capacity and habitat restoration objectives while avoiding 684 to 1354 acres of impact from implementing Barren D and A, respectively to the west of the existing Barren Island. Historically, Barren Island has lost between 701 to 862 acres, depending on the historic account. This island lost combined with the 1,350 acres lost from the erosion of James Island results in a combined loss of 2,051 to 2,212 acres of remote island habitat in Dorchester County. This loss scales appropriately to the habitat restoration targets of the Mid-Bay project.
31	MDE	5/15/2024	Section 1.3.1, Page 3	This section describes potential sources of dredged material, but there should be further description that the dredged material will need to meet the specifications for beneficial use.	Section 1.3.1 text revised by addition of "Any dredged material placed at James Island will need to meet specifications as documented in applicable permits."
32	MDE	5/15/2024	Section 1.3.4 Large Scale Oyster Restoration Efforts, page 11	Page 11 mentions the oyster restoration initiative and that three of the areas (Little Choptank, Harris Cr. and Tred Avon) are located in the vicinity of James Island. This section explains the plans and goals for oyster restoration in the area, but there is little information on how this project will benefit oyster restoration.	Correct. Section 1.3.4 just documents projects in the vicinity. However, the document does not discuss positive impacts from the project for oysters. To address this, the following text was added to the oyster impacts discussion in 6.8.5.2: "As discussed in Section 1.3.4, the Little Choptank River oyster restoration project is adjacent to the James Island project site. This large-scale tributary restoration project has restored 360 acres of oyster reef habitat within the Little Choptank River sanctuary. In conjunction with the Harris Creek and Tred Avon River oyster restoration projects within the Choptank River, these three projects are serving as reproductive engines for the oyster population. The stone perimeter dikes constructed as part of this project are expected to provide substrate on which oyster spat exported from the restoration sanctuaries can set to expand oyster habitat. Further, any reef habitat created along the perimeter of the island will additionally augment oyster habitat and connectivity in the region.
33	MDE	5/15/2024	Purpose, page 12	The sEIS should be updated to document changes in conditions and/or impacts since the initial study was completed and to document investigations at modernizing the design by including EWN approaches for exterior dike design.	See response to Comment #26. Section 5.1.1.1 'Incorporation of Engineering with Nature into the Design' has been updated to reflect the most currently available EWN information. The final designs for the EWN will be completed through the Construction Phase and Adaptive Management process. However, the sEIS discusses the EWN approaches and alternative, and evaluates the expected impacts from their implementation.
34	MDE	5/15/2024	Need and Objective, page 12	The island as proposed exceeds the original footprint by over 1,100-acres if using the total proposed island area of 2,477 acres. These 1,100 additional acres exceed the restoration objective to restore an island that was originally 1,350-acres	See response to comment #30. Further, the 2009 FR/EIS (Section 6.1.6.d) documented that the project could disturb up to 4,100 ac of bottom with the inclusion of a buffer for future project adjustments. This impact area has been reduced by ~40% by current evaluations to the ~2,477 ac.
35	MDE	5/15/2024		Describe how the island configuration affects tidal current and local erosion/depositional patterns, as part of the project objective is to reduce local erosion. Also, provide details as to how the island configuration promotes recolonization of oysters, which is another objective.	Section 6.5 describes anticipated impacts to tidal currents and erosion/depositional patterns. Text of Sec 6.8.5.2 revised per comment #32 to discuss how the project promotes oyster recolonization.
36	MDE	5/15/2024	Section 2.3 - Objectives Page 13	Objectives listed include preserving embayments and promoting oyster recolonization, but the project description does not include much information about how these objectives will be attained.	The objectives listed are for the full Mid-Bay project. The embayment objective is being fulfilled by the Barren Island project. Language clarified in Sec 2.3. Additional language has been added to Sec 6.8.5.2 in response to comments #32 and 36.

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37	MDE	5/15/2024	Page 13 - Section 3	James Island is described as a privately-owned island. The island is also described as having totally eroded to the point that none of it is above water at mean high water (MHW). MDE would like to clarify that once land has eroded to the point that it is below water at MHW, it is considered State tidal wetlands, and held in trust for the citizens of the state (i.e., no longer privately-owned).	The following text added, "Per Maryland state law, once land has eroded to a point where it is below water at MHW, it becomes State tidal wetlands and held in trust for the citizens of Maryland. As such, James Island is no longer considered privately-owned."
38	MDE	5/15/2024	Page 24 -Figure 9	The access channel appears different in this figure as compared to the figure on page 17. This occurs on other figures in the report, as well.	Figures 9, 12, 14, and 16 depict the project's expected footprint at the time of sampling so it is more appropriate to add a note explaining why the access channel shows a different configuration in those figures. The following text was added to the caption of each figure: "(Initial access channel alignment that was current at the time of sampling is depicted.)"
39	MDE	5/15/2024	3.8.5.3 Blue Crab, page 47, 3.8.5.5 Finfish, page 49	The James Island restoration footprint is located in a well utilized crabbing area - about 1,000 crab pots/year. This is also a fairly extensive fishing area. Can you please provide public comments you have received regarding fisheries impacts, and how those specifically are being addressed and considered in project design?	We did not receive any public comments specific to fisheries impacts. Watermen did participate in the public meetings and were involved in discussions about how and when the project would be built. NFMS provided comments relative to fisheries impacts and those are included in this comment/response table. The only other public comment received was from Dr. Larry Chitlik. He is concerned that the dredge material placed at James will eventually erode into the Bay and contaminate the food chain and commercial fishery harvest. We have provided him with information on how the material is tested to confirm that it is clean for placement. That response is included in the 'Public Comments' tab.
40	MDE	5/15/2024	Section 3.20 EJ, page 66	No mention of Justice40.	The applicable EO was reflected in Table 22, but text did not address Justice 40. Text of 3.20 and 6.20 revised.
41	MDE	5/15/2024	Section 4.1-Alternatives Considered, Page 69	The third option of building with more natural structures (recommended by MDE) has been combined into Option 2 with the justification that, “only alternatives that would be viable and meet current expectations would need to maximize NBS or Natural and Nature-based Features”. Option 2 is the +20’ MLLW upland dike, including the option to reconfigure the wetlands and upland ratios during design. This option does not address the request that the design be revised to incorporate softer containment in areas where energy levels allow. It is not clear that the third option proposed by MDE is being addressed in Option 2.	Section 4.2.1 explicitly states "A modernized design would account for current conditions, climate resiliency, and maximizes NNBF." and "Alternative 2 would evaluate and incorporate nature-based features that are determined to be scientifically practical and feasible, and acceptable with respect to future operations and maintenance, to provide resilient habitats that maximize value to terrestrial and aquatic species." The EWN measures are being developed outside the sEIS process, as part of design and adaptive management. That was necessary due to the long construction period for the project and the time needed to fully evaluate EWN measures. USACE will continue to work with resource agencies to determine which EWN measures are feasible, and develop designs. It should be noted that the James Island project area is exposed on all sides to fairly high wind and wave forcings. Softening of shorelines with EWN measures is only being pursued on the eastern wetland shoreline, as coordinated with resource agency partners.

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42	MDE	5/15/2024	Section 4.1.2 Alternative 2 Page 69	Alternative 2 is described as constructing a 2,072-acre island with a habitat proportion 45% upland to 55% wetland and a +20-foot MLLW final upland dike including an option to reconfigure the wetlands and upland ratios during design. This description does not provide assurance that the request to include nature-based elements will be a part of this alternative. An “option to reconfigure the wetlands and upland ratios” could allow for the design to become more hardened or have a higher percentage of uplands or structures. The description should include the total area of disturbance is 2,477 acres. Alternative 2 is described as having armored dikes (approximately 47,000 linear feet), breakwaters, and/or other structures which would be constructed to approximate the island’s historical footprint. However, the historic island footprint has been described as 1,350 acres in 1660 and the recent island remnants are not incorporated into the footprint. The final design is still being discussed, with MDE and other resource agencies expressing concern over the footprint and hardened structures. The breakwaters and other structures should be better described in order to evaluate the impacts vs. benefits. Later in the document the dike is described as being temporarily built to 25 feet. The maximum proposed top elevation should be specified as well as a projected timeline for the higher height. Alternative 2 would include up to 50 acres of nearshore features adjacent to the dike and within 150 feet of the perimeter dikes on the eastern and southern shoreline, but these features are not well described nor is the obligation to actually construct them.. According to this section of the sEIS, this evaluation is for the footprint of the project and not the full habitat design. However, with the design still being evaluated, it may be too soon to know the final footprint or impacts.	Alternative 2 is described as "A modernized design would account for current conditions, climate resiliency, and maximizes NNBF. " We continue to work with resource agency partners to formulate EWN measures, but those specifics are part of the final design that will be completed throughout the construction phase. See response to Comments #26, 33, 105, and 109. With regards to the ratio of uplands to wetlands, there will be no change to the authorized distribution of uplands to wetlands (45 to 55). The document will clarify that the increase of upland dikes to 25 ft is only temporary. Text was added to a new section (Sec 5.1.3) to clarify that the dike elevation to +25 ft will be temporary and use sand only. This is an increase using sand to build the dike not rock. It is only to provide containment when the top lifts of dredge material are placed. With regards to island size, please see the response to comment #30. Language will be added to the document in Section 5.1.7 to better describe the breakwaters and other structures. USACE has developed and shared with resource agencies more detailed EWN alternatives, including plans for reef enhancements. The intent is for this sEIS to evaluate the footprint within which the project could be implemented not the final design. As a Congressionally authorized project, there are limitations that establish the boundaries for the project. It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate.
43	MDE	5/15/2024	Section 4.1.2 - Alternative 2, page 71	Alternative 2 would include up to 50 acres of nearshore features within 150’ of the perimeter dikes as described. This could include breakwaters, reefs, or other structures that would enable enhancements to soften the shoreline. How was this 50-acre maximum be determined and quantified? What modeling or hydraulic studies were used to determine these amounts?	The proposed Reef Concept plan provides a justification for including approximately 41 acres of reef habitat in the project. The sEIS has retained a 50-acre impact for reef features to enable flexibility, consideration of the EWN alternatives, and additional acreage as designs mature. The extent is constrained by limitations on where the reefs could be placed. Reefs are intended to diversify the perimeter dike habitat, and therefore projected to fall within ~150-200 feet of the shoreline. Some areas along the shoreline are not good candidates for oyster reefs - such as the western shoreline (it is anticipated that the island structure would inhibit the flow of larvae to that shoreline, and it is a high energy environment) and the area near the personnel pier. However, a small number of reefs are proposed on the western shoreline to provide fisheries value. As this component of the project was not in the authorized scope, the scale of implementation is also constrained by costs. The hydraulic studies completed during feasibility informed the existing reef proposal (which was developed following the draft sEIS was reviewed. Resource agencies have received this further detail.) Larval transport modeling conducted for prior oyster restoration efforts was also utilized in developing the reef plan. The waters around James Island are not a closed, retentive system, and therefore it is not possible to look at historic oyster resources to develop a meaningful scale as a goal for a sustainable oyster restoration project that will fuels itself with larvae (as is done in the large-scale tributary work).
44	MDE	5/15/2024	Section 5 - Recommended Plan Page 75 & 76 –	The report says, “An updated plan is underway but will not be presented in this sEIS”. This makes it challenging to evaluate the benefits vs. the impacts. More information should be provided about the following: ● Explain why the bulkhead needs a 5-acre footprint. This seems excessive for a bulkhead impact. ● The access channel is described as impacting 99 acres of the James Point oyster bar and is 10,000 linear feet and 600 feet wide and will be dredged to 15 to 26 feet deep MLLW but may be revised. ● 50 acres of shoreline features are mentioned, but there are no details. ● There is mention of an office trailer. At what point will this be placed at the site? How will water and sewage disposal be provided?	The EWN design will continue concurrently with the sEIS and continue through the design/construction phase. Resource agency participation will be included throughout the project. We envision the EWN to continue to evolve as measures are implemented and lessons learned are applied to future design/construction plans. See response to comment #43 for insight on areas earmarked for offshore reefs. The reef proposal has been provided to resource agency partners and added to the sEIS as Appendix A6. It is expected that the office trailer would be constructed within the first 5 years once fast land is established in the uplands cell. Sewage and water will be disposed of through a septic system.

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45	MDE	5/15/2024	Section 5.1.1.1 Incorporation of Engineering with Nature into the Design, Page 77 –78	This section discusses designs being considered but says that inclusion of EWN approaches for the design of internal habitat features will occur later. The current measures that are being evaluated for the exterior of the perimeter dikes are listed, but methods for evaluating these options are still under discussion and continue to be evaluated to identify a final design. The section does not identify a specific commitment to incorporating natural or softened designs.	USACE acknowledges concerns that designs are not developed yet, but it has been communicated from the start of the process that the sEIS is focused on evaluating the impacts associated with the project footprint and that details on design will be developed throughout the Construction Phase. This aligns with Poplar's development. See response to Comment #109. Poplar's NEPA documentation was completed and then over the following decades designs have been developed, and lessons learned applied to subsequent habitat development. USACE/MPA are committed to implementing those EWN measures that are determined to be feasible and within the study authority, contingent on funding. Refer to 2024 ASA(CW) Memo on the incorporation of Nature-based features.
46	MDE	5/15/2024	Section 5.1.1.1, Incorporation of EWN into the Design, Page 78	This section states, “the measure does not allow for the loss of sediment during inflow that would violate permit requirements.” This is not properly stated. MDE’s permitting process ensures that proper controls are in place to prevent loss of sediment during inflow. Compliance is achieved as long as those controls are approved via the permit and implemented accordingly. This should be restated to say that, “the measure has controls approved by MDE to prevent sediment loss during inflow.” Another NBS feature could be SAV planting to help with SAV restoration and to help dampen wave energy in conjunction with living shorelines and reefs.	Text has been revised to correctly present the compliance information. The water depths immediately along the eastern shoreline/potential living shoreline are likely too deep in most areas for SAV restoration as most depths are >-6 ft NAVD88. Further, direct SAV restoration is not included as a part of the authorized project. Partners could undertake SAV plantings once the dikes have been constructed, and it has been determined that conditions would support plantings if the seed bank is not sufficient to fuel regrowth/expansion of the beds that existed prior to the loss of James Island.
47	MDE	5/15/2024	Section 5.1.2 Construction procedures, Page 78	There is mention of construction-quality sand from the borrow areas being stockpiled; please confirm whether the borrow areas are within the proposed island footprint.	Yes, the borrow areas are within the proposed island footprint on the northern half of the island. Note added to clarify in Sec 5.1.2.
48	MDE	5/15/2024	Section 5.1.4 Upland Cell Development, Page 80	The description mentions that the dikes will be built to the 20’ MLLW height and then raised over time to 25’ MLLW. How long will they need to stay at that height? Please clarify whether this will require them to also be wider to accommodate the additional height. If they do need to be made wider, this number should be provided in the impact table.	Section 5.1.3 has been added to specifically discuss perimeter dike elevations and raising of upland dikes. The stone armor of the upland perimeter dike (dike has sand core) is initially constructed to +11 ft MLLW. Overtime the dikes would be heightened from 11 to 25 ft with sand only. This would not be an extension of the stone portion of the dike. The dikes would not need to be widened to accommodate the increased height. The dikes would remain at 25 ft during inflow until the final material is placed in the uplands to achieve the +20 ft elevation. This is anticipated to take approximately 15-20 years.
49	MDE	5/15/2024	6.1 Setting, Page 82	This project will impact a total of 2,477 acres of Bay bottom with 2,072 acres of that being considered habitat restoration. There should be clarification on what areas are being considered habitat restoration vs. structure. For example, approximately 1,043 acres of wetlands will be developed within cells separated by dikes and there will be 853 acres of uplands equaling 1,896 acres. An additional 97 acres of wetlands and 79 acres of uplands are to be built on the side slopes of the perimeter and separator dikes that make up the remaining 176 acres of the 2,072 acres of habitat restoration. The dikes, breakwaters, and bulkhead are listed separately from the 2,072 habitat restoration but are still areas where Bay bottom is being converted to uplands. The area of wetland habitat vs. uplands being created should be clarified.	Please refer to the table developed in response to Comment #25. The text of Section 6.1 has been revised to add more details on habitat restoration/development within the project footprint.
50	MDE	5/15/2024	6.4 Topography and Bathymetry, Page 84	Under Alternative 2, how will existing topography and bathymetry be maintained when the proposal is to fill open water to an elevation of 20 to 25’ MLLW?	Concur. The text is Section 6.4 is not clear. Text has been added to clarify and further characterize the with project conditions.

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51	MDE	5/15/2024	Page 85-86 – Section 6.6 Water Quality	The access channel may become hypoxic or anoxic during the warmer months. Stating that the benthic organisms can avoid this area during a low oxygen period does not provide a sufficient justification for adverse impacts to water quality. The creation of new hypoxic/anoxic areas is not consistent with Clean Water Act requirements that water quality standards be maintained.	This statement has been corrected. Records from an adjacent CBP water quality monitoring station (CB4.3E) were investigated to understand where the pycnocline is typically located as well as the DO levels. Based on this information, there is no longer the expectation that the dredged channel will experience anoxia and hypoxia. The text of Section 6.6 has been revised to: "Although the presence of the dredged channel could inhibit lateral water exchange, the area is not expected to be below the pycnocline which would inhibit vertical exchange. The nearest Chesapeake Bay Monitoring Station (CB 4.3E) is approximately 3,200 ft to the northwest of the outer limit of the access channel. CB4.3E is situated in much deeper water (22.5 m (73.8 ft)). However, based on Chesapeake Bay Program Water Quality Monitoring Data for station CB4.3E, over the past 10 years, the lower boundary of the pycnocline has been situated at water depths deeper than those of the dredged access channel (CBP 2024). Therefore, although the area will be deepened, it is not anticipated that the water within the access channel will become hypoxic or anoxic in warmer months of years when impaired water quality problems are pervasive below the pycnocline in the Bay. The northwest corner is a high energy environment which is expected to promote circulation within the channel."
52	MDE	5/15/2024	Section 6.5.3 - Tidal Currents. Page 85	Due to the island restoration increasing current velocities between the project and Taylors Island, additional reefs or breakwaters may be considered to reduce those impacts.	The Hydrodynamics and Sedimentation investigation (Dinicola et al. 2006) completed during feasibility did identify increased current velocities between the SE corner and Taylors Island and suggested the potential need for protective structures to prevent erosion in this area. Structures have been included in this area as part of the reef proposal. They will be further evaluated as part of the EWN analysis. A further consideration is whether the foundation would support the reefs in this area or if foundation replacement would be required. The need for foundation replacement may limit reef placement in the SE area.
53	MDE	5/15/2024	Section 6.8.2 - Submerged Aquatic Vegetation. Page 85	SAV planting should be considered to promote SAV re-establishment and mitigate open water habitat impacts from island creation. SAV protection and restoration is part of the Chiefs Report and authorization.	No active SAV restoration nor mitigation were authorized with the project as necessary to mitigate open water impacts. Further, active restoration is coming out of a paused phase due to WQ limitations. The project is expected to restore quiescent conditions for SAV in waters on the leeside of the island. SAV monitoring will be part of the TWL/WQC. Based on monitoring results, others could partner to enhance any recover that happens with additional restoration efforts.
54	MDE	5/15/2024	Section 6.7 Sediments, Page 86	Potential impacts to littoral drift should be discussed. Disturbance to sediments from the electric/communications line should be shown and the method of placement should be included.	Based on the modeling conducted during feasibility, the project would have little effect on littoral drift for south-southeast and west-northwest winds. There would still continue to be erosion along the Taylor's Island shoreline with deposition offshore in deeper waters. However, for north-northwest winds, the project would reduce erosion along Taylors Island. This information and additional details regarding the method for placement of the utility line has been added to Section 6.7.
55	MDE	5/15/2024	Section 6.8.4 Fish, Page 89	The dike is described as not providing a substantial amount of natural shoreline but is expected to diversify the habitat, as well as to protect SAV and potentially allow an increase in abundance Since the increase or benefit to SAV and its related benefits to fish is being presented as an offset to impacts, MDE may require monitoring to document that the proposed benefits actually occur.	These measures are being presented as a way to maximize the environmental benefits of the project. Monitoring plans will be established in coordination with the Habitat Development and Monitoring Workgroups.
56	MDE	5/15/2024	6.8.4.1 - Essential Fish Habitat, Page 90	Minor adverse impacts to Essential Fish Habitat are identified for summer flounder and bluefish. The document states that no mitigation is proposed, but reefs and softer shorelines will help offset these impacts. The reef features should be included in the project proposal in this case, not solely as an option to be considered.	A reef proposal has been developed and distributed to resource agencies for their review and feedback. All project impacts were addressed during the original EIS process. We will continue to include the impact of up to 50 acres of reef habitat/structure within the sEIS for that addition.
57	MDE	5/15/2024	6.8.5.2 - Eastern Oysters. Page 91	DNR previously recommended saving and reusing the shell from impacts to James Point Bar. The oyster shell that is removed is to be used to rehabilitate oyster bar habitat at a location to be determined. Since this project involves an impact to oyster habitat and restoration of oyster habitat is a goal, more oyster habitat restoration should be incorporated into the design.	See responses to Comment #19.

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58	MDE	5/15/2024	6.8.5.4 Horseshoe Crab, Page 93	The project is said to have a long-term beneficial impact to horseshoe crab nesting by potentially providing new nesting habitat on sand dikes and beaches. If these features are described as benefiting horseshoe crabs, the new nesting habitat should be incorporated into the design.	These internal features will be incorporated once that phase of the design is initiated. Similar to Poplar Island, the long construction phase requires a long, adaptive design phase.
59	MDE	5/15/2024	Section 6.13.1 – Greenhouse Gas Emissions, Page 98	The report says that, if the dredged material does not go to James Island, it would likely be transported to the ocean, which is then used as a comparison (distance to James Island vs. distance to some place out in the ocean) to help show a benefit for greenhouse gas emissions. This is a false comparison, since it assumes that there is no other place to take the material.	Non-concur. There currently is no other authorized place for the material. Ocean placement is the federal standard for which to compare alternatives.
60	MDE	5/15/2024	6.14.1 Noise, Page 100	This project is about 3,300 feet from Taylors Island and may negatively impact the mainland neighbors. Has there been any outreach to these neighbors? Are the neighbors opposed to the project?	There has been community/public outreach. We have not received any opposition from immediate neighbors.
61	MDE	5/15/2024	Section 6.15 –Light, Page 105	It is noted that the primary complaint from the Poplar Island project is the loss of darkness. Work is expected to occur 24 hours a day. The report states that, while the light may be visible for many miles, it would not be perceived as bothersome. This is an assumption and has the potential to have a significant impact on the neighbors, although the area is rural so there are not many. The report mentions different ways of shielding the light to reduce the effects but the commitments should be described more fully.	In further discussions with the Poplar team, they have not received complaints regarding light from neighbors to characterize these as 'primary complaints'. Text has been revised in Section 6.15.
62	MDE	5/15/2024	Section 6.16 – Hazardous, Toxic, and Radioactive Wastes, Page 106	There is mention of the fuel bank that will be installed. At what time will this be done? Since there are no uplands at the site now, some uplands would have to be created first.	The fuel farm is expected to be installed by the 5th year of construction. The team is also considering the use of wind and solar energy sources. Text has been added to Section 5.1.6 to provide further information.
63	MDE	5/15/2024	Section 6.17.1 Navigation and Navigable Channels, Page 106	This project will require watermen to go around the area that is currently navigable. This will add to the time and cost for them to work the area. Has the project been viewed favorably by watermen?	The project has been viewed by watermen through the public outreach efforts. No serious opposition has been communicated.
64	MDE	5/15/2024	Section 6.18 – Impacts to Cultural and Archeological Resources, Page 108	Buried paleochannels have been recorded within the turning channel. Are these paleochannels connected to aquifers that are used as a source of potable water? Would breaching confining layers for a turning basin potentially impact the quality of the water in these aquifers from saltwater intrusion or introduction of fuel or contaminants from the vessels?	The paleochannels and areas to be dredged are not connected to aquifers. This is not an issue. The Aquia Aquifer underlies the area. Per DNR, the top of the aquifer is between -400 and -500 ft msl. Please see figure provided in adjacent columns (https://agnrgroups.umd.edu/sites/agnrgroups.umd.edu/files/_images/master-naturalist/DNR%20QW%202014%20Overview%20of%20Geology%20&%20Groundwater%20of%20Md%20emphasis%20AArundel.pdf).
65	MDE	5/15/2024	Section 6.19.3.3 - Blue Crab Fishery, Page 109	The James Island footprint is a productive commercial crabbing area. SAV planting/re-establishment should be a component to offset these losses.	See response to Comment #53.

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66	MDE	5/15/2024	Section 6.19. 3.4 Finfish Fishery, Page 111	The economic impact is described as being a negative during site development followed by a long-term positive economic impact. 2,450 acres of bottom will be removed from use by finfish, but a reduction in abundance in the area is not expected since they will go somewhere else. The bottom fish habitat is expected to be offset by improving the quality of nearby fish habitat, reducing turbidity and providing underwater habitat structure in the form of rock reefs as well as the expected increase in SAV. If rock reefs are being proposed as a method of offsetting the impacts, they should be incorporated into the design. Since an increase in SAV as a result of this project is being presented as an offset to the impacts, there should be monitoring to show that the increase actually occurs. If there is no improvement, other methods of habitat improvement may be required.	The topic of adding fishery value via reef habitat will be further developed through the EWN formulation. The increase in SAV is not being presented as an offset of this project. The project's objective with respect to SAV is stated as "Promote conditions to establish and enhance submerged aquatic vegetation". With that said, there will be monitoring for SAV and of any reef networks that we implement with the project.
67	MDE	5/15/2024	6.20 - Impacts to EJ	The document notes potential impacts to disadvantaged watermen populations; how will these be addressed?	It is anticipated that the contractor will coordinate construction efforts with watermen using the area throughout the construction phase- similarly to how Barren construction was conducted. Not all impacts will occur immediately. The project footprint impact will initially start with the uplands area and then expand over subsequent years. The project was shifted during feasibility formulation from James and Barren large-scale islands to just James to avoid much more extensive impacts to watermen/crabbing grounds by the construction of a large island at Barren.
68	MDE	5/15/2024	Section 22.2 Recreation, Page 113	Proposing the island for use for recreational and educational experiences may be in conflict with the goal of providing a remote island habitat with little human activity.	Section 6.22.2 revised to communicate limited passive recreational additions that need to align with habitat goals.
69	MDE	5/15/2024	6.23.1 - Cumulative Impacts, Page 116	The limit of 50 acres seems inconsistent with the notion that EWN should be maximized. There should be clarification that there are 2,072 acres of impacts from habitat restoration at James Island but the total impacts are 2,477 acres.	We have provided further details on these EWN plans. The 50 acres was specific to reef efforts. None of the potential EWN considerations were part of the authorized plan and therefore, have restrictions on the extent to where they can be implemented (within ~150-200 feet of the shoreline) and are constrained within the authorized cost of the project. These measures should not be viewed as mitigation for the footprint of the project. There are no mitigation requirements for this project in the authorized project. The reef proposal provides additional information on the extent of the reef efforts proposed and the limitations, and has been added to the sEIS as Appendix A6. Further explanation of impacts and acreages has been provided in response to Comment #25.
70	MDE	5/15/2024	Section 6.23.1 – Cumulative Adverse Impacts, Page 116	The report says that proposed island restoration projects (Poplar Island, James Island, Barren Island) would cause a loss of approximately 4,700 acres of bottom and open water loss, however, much of it had been island habitat in the past and with sea level rise (SLR) and erosion, shallow water habitat is abundant. Based on this, there is a determination that there is “no significant cumulative negative impact”. MDE notes that filling open water habitat is proposed and these offsets or resource trade-offs should be quantified, which may require additional justification.	MDE's position is acknowledged. USACE prepared a table to address Comment # 25 that will also inform the concern raised here regarding resource trade-offs. This 2009 FR/EIS addressed the impacts of the project from filling open water. Agencies agreed at that time on the merits of the project for restoring remote island habitat, and adding to the network of restored remote island habitats.
71	EPA	5/15/2024		EPA did not identify significant public health, welfare, or environmental quality concerns to be addressed in the final SEIS and is providing limited comments at this time to improve the assessment and/or environmental outcome of the proposed action as we expect to remain engaged in the project development. EPA has worked collaboratively with the USACE and anticipates having further discussions as the Mid-Bay Island Project is developed through the work groups and interagency meetings.	Comment acknowledged. Yes, EPA will be involved in further project discussions and design.
72	EPA	5/15/2024		As stated in our December 7, 2022 scoping comments, the need to restore island habitat and support a diverse assemblage of birds, fish, herpetofauna, and invertebrates should not only guide the design of James Island and its habitat features, but also inform appropriate monitoring and benchmarks to ensure that the project goals are being met. We expect that discussions among the USACE and other agencies will identify the ecological communities and habitat components for target species or assemblages that will drive the project goals and inform the Adaptive Management Plan.	Yes, the expectation regarding future habitat development and Adaptive Management Plans is correct.

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73	EPA	5/15/2024		Overall, minimizing potential tradeoffs and adverse impacts, providing suitable habitat for target species, and reducing risks to vulnerable species (invasive species, predators, mortality from flooding, etc.) should be key considerations in design, operation, and maintenance of the project. We also recommend clearly incorporating minimization of impacts into design components of the project where possible, including the access channel and turning basin.	Concur.
74	EPA	5/15/2024	6.15	We note that Section 6.15 discusses lighting impacts on humans, including nearby residents. Lighting impacts on species should also be assessed and reduced where possible, especially during nesting and migratory seasons.	Acknowledged. The following text has been added to Sec 6.15: "Increased lighting also has the potential for negative impacts to wildlife. Lighting concerns are not isolated but occur in tandem with other general construction-related impacts. Throughout the project there will be ongoing coordination with wildlife experts and project partners (similar to PIERP efforts) to ensure that impacts to wildlife during construction are minimized and that after construction there will be no more impact. Negative light impacts from PIERP on wildlife have not been identified as a concern over the course of that project. Lessons learned from Poplar efforts will be incorporated throughout the construction period."
75	EPA	5/15/2024	6	As outlined in Section 6 (Impacts to Project Area), developing management plans for avifauna or mammals may be necessary as well as with invasive species management.	Concur.
76	EPA	5/15/2024	6.22	During planning phase of the project, it will be critical to fully address potential issues such as access, trespass, and human-caused damage/vandalism. As noted on page 95 “Human visitation would be controlled throughout the construction period of the James Island project…It is likely that after the project is completed and turned over to the local sponsor there could be both controlled and uncontrolled visitation.” Recreation appears to be an expected use as described in 6.22.2. If sensitive, rare, or breeding species become established on the island, human disturbance may present a significant issue.	Concur. Text has been revised in Sec 6.22 to recognize the sensitivity of the habitats being restored. Ultimately, the property owner will have the responsibility for management of habitats and any recreational access.
77	EPA	5/15/2024		We appreciate the inclusion of nature-based design where possible. We understand the need for stabilization; however, natural islands are generally dynamic systems and the need for stability must be balanced with the overall restoration goals by providing accessible habitat to a range of species such as diamondback terrapins and horseshoe crabs. We look forward to further conversations regarding areas where nature-based solutions and features can be incorporated.	Acknowledged.
78	EPA	5/15/2024		EPA also appreciates the incorporation of climate change and sea level rise in the SEIS. We support the consideration of resiliency, including planning for successional habitats, and encourage the USACE to continue to evaluate appropriate monitoring and adaptive management actions based on the best available data.	Concur
79	EPA	5/15/2024		EPA agrees that monitoring with applicable success standards and timely adaptive management will be critical to for the success of a project that meets the goals of restoration as well as dredged material management. The design plans for the wetlands should include reference sites and target conditions, performance standards, monitoring and adaptive management to ensure the projects will result in ecological uplift.	Concur
80	EPA	5/15/2024	5.1.6	As outlined in 5.1.6 (Site Operation and Maintenance), “An integral component to the site operations and maintenance at James Island is the Adaptive Management Plan (AMP) and monitoring framework...” EPA would like to continue to be involved in developing the AMP and monitoring framework.	Concur. USACE/MPA will continue to engage with EPA on these tasks.
81	EPA	5/15/2024	6.13.1	Thank you for the assessment and discussion included in 6.13.1 Greenhouse Gas Emissions. While we appreciate that cumulative carbon sequestration estimate from wetlands restoration greatly exceeds the project’s estimated greenhouse (GHG) emissions, given the urgency of the climate crisis and consistent with the Council on Environmental Quality’s 2023 GHG guidance, EPA recommends incorporating measures to reduce emissions where practicable, such as those identified on page 97 (“The project could implement measures to reduce emissions such as using low sulfur fuel or clean diesel, limits on unnecessary idling, and diesel controls such as particulate filters, diesel oxidation catalysts, or the use of electric equipment.”)	The text of Section 6.13.1 has been revised to recognize that USACE/MPA will continue to evaluate measures to reduce emissions and generate energy through renewable sources throughout construction. Some measures would be at the discretion of contractors.

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82	EPA	5/15/2024	8.1	Section 8.1 describes outreach and coordination efforts to date. We recommend that the Final SEIS clearly indicate how public input from meetings and outreach informed the design. We also suggest that the SEIS discuss future public outreach and communication efforts as the project moves forward.	Text has been added to Section 8.1.3 in the Final sEIS to discuss comments received. All comments and team responses have been added as Appendix B5. Section 8.1.2.1 has been added to discuss future outreach efforts.
83	NMFS	5/15/2024		The draft sEIS contains updated information from the Feasibility Report relevant to James Island. While we are concerned about the cumulative impacts of the larger scale Mid-Bay project, which are briefly considered in your NEPA documents, our comments in this letter are directed in response to the Phase I proposal described in the PED and primarily focused on activities planned around James Island. We anticipate extensive future coordination as other phases are developed. Furthermore, our comments reflect our current understanding of the project. Several design elements and associated impacts to our trust resources remain unclear. As a result, our comments and EFH conservation recommendations reflect that lack of clarity and missing information. We hope that the responses you provide to our comments and EFH conservation recommendations will help resolve those issues and more clearly describe the proposed action. We may then be able to revisit our EFH conservation recommendations.	Acknowledged. We have provided further details on EWN alternatives and will continue to coordinate with NMFS throughout the EWN formulation, but it must be recognized that designs will evolve throughout the Construction Phase (similar to Poplar). It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate.
84	NMFS	5/15/2024		We provided comments and recommendations dated May 20, 2005, in response to your EFH assessment drafted for the Mid-Chesapeake Island Ecosystem Restoration Integrated Feasibility Report & Environmental Impact Statement (EIS). These comments included recommendations to limit the source of material used for wetland restoration at James Island to navigation-related projects, to generally increase the number of tidal inlets in these projects, and to include crenulations along proposed stone structures to present additional habitat complexity. It remains unclear whether these recommendations will be fully implemented.	The source of material used for wetland restoration will be limited to navigation-related projects consistent with the Congressionally-authorized project. We have worked to increase the number of tidal inlets connecting the project to the Bay from 3 to 4. The number of internal inlets off the main tidal channel of each wetlands complex will be optimized during the design and modeling process. And, we are currently evaluating the incorporation of tombolos along the eastern wetland shoreline which would serve to incorporate crenulations along the shoreline to increase complexity. A determination as to the feasibility of their inclusion in the final design will be made in conjunction with resource agencies once modeling results are complete.
85	NMFS	5/15/2024		We provided further comments in our May 12, 2017, letter issued in response to the updated EFH assessment provided April 10, 2017. That letter requested updated biological information to inform our review of the project and included recommendations that areas of mapped SAV be avoided, and low marsh habitat creation be maximized. The most recent EFH assessment contains much of the information requested in that letter and we appreciate the extent to which additional biological data were collected and presented in this update.	Acknowledged.
86	NMFS	5/15/2024		The project area presents a wide range of conditions and habitats suitable for a diverse suite of aquatic organisms. Several of these species are federally managed and have designated EFH. Since EFH also includes those waters, their associated qualities (e.g., turbidity, dissolved oxygen), and prevalent prey species, the proposed project will adversely impact EFH through a variety of complex and interacting pathways. Several additional species that are not federally managed but are of concern to our agency due to their ecological, economic, and/or historical value also occur in the project area. Impacts to these species are largely dismissed in your EFH assessment for reasons ranging from relative sea-level rise (RSLR) presenting greater quantities of aquatic habitat to certain life stages being “good swimmers.” While these concepts may be true in the most basic sense, they lack a nuanced perspective of aquatic habitats and the complexities of estuarine food web dynamics. As a result, we remain concerned that all practical efforts are not being made to minimize the impacts of these substantial dredging/filling activities and to offset unavoidable impacts through the creation of productive aquatic systems.	The loss of open water has been considered among the impacts of construction and would be offset, in the long-term, by the increased productivity associated with functioning salt marshes, the addition of reef habitat, and the increased habitat value of protecting the existing SAV beds and potential promotion of additional beds at both James and Barren Islands, all of which provide value to aquatic species. The long-term effects to aquatic resources are expected to be beneficial. The ICU methodology did quantify net benefits including the loss of open water habitat. The method, developed by USACE Baltimore with input from a working group involving resource agency representatives, calculates environmental benefits (with a focus on animal communities) over the life of the restoration project. This restoration measurement was reviewed and approved by the BEWG and was also employed in the General Reevaluation Report (GRR) and Supplemental Environmental Impact Statement for Poplar Island. Results showed that even with the loss of open water, the average annual environmental benefits (ICUs) were greater with the project than without the project. Further, since this comment was provided, a reef development proposal has been drafted that targets a number of prey and lower food web species. This has been shared with the resource agencies for review and input. We have also compiled a table in response to Comment #25 that documents in a more precise manner the project impact. This information has been added to the sEIS.

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87	NMFS	5/15/2024		Furthermore, we are concerned that the continuous construction of dredge material containment islands (i.e., Hart Miller Island, Poplar Island, and now James Island) may not maximize the ecological benefit that could potentially be realized relative to other uses for dredged sediments - namely, thin layer placement in appropriate wetland settings.	Acknowledged. The Mid-Bay study and project were connected to the DMMP process which identified large island restoration as a desired approach. This effort is undertaking restoration of lost island habitat and remote habitat has been a priority request by other agencies. The dredging is on such a large scale, TLP may not be effective approach but is used on smaller nav projects. This does no, however, rule out thin layer placement as an additional tool for dredged material management and restoration efforts. Thin layer placement could be an adaptive management option evaluated by the Mid-Bay Working Groups to address sea level rise. Note: USACE is starting to move away from the term 'thin layer placement' to 'sediment augmentation', as placement of thicknesses that may not be considered 'thin' are proving to be successful management measures in areas such as the New Jersey Back Bays.
88	NMFS	5/15/2024		The majority of the resulting impacts to EFH, including nursery habitat and prey species, will occur through the permanent conversion of subtidal shallows to stone sills/breakwaters and areas filled with dredged material. Compensatory mitigation has not been proposed to offset this loss of habitat and associated ecological functions. However, some of the lost or diminished aquatic habitat and functions can be restored and possibly enhanced in the future through the creation of intertidal low marsh, tidal flats, creeks/inlets, and potentially fish reef structures as part of the later phases of the project. Information gathered during years of study at Poplar Island and the surrounding marshes should be used to inform the design of these elements to maximize their aquatic habitat value. This includes maximizing the width and depth of tidal inlets, connecting constructed tidal creeks to potential freshwater sources, and providing a diversity of structured habitat (e.g., vegetation, reefs) to create a continuity of refugia for aquatic life.	Concur that the project should and will evaluate how to incorporate intertidal low marsh, tidal flats, creeks/inlets, and fish reef structures into the design at a future phase. Lessons learned from the Poplar Island project will be leveraged to maximize aquatic habitat value. USACE/MPA will work with resource agencies to determine the width and depth of tidal inlets, connections to freshwater, and developing the continuum of structured habitats for aquatic life.
89	NMFS	5/29/2024		The dynamic nature of these systems points to the importance of establishing an understanding of the sediment budget for a particular site and incorporating this information into the design of created wetlands. We encourage you to consider these complexities during the formulation of wetland cell designs in future project phases to maximize the resilience of constructed features.	Concur. USACE will investigate what needs to be undertaken for sediment budget considerations of interior wetland development.
90	NMFS	5/29/2024		We recognize that island habitats and their corresponding fringing low marsh in the Chesapeake Bay are negatively influenced by erosion and RSLR (Beckett et al. 2016, Kirwan et al. 2016) which historically has led to the contraction/loss of islands and extensive upland conversion to tidal marsh (Schieder et al. 2018). However, low marsh habitat in the broader Chesapeake Bay is eclipsed by high marsh at a ratio of 3 to 1 (Correll et al. 2018). Fringing marshes of the Chesapeake Bay are experiencing ongoing, significant edge erosion associated with storm activity and RSLR, which threatens the ecological integrity of the Chesapeake Bay estuary. For example, the changes in fish assemblages observed between surveys completed for this project (2003 compared to 2020/2021) reflects the loss of diversity and abundance associated with tidal marsh erosion at James Island. For this reason, some level of disturbance may be appropriate to ensure the long-term integrity of these marsh/island complexes, provided the adverse effects to EFH and federally managed species are minimized and unavoidable impacts are offset through the creation of intertidal marsh that is connected to other near-shore fisheries habitats (e.g., reefs, SAV) via expansive tidal creek complexes.	Acknowledged.
91	NMFS	5/29/2024		The sEIS describes the extent to which tidal marshes on the Delmarva Peninsula are threatened by RSLR and includes several examples where dredged material has been used to build elevation in/near existing marshes in an attempt to stem these losses. Such efforts have demonstrated mixed success in the Chesapeake Bay region and evaluations of similar projects in other microtidal settings have described similar results (NJDEP and TNC 2023). Nevertheless, several recent studies and guidance documents (e.g., Ganju et al. 2017, Raposa et al. 2020, Davis et al. 2022, Raposa et al. 2022, Yespsen et al. 2023) provide a framework for responsible site selection and implementation of sediment addition efforts. The continued need (3.2 mcy/year) for dredged material management by MDOT MPA and the District presents a unique opportunity to put dredged sediments to their most ecologically-advantageous use both within the proposed James Island footprint and in Dorchester County marshes more broadly.	Acknowledged. This project is authorized to only place material at James Island. See response to comments #99 and 121.

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92	NMFS	5/29/2024		While the proposed footprint of James Island will not likely adversely affect SAV habitat, we anticipate potential indirect effects associated with attending infrastructure. For example, the installation of utility lines from Taylors Island to the constructed James Island could potentially impact mapped SAV. Since the route and method of utility line construction is not described, we cannot assess whether this is likely to occur.	USACE has re-evaluated potential impacts to SAV from the utility line and revised Section 6.8.2 accordingly. Additionally, all SAV TOYR will be adhered to for the project.
93	NMFS	5/29/2024		Similarly, the sEIS describes the establishment of a land base, though offers few details other than the "likely" location in Slaughter Creek. Since the shallow waters along Slaughter Creek support mapped SAV, the expansion of boat traffic and potential construction of access structures could also potentially impact SAV. Overall, the planning of this infrastructure should incorporate avoidance and minimization measures to ensure that this sensitive habitat is not destroyed or otherwise degraded.	A land base would be an existing structure that USACE/MPA/contractors use for offices. An additional trip or two per working day would be the extent of expanded boat traffic. This level of additional boat traffic would not be expected to be noticeable to the system. Further, the land base would have sufficiently deep waters for access. This would limit interaction with SAV and other sensitive shallow water habitats. No access structures would be constructed. Concur regarding that the planning of the infrastructure will incorporate avoidance and minimization measures to ensure that the sensitive habitats are not destroyed or degraded. Text was added as Section 5.1.6.2.2 to describe the Land Base, and in Sect 6.8.2 to discuss impacts.
94	NMFS	5/29/2024		The waters surrounding James Island present oyster reef habitat which is valuable for a variety of commercially (e.g., black sea bass, striped bass) and recreationally important species of fish and their prey. The proposed dredge and fill activities associated with the access channel will result in direct impacts to a documented oyster bar which should be offset through habitat enhancements (e.g., reef creation, oyster reef enhancement) elsewhere. Furthermore, we recommend that the District recover shell material dredged from the proposed access channel and reuse this material for reef enhancements in the immediate project vicinity.	Regarding the recovery of dredged shell, please see the response to Comment #19. The team is working to develop oyster/fish enhancements for the project.
95	NMFS	5/29/2024		Of these two islands, only approximately 1,750 acres was historically documented (ca. 1875) to be occupied by uplands and intertidal wetlands. While we acknowledge the value of remote island habitat for a variety of species, we strongly recommend that impacts to existing priority habitats (e.g., SAV, oysters) be minimized and that productive intertidal and subtidal habitats be created to offset these losses.	The team has worked hard to minimize project impacts. The 2009 FR/EIS documented the potential to disturb up to 4,100 ac of bottom (Sec 6.1.6d). During the Design Phase we have refined and reduced that to 2,494 ac. USACE/MPA are committed to minimizing impacts to priority habitat and restoring productive habitats.
96	NMFS	5/29/2024		Furthermore, we continue to encourage the District to investigate whether dredged material could be responsibly used to enhance existing tidal wetlands in the broader area.	Unfortunately, this is not part of the authorized project. Congress would need to give us additional direction to place dredged material outside of James Island.
97	NMFS	5/29/2024		This sEIS indicates that the District and MDOT MPA intend to change the high:low marsh ratio from what was previously established during the feasibility stage (i.e., 80% low and 20% high marsh) due to anticipated RSLR. These changes have not been adequately justified and the justifications presented in the sEIS appear to be based on simplistic representations of marsh ecosystems and their responses to RSLR. In many respects, RSLR is an adaptive management challenge that can be addressed through careful sediment addition and monitoring both within the proposed island footprint and beyond.	The decision to move to a 50/50 high to low marsh ratio was discussed extensively through the agency coordination process. The selection of this ratio is in response to SLR, lessons learned from Poplar Island implementation and driven by USFWS supporting 100% high marsh to enable marsh migration from SLR and NMFS support for 20% high/80% low. This decision is following the lead of the Poplar Island team, and is supported by the CWEM model developed with Poplar data. Morris and Staver provided the following recommendations based on their recent work (Morris 2024): "If the goal were to simply have marsh a century from now, the decision would be to establish 100% at the start of the project, but with that, many benefits would be lost, primarily benefits to fisheries. There is an optimum HM:LM ratio, but it is unlikely to be as low as 20:80. A 20:80 landscape ratio will soon lose all of its LM in about 40 years, even at the current rate of SLR (Morris and Staver 2023). The optimum will depend on assumptions about the future of sea level, and the ecosystem service values of the marsh, including values in dollars for fisheries, carbon sequestration, ecotourism, storm surge abatement, etc. If we knew the unit-area benefit we could derive a table of optimum ratios." At this time, in the absence of a TLP strategy, USACE/MPA is recommending to balance the HM:LM ratio by shifting from 20:80 to 50:50. This is expected to include a low marsh platform of uniform height targeted at the current optimum elevation for *S. alterniflora* . The objective is to establish a low marsh landscape to be on the super-optimal side of the growth curve, but still low enough to flood regularly. TLP will continue to be discussed with resource agencies to determine how it could/should be included as an adaptive management measure for the project.

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98	NMFS	5/29/2024		Reducing created low marsh habitat will diminish the ability of these projects to offset proposed losses, which include extensive shallow-water fill with stone and dredged material, altered hydrodynamic conditions, shallow-water habitat alterations, and new access dredging. All biota found in this remote Chesapeake Bay island habitat, including several target avian species, depends heavily on aquatic biological productivity associated with regularly inundated salt marshes, tidal flats, creeks/inlets, SAV, and other shallow water habitats. The losses of tidal marsh elsewhere in the region due to RSLR, erosion, and upland development are not sufficient justification for these proposed fills. Rising sea levels pose substantial challenges to tidal wetlands. However, the best mitigation for those challenges is not through the expansive creation of high marsh, but rather through careful planning and adaptive management to achieve project goals. These measures include using updated tidal datums (anticipated 2025), establishing low marsh above the mean tide level (see: Raposa et al. 2016), and planning for adaptive management measures that introduce sediment into created marshes (e.g., thin layer placement). Creating high marsh is most reasonable where they tie into existing elevations of adjacent marsh communities. We will continue to discuss how best to achieve an ecologically-relevant balance of habitats from these projects that, with adaptive management, will continue to provide productive estuarine habitat for the foreseeable future.	Concur that addressing SLR and creating resilient marsh that provide long-term benefits will take a multi-prong approach using all the tools mentioned. USACE recognizes that NFMS does not agree with shifting the high to low marsh ratio from 20/80 to 50/50, but the majority of partners do view this as one way to build additional resiliency into the marsh habitat. See response to Comment #97.
99	NMFS	5/29/2024		Overall, we support the creation of productive aquatic habitats as a means to minimize the negative impacts associated with the disposal and management of dredged sediments. The model implemented at Hart Miller Island and further refined at Poplar Island represents a significant achievement towards this end. Nevertheless, there has been an increasing understanding that existing tidal marshes in microtidal settings such as the mid-Chesapeake Bay are not likely to maintain elevation relative to rising sea levels (Kirwan et al. 2016, Morris et al. 2021). The marshes of Dorchester County are among the most vulnerable to near-term and permanent degradation. This phenomenon presents diminishing function for aquatic biota and is anticipated to further release significant stored carbon. Without significant intervention, much of these vegetated areas are predicted to be permanently converted to shallow open water (Ganju et al. 2017, Morris et al. 2021) with significant ramifications for regional carbon sinks (Unger et al. 2016, Van Allen et al. 2021, Warnell et al. 2022).	Acknowledged. USACE would need separate Congressional direction to further study the issues related to the resiliency of marshland on the Delmarva Peninsula. In order to consider this within the Mid-Bay Project, USACE would need to undertake a General Reevaluation Report or receive new authority. Prior Federal Dredged Material Management Plans and the 2010 Blackwater National Wildlife Refuge Marsh Restoration Demonstration Project Feasibility Study Report did consider the idea of moving dredged material from a central staging area (Poplar Island) or direct pumping for application of dredged material at Blackwater National Wildlife Refuge. The analysis determined that this alternative was not feasible compared to the other alternatives. Major hurdles were the placement of pipes and conflicts with roadways, the logistics of using small machinery for placement, potentially needing to dredge an access channel for placement in some locations, and high costs.
100	NMFS	5/29/2024		Our primary concern revolves around the construction of productive aquatic habitats that offset the temporary and permanent impacts associated with the proposed 2,150 acres of substantial habitat modification. We will continue to work with you to ensure that the designs of each of these features maximizes aquatic habitat value.	Acknowledged. USACE/MPA look forward to continued partnership with NMFS to maximize the potential of this project.
101	NMFS	5/29/2024		While we acknowledge that remote island habitat present benefits for many estuarine species, including colonial nesting waterbirds, research indicates that the extent to which this habitat is used by a diverse array of fish species is dictated by proximity to other area marshes (Meyer and Posey 2019). Since the created habitat will be located at least several miles from significant area estuaries, we may anticipate that fish diversity may be limited in the created wetland cells. We have worked with the District to develop a series of habitat features that could help to maximize habitat value for transient estuarine fishes. Specifically, we continue to recommend that the District establish naturalized channel inlets, large tidal channels with intertidal flats, near-shore reef structures, and nature-like shorelines along the exterior of the dyke.	Acknowledged. These recommendations will be carried forward into future design phases.
102	NMFS	5/29/2024		Future design considerations should maximize tidal connectivity through the establishment of broad tidal inlets to constructed interior marshes. In the sEIS, it is indicated that connectivity will initially be established through outfall structures such as culverts. As has been demonstrated on Poplar Island (NOAA, 2011, Meyer and Teer, in press), the hardened and constricted nature of traditional outfall structures is not conducive to fish movement and can present significant challenges to aquatic connectivity. Thus, these inlets should be augmented to allow for greater nekton connectivity. They could also afford the opportunity to establish additional pocket beaches, intertidal mudflats, and other habitat features that are not colonized by emergent vegetation.	Acknowledged. These recommendations will be carried forward into future design phases.
103	NMFS	5/29/2024		Reef structures should be used at/near these inlets and throughout the exterior of the island to provide deeper-water structured refugia and, where appropriate, attenuate wave energies.	Concur. A reef proposal has been developed and provided to the resource agencies for review and comment.

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
104	NMFS	5/29/2024		Island construction is one method to use dredged material in a manner that presents certain functional aquatic habitats, though we are concerned that island construction alone may not maximize the aquatic habitat benefits in the context of RLSR. The District and MDOT MPA currently anticipate placing approximately 3.2 mcy of sediment at James Island each year. At that rate, the District estimates that the James Island project will reach capacity after approximately 30 years of service. When this project is near capacity, we anticipate that the District will either propose to expand the project footprint, similar to what occurred at Poplar Island, or build another island for dredge material containment. Over the past decade, we have repeatedly encouraged the District and MDOT MPA to examine the possibility of establishing a program to divert a proportion of the dredged sediment to nearby marshes for the purpose of building marsh elevation and resilience to RSLR. We recommend that this effort be formally evaluated in this EIS. The District has not explicitly evaluated that practice in this sEIS despite the fact that it may further maximize project benefits, including the stated project goal to "increase wetlands acreage in the Chesapeake Bay watershed to assist in meeting the Chesapeake 2000 (2014) Agreement goals." Such an evaluation would be aligned with interim guidance (88 FR 1196) from the Council on Environmental Quality (CEQ) which recommends "agencies use the information developed during the NEPA review to consider reasonable alternatives that would make the actions and affected communities more resilient to the effects of a changing climate." Should this practice be realized, we recommend also considering increasing the wetland:upland ratio to maximize aquatic productivity while maintaining project capacity to receive dredged material. Enhancing impaired tidal marshes through sediment addition on a broad scale will likely mitigate coastal flooding (Temmermen et al. 2013, Möller et al. 2014) and improve long-term "blue" carbon sequestration outcomes (Elsey-Quirk et al. 2011, Mcleod et al. 2011, Macreadie et al. 2017). As Davis et al. (2022) note, one of the primary challenges of performing relatively thin (e.g., placement depth < 20 cm) marsh elevation enhancements is matching maintenance dredging requirements with the ecological needs of the receiving marsh. We recommend that the District explicitly consider the possibility of establishing a beneficial reuse handling facility within the footprint of the proposed upland portion of James Island. This facility would serve as a source of sediment for marshes that present both elevation vulnerability signs of degradation in the project vicinity. Such an approach would help to alleviate the potential challenges demonstrated by other projects (e.g., containment failure at Deal Island Wildlife Management Area) in the region. It may also be more cost effective when considering the eventuality of future island construction following the completion of James Island. This approach, if realized, should help to alleviate the need to dredge solely to source sediment, which is frequently proposed by regional practitioners, but generally inadvisable from a geomorphological and ecological perspective.	See response to Comment 99.
105	NMFS	5/29/2024		As discussed above, the project will adversely affect EFH for federally managed species such as bluefish and summer flounder due to the loss of habitat for these species and their prey. Additional information anticipated in future NEPA documents is necessary to fully evaluate the adverse effects and options for avoidance and minimization. Further consultation with us under the MSA and FWCA is also necessary as this information is developed and future phases of the overall project are planned.	This sEIS will meet NEPA requirements and complete the NEPA effort for the James Island component of the project. It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate. Similar to the design and habitat development processes at Poplar Island, coordination will be undertaken with partners over the course of the 30-year construction period to complete timely designs. The project team will continue to coordinate extensively with resource agency partners. Many lessons will be learned over the course of implementation. Completing NEPA for the broadest project footprint provides the project team the flexibility to adaptively manage the design while having a complete NEPA document. USACE has provided additional details on potential EWN alternatives and a reef proposal through the Habitat WG and agency coordination.
106	NMFS	5/29/2024	CR*	Develop a work plan that avoids dredging activities within 500 feet of a designated natural oyster bar during June 1 through September 30 (mechanical and hydraulic) and December 15 through March 15 (mechanical only), in any year.	Concur
107	NMFS	5/29/2024	CR*	Evaluate the potential to harvest shell material during dredging of the proposed access channel. To the extent practicable, reuse any harvested shell to create/enhance oyster reef habitat in the immediate project vicinity.	See response to Comment #19.

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
108	NMFS	5/29/2024	CR*	Low marsh habitat in Chesapeake Bay marshes is vitally important habitat for numerous species and is generally eclipsed by high marsh at a ratio of 3 to 1 (Correll et al. 2018). As a result, the Corps should adequately prioritize the creation, enhancement, and long-term maintenance of low marsh habitat, typically found at or below Mean High Water (MHW).	USACE views that its plan for a 50/50 high to low marsh ratio does prioritize low marsh by establishing a landscape that can facilitate marsh migration as sea levels rise. Additionally, thin layer placement is being evaluated as a potential adaptive management measure to maintain low marsh elevations in the face of future SLR.
109	NMFS	5/29/2024	CR*	Reinitiate consultation with us when the following project features are more fully designed (e.g., 60% design):	See response to Comments #26 and 105. This sEIS will be completed to meet NEPA requirements. It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate. USACE/MPA intends to continue to coordinate with resource agency partners throughout the Construction Phase as the final design of these project features are developed. The purpose of the sEIS is to evaluate the project footprint and the full potential impacts.
110	NMFS	5/29/2024	CR*	a. The breakwater structures proposed to protect the access channel and turning basin. We recommend that you evaluate the practicality of using reef complexes or other NNBF in lieu of linear breakwaters to maximize the potential habitat value of these features.	USACE conducted a Value Engineering study that suggested various alternatives for the breakwater design. These proposals were evaluated. At this time, a stone breakwater is the desired approach. The breakwater design has specific engineering criteria to enable safe docking and unloading in the access channel. Submerged reef complexes will not meet the desired goals, but USACE is evaluating the inclusion of submerged reefs along the toe of the breakwater to add connectivity from deeper waters to the project periphery. A reef enhancement technical memo has been drafted and provided to resource agencies for review and feedback.
111	NMFS	5/29/2024	CR*	b. The personnel pier, including justification for the water-dependence of a five-acre structure.	Upon further design refinement, the impact acreage of the personnel pier has been reduced to 0.4 acre.
112	NMFS	5/29/2024	CR*	c. The electrical and communications conduit connections, including installation method(s), proposed route, anticipated benthic recovery timeline, and anticipated maintenance/replacement schedule.	To ensure proper communication and electrical needs are met a ~16,000-foot-long submarine cable will be installed from a power source on Taylors Island to the island facilities. The conduit will run from Taylors Island to the southeast corner of the project and continue north approximately 200 – 300 ft to the east of the project's eastern shoreline. The conduit will not cross any oyster bars. To install the bundle of coated wires, an approximately 12-inch conduit will be placed using a 24-foot weighted underwater sled dragged behind a vessel to cut an 8-foot deep by 2-foot-wide self-sealing trench to encompass the wires. Minimal surface disturbance is expected across 9 acres. No permanent impacts are anticipated. Kraus and Carter (2018) reviewed survey data from available subsea communication and power cable installation. Their review highlighted that the sedimentary environment and mode of cable burial drives site-specific recovery, but summarized trends based on water depths for zones of the offshore and continental shelf. In the inner shelf (0 – 30 m water depths), physical recovery typically occurs within 2 years, and often sooner where there are active waves and currents and a sediment supply. Biological recovery is expected to be related to physical recovery. Biological time series demonstrate little significant effects on biological communities studied by burial of cables. On the inner shelf (assumed to be representative of the Mid-Bay Project), invertebrates returned to pre-impact levels within a year. The utility line is expected to serve the project for its full lifespan without needed to be replaced. Kraus, C, and C. Lionel. 2018. Seabed recovery following protective burial of subsea cables – Observations from the continental margin. Ocean Engineering: 157: 251-261.
113	NMFS	5/29/2024	CR*	d. The mainland facility, including any in-water structures (e.g., piers) and/or navigational dredging.	Plans are currently being further developed. There are no in-water structures or navigational dredging associated with the mainland facility other than use of an existing pier at a commercial marina. The sEIS captures all impacts.

ITEM #	Comment Provided by	Date	Section #	Comment	RESPONSE
114	NMFS	5/29/2024	CR*	e. Natural and nature-based features proposed along the exterior dike structure, including a timeline for implementation.	Additional information on the formulation of EWN measures for incorporation into the project was distributed for review to resource agency partners including NFMS on August 28, 2024, with a proposed plan forward. The project team will continue to coordinate with NMFS during design and as an implementation timeline is solidified. As discussed previously, any EWN shoreline measures that require modification of the perimeter dike would not be implemented until the dredged material has been graded and is ready for planting. Construction will begin in the southern wetland complex, and then proceed to the central wetlands, and finally the northern wetlands. It is expected that offshore reef features would be constructed as a component of the perimeter dike installation as long as there are no future construction actions that would affect the area targeted for reef placement. A reef enhancement technical memo has been drafted and distributed to resource agencies for their review and feedback.
115	NMFS	5/29/2024	CR*	f. Nature-like tidal inlets with corresponding timeline for installation	These designs will be developed at a later stage of the construction phase. USACE will continue to coordinate with NMFS during design.
116	NMFS	5/29/2024	CR*	g. Nearshore reefs structures and proposed locations and corresponding water depths.	A reef proposal has been developed and shared with resource agencies for comment and input. Within that information are further details on water depths. USACE will continue to coordinate with NMFS during design and as an implementation timeline is solidified. It is expected that offshore reef features would be constructed as a component of the perimeter dike installation as long as there are no future construction actions that would affect the area targeted for reef placement.
	NMFS	5/29/2024		In the final EIS, make the following adjustments:	
117	NMFS	5/29/2024	CR*	a. Clarify whether you performed the Island Community Unit (ICU) Model analysis assuming that low marsh would be allowed to drown, rather than be adaptively managed to maintain suitable elevation for vegetative growth. If the ICU Model analysis did not consider adaptive actions to maintain targeted habitats over time, we recommend the District complete that analysis and present the estimate in your summary.	The ICU Model analysis did not assume that the low marsh would be allowed to drown. Further analysis with the ICU model is not necessary. Text added to Section 4.2.2.1 to clarify.
118	NMFS	5/29/2024	CR*	b. Remove qualitative statements about EFH (e.g., designations of “infrequent or transient”). EFH is dictated by suitable water depths/salinities at the indicated time of year established by the fisheries management councils.	EFH language and text of 6.8.4.1 of the sEIS have been revised to remove qualitative descriptions of EFH.
119	NMFS	5/29/2024	CR*	c. Remove the statement indicating that escalator dredging of the Chesapeake Bay bottom is not detrimental to EFH, as this is inaccurate.	EFH language in Section C has been revised.
120	NMFS	5/29/2024	CR*	d. Clarify that the erosion/subsidence of tidal wetlands and subsequent conversion to shallow water is not beneficial to fisheries resources, as is indicated in the attached Planning and Aid Report.	Text revisions added to Sec 3.2 and 6 of the sEIS to clarify that erosion and conversion to open water negatively impacts both terrestrial and aquatic species.
121	NMFS	5/29/2024	CR*	Evaluate the potential to establish a beneficial reuse handling facility within the proposed upland footprint of James Island for the purposes of redistributing dredged material to nearby marshes (e.g., Blackwater NWR) through the application of thin (i.e., < 20 cm) layers of sediment. Work with us and other agency partners to develop this program for the purposes of enhancing wetland resilience to RLSR, extending the useful life of the James Island project, and maximizing aquatic habitat benefits as well as carbon sequestration potential of area marshes.	Acknowledged. USACE would need separate Congressional direction to further study the issues related to the resiliency of marshland on the Delmarva Peninsula. In order to consider this within the Mid-Bay Project, USACE would need to undertake a General Reevaluation Report or receive new authority. The 2005 Federal Dredged Material Management Plan did consider the use of James Island as a staging area for application of dredged material at Blackwater National Wildlife Refuge. The analysis determined that this alternative was not feasible compared to the other alternatives. Major hurdles were the placement of pipes and conflicts with roadways, the logistics of using small machinery for placement, potentially needing to dredge an access channel for placement in some locations, and high costs. (See response for Comments #99 and #104).

*CR = Conservation Recommendation (Response letter noted that CRs are based upon information available at the current phase.

Public Comments

Amphibian Refuge

Website: amphibianrefuge.org

11225 Morocco Road NE
Albuquerque, NM 87111

April 2, 2024

US Army Corps of Engineers
Attention: Angie Sowers
Planning Division, 10th Floor
2 Hopkins Plaza
Baltimore, MD 21201
Midbayislands@usace.army.mil

RE: Comment on Mid-Bay Draft Supplemental Environmental Impact Statement (sEIS)

Dear Ms. Sowers:

Amphibian populations are declining worldwide, and amphibians are experiencing high extinction rates due to habitat loss, chytrid fungus, pollutants, pesticides, and climate change. Amphibians are the most threatened class of vertebrates.

The Mid-Chesapeake Bay Island Ecosystem Restoration Project should benefit a wide variety of animal species found in the Chesapeake Bay region. To ensure that the proposed actions are successful, we recommend long-term monitoring of crab, mollusk, fish, amphibian, reptile, bird, and mammal populations in wetland, aquatic, and island habitats.

Thank you for this opportunity to comment.

Eric R. Johnson

Eric R. Johnson
Executive Director

References:

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Laurence D. Chitlik
703 Locust Street
Cambridge, Maryland 21613
May 15, 2024

USACE Baltimore District
Planning Division/Angie Sowers (10-E-04)
2 Hopkins Plaza
Baltimore, Maryland 21201

Comments on the Mid-Chesapeake Bay Island Ecosystem Restoration Project: James Island

The basic concept for relocating millions of yards of toxic materials from a significantly polluted area to a hole dug into a healthy pristine marine environment where an island had previously existed (but had completely eroded away) and then covering all of that up with stone and using man made materials (e.g.-geotextiles which have a reported limited effective lifespan and have already been shown to fail in much less than that time frame) seems to be **a plan with a certainty to fail after some unknown time period**. Further, it appears that the study program developers are unaware of either the stability of, nor the level of prolonged toxic hazard they are relocating and how this will eventually impact on the community in Dorchester County. When these toxic agents eventually leach out into surrounding environment, what are the toxicity risks to the community (Cancer, acute toxicity, chronic toxicity, birth defects, mutagenic effects, reproductive effects etc?) and how readily might these agents be accumulated by benthic and other organisms in the area? Dorchester County is a fishing/watermen community and the Chesapeake Bay is the primary source of sustenance to the people here. When there is a release of toxic materials into the waters of Dorchester County at some point in the future, it would simply be catastrophic to this community. So, I find the current plan for James Island to be naïve and at the same time, perhaps arrogant.

Project reports appear to be an attempt to convince the public that processes used to select James Island as the best location in the mid-bay area for relocating toxic dredging materials was both an objective and scientifically supported process. As is noted in discussions below, the process is neither objective nor based upon good science. Further, the project report skirts around the main purpose here which is simply to remove millions of cubic yards of toxic dredge spoils from channels leading into Baltimore Harbor and find a place to dump them. The creation of wetland and upland habitat on the Chesapeake Bay as a real function of this project is in reality just a very minor side-project while the risks created here by moving these toxic spoils are significant and prolonged and are not being fully considered by the project designers.

As a percentage of the increase of wildlife habitat (created by this project), increased wetland and upland habitat in Maryland, would be only be increased to an extremely negligible degree. That is, for example, the entire project would result in at best an increase of just 0.03% of wetlands currently existent in Blackwater Wildlife Refuge. As well, the increase in wetlands and uplands at "James Island" will occur with sacrifice of the benthic environment and damage to existent Oyster beds at the same time they are creating wetlands and uplands. Its just a trade off….. So, the project at James Island is not going to be creating some kind of immense good here. As well, with the rapid rise in sea level in the Chesapeake Bay, wetland habitat created at the beginning of the project will not even exist beyond the next 20-30 years let alone until the end of the of the use of James Island as a dump site. So, the potential benefits generated by this project are actually NEGLIGIBLE and will not persist very long.

It seems to me that if materials used in the dikes fail due to limited lifespan or dramatically increased and dangerous storms increasing over time due to global warming or increased sea level rise occurs or pressure from erosion increases dramatically undermining the project construction foundation/footings, the potential for leaching of toxic materials into a pristine environment may become a reality. As a result, the potential of contamination of significantly toxic agents into a previously healthy portion of the Chesapeake Bay will become a reality. As well, as the ferocity of storms increases and the rate of rising sea level may increase dramatically over current levels, the **risks** in building toxic spoils storage islands in the middle of a dynamic changing estuary will become more hazardous than current studies suggest. We must understand that what is built now will likely serve well for a short while, but it is only a measure of time until failure becomes a certainty. So, whatever design issues are anticipated at present, the solution to getting rid of toxic spoils now is likely not as is currently contemplated.

As the Chesapeake is about 5198 square miles not counting tributaries and James Island is right near a major narrow constriction in the middle of the estuary, (increasing erosion pressure at this site), might the planners of this project consider other places to better store toxic spoils? Also consider that some materials utilized have anticipated lifespans of 50 years and some of those used at Poplar Island and in previous dredging operations on the Honga, have in less than 20 years been shown to fail.

Other Issues and Considerations as to why James Island is not the place to deposit toxic dredgings:

1. James Island has been contemplated for the purpose of storing toxic dredging spoils based upon a seriously flawed selection process. The project authors declared that they were following an objective straightforward process but that is NOT the case as noted below:

A. The island selection process initially named 105 potential islands "from all over the Bay" that were to be considered for this project, but for some reason, only islands or

areas on the eastern shore of the Chesapkeake Bay made it to the list and this occurred without any reasonable explanation. Islands on the north of the Chesapeake and western shores (closest to the source of the dredging sites) were simply excluded from the process. Use of islands in those areas would have kept the dredgings much closer to their source, (the channels leading into Baltimore Harbor) and keeping them in that area would have reduced project costs. An explanation from the project designers is mandatory. As well, it makes no sense that Islands that are associated with Anne Arundel, Calvert or Saint Mary's Counties were not considered in this selection process for deposit of dredging spoils collected just off their coasts.

B. The report includes statements that suggest objectivity was actually not a part of the selection process. It seems that the authors wanted to locate the toxic dredgings as far away (from?) as possible.

For example, they state the goal of the project is, "to restore **remote** island habitats to benefit wildlife including a diverse assemblage of birds, fish, herpetofauna and invertebrates…"

In another statement the report indicated, "The Mid-Bay Island Project recommends **remote** island restoration at James Island and Barren Island, both on the Eastern Shore of Maryland and in Dorchester County, Maryland…" (March 2024 EIS)

It seems like there is a bias here to want to relocate these toxic spoils in a far away and "remote" location… However, for people living right here in Dorchester County and making their livings here and obtaining their food supply here, this relocation of toxic spoils is not remote at all and these hazardous/toxic dredgings are going to be dumped in our backyard instead. Most importantly, locations that might have been considered remote some twenty years ago are now near thriving and growing communities here in Dorchester and this project has simply decided to disregard its own island selection criteria and just float these dredgings down to Dorchester County. For people living here, James Island is not **remote.** For thousands of people along the Little Choptank River, this is not a fair, objective nor scientifically based choice. Further, the numbers of families now living on the Little Choptank River might be 4 fold higher than what they were just 20 years ago when James Island was first contemplated. So, one of the basic criteria for selection of the dredgings dump site as "not near a populated area" has changed considerably and the James Island site now fails to meet the project's selection criteria.

C. Screening Criteria were supposed to be applied to the initial 105 island sites reducing that number by 83.

1. "only large island restoration can cost-effectively accommodate the needed dredge material placement capacity" So, as James Island actually no longer even exists, what makes selection of James Island meet this criteria? As well, the"original" footprint used by the project investigators is not a footprint of anything but only a measurement in time.

So, application of this criteria alone would negate selection of James Island by the project designers.

2. "Must not unduly interfere with existing navigation" Well, the goal of the project will be to reduce the size of the mouth of the Little Choptank by approximately 50%, this will dramatically affect the capability and time necessary for residents living on the south side of the Little Choptank trying to reach the Chesapeake Bay. As a consequence, they will then need to travel miles north over water in order the leave the Little Choptank River and enter the Chesapeake Bay. As well, constricting the mouth of the Little Choptank will dramatically alter currents especially during times when the tides are coming in or going out of the river. This may also alter the pattern of flooding of communities living along the shores of the Little Choptank River during severe storms and unusually high tides.

3. "avoid potential MEC" MEC means "Munitions and Explosives of Concern". The study report indicates that the potential for the presence of MEC will have potential design constraints and higher costs associated with preliminary site surveys and removal of any MEC. The report seems to raise a caution relative to the initial costs relative to initial site survey and removal of munitions, but this does not seem to be an insurmountable task as it seems that the best location for dredging spoils might be associated with Bloodsworth Island including Pone, Adam, Northeast and Great Cove Islands. These islands comprise a very sizable area perhaps two by three miles in size and while some of the area has been used as a navy gunnery range, some parts might work well for locating dredged toxic spoils. As the area is not inhabited and is located a significant distance from populated areas and has elevations of up to 33 feet, development of the area for dredged spoils needs to be seriously considered instead of James Island.

4. A brief examination of the Initial Screening Island Tables demonstrated numerous errors in elimination of a number of the 83 islands removed from consideration when these elimination criteria were applied. It is suggested that the study authors revisit and correct these tables and in doing so, other potential more suitable locations for dredging spoils might become apparent. As just one example of the errors that are apparent here, note that Asquith Island is NOT a population center although the table indicates otherwise and so this site was eliminated erroneously following the report's own criteria?? The mis-application of elimination/exclusion criteria is widespread in these tables. This indicates a serious loss of study objectivity in the selection process.

5. " Avoid major population centers" . James Island is no longer a remote island location. Since this Island was originally considered for holding dredging spoils nearly 20 years ago, the Little Choptank River has increased dramatically in population along its banks. For that reason, James Island no longer meets the criteria specified as the basis for island site selection as it is a dramatically increased population center. **In addition, the developers of the James Island spoils relocation plan, failed to recognize that between Taylor's Island and the western shore is among the narrowest sections of the Chesapeake Bay. As a result, erosion pressures where James Island is located,**

are among the worst in the Chesapeake Bay and the James Island site is simply not the proper location for relocating millions of cubic yards of toxic dredgings from the channels just outside of Baltimore Harbor. This narrow stretch on the Chesapeake to a significant extent explains the complete erosion of James Island in a relatively short period.

Vegetated sand dikes are being contemplated in-lieu of a rock dike at James Island. This should not be considered for use at James Island as the erosion pressure in this area is so severe. Further the sEIS indicates that an updated internal design is underway and is not presented in the current sEIS. As there is a deadline for making final comments of May 15, 2024, it seems a bit unworkable to limit the comment period when the internal design is not even incomplete.

James Island Project Conclusions:

In conclusion, the James Island project needs serious reconsideration. It is a poor location for creating an island to hold millions of cubic yards of toxic dredging materials. As well, if work does proceed at James Island despite the issues raised here, thorough background data for specific toxics identified in dredging materials from the channels outside side Baltimore need to be gathered and in place before proceeding with the project itself. It is recognized that general water quality data have been gathered for the area these data will be of no use. Baseline data toxicity for all major toxic materials identified in channel dredgings (in a grid pattern surrounding the footprint of James Island) needs to be considered mandatory before proceeding further. With such data in hand, if contamination of the area is ever anticipated as having occurred, baseline data will be available to determine if leaching of toxics has actually occurred.

Better and more secure solutions for relocating toxic channel dredging material need to be identified rather than removing them from areas of poor water quality to the more pristine parts of a dynamic changing estuary. Further, considering relocation to high erosion island habitats like that at James Island makes no practical sense when intensity of storms is on the increase and sea level is rising. Perhaps ways should be considered to directly assist communities in low lying areas with rising sea water by increasing height of road beds or building dikes around endangered communities in those areas. Meanwhile, I would not consider James Island as a repository for toxic dredging spoils as it fails to meet the basic criteria the project authors originally decided to use.

Perhaps the best immediate possibility to consider, until more appropriate solutions are developed, would be to reconsider the Bloodworth Island group. At least, the islands offer a substantial sized area with some areas of significant elevation. In addition, and most importantly, the Bloodworth Islands are unoccupied and away from any significant population centers.

Comments regarding the Barren Island/Honga River Dredgings Project:

There must be a clear understanding here that the Barren Island Site can never be used for any dredgings except for those coming out of the Honga River channel.

Background toxicity data need to be gathered surrounding the footprint of the Barren Island project on the same toxic materials as identified in the channels entering Baltimore Harbor. These baseline data might assist dramatically if at some point dredging spoils from areas of the main channel start to be stored at Barren Island contrary to the current agreement/understanding.

It is suggested that dredging of channels into Fox Creek off the Honga (marina at Toddville and Wingate-Bishop's Head Road) and to other County boat ramps/marine facilities near Barren Island be carried out to support the local community and watermen in the area. While this is a Federal Program, it needs to better and more widely support Dorchester County facilities and watermen. Coordination of this effort with local Dorchester County officials is essential to good relations and to make what is being done at Barren Island more helpful to south Dorchester communities.

I hope that my comments and suggestions are useful and productive. Please contact me if you have any additional questions.

Best Regards,

Laurence D. Chitlik,
Diplomate of the American Board of Toxicology, Retired
Senior Toxicologist, USEPA, Retired

PROJECT: James Island draft sEIS

Public Review - Public Comments and USACE/MPA Responses

ITEM #	Comment Provided by	Date	Section #/Topic	Comment	RESPONSE
1	Amphibian Refuge/Eric Johnson	4/2/2024		Amphibian populations are declining worldwide, and amphibians are experiencing high extinction rates due to habitat loss, chytrid fungus, pollutants, pesticides, and climate change. Amphibians are the most threatened class of vertebrates. The Mid-Chesapeake Bay Island Ecosystem Restoration Project should benefit a wide variety of animal species found in the Chesapeake Bay region. To ensure that the proposed actions are successful, we recommend long-term monitoring of crab, mollusk, fish, amphibian, reptile, bird, and mammal populations in wetland, aquatic, and island habitats.	Concur. Comment recognized.
2	Dr. Laurence Chitlik	5/15/2024	Opinion that plan is ill-conceived	The basic concept for relocating millions of yards of toxic materials from a significantly polluted area to a hole dug into a healthy pristine marine environment where an island had previously existed (but had completely eroded away) and then covering all of that up with stone and using man made materials (e.g.-geotextiles which have a reported limited effective lifespan and have already been shown to fail in much less than that time frame) seems to be a plan with a certainty to fail after some unknown time period.	Non-concur. There is much evidence of the benefits of the Poplar Island restoration project for the Chesapeake Bay which serves as an example of the expected value of the Mid-Bay project. The materials are not toxic and are not generated from a significantly polluted area.
3	Dr. Laurence Chitlik	5/15/2024	Toxicity - prolonged hazard to fishing/watermen community	Further, it appears that the study program developers are unaware of either the stability of, nor the level of prolonged toxic hazard they are relocating and how this will eventually impact on the community in Dorchester County. When these toxic agents eventually leach out into surrounding environment, what are the toxicity risks to the community (Cancer, acute toxicity, chronic toxicity, birth defects, mutagenic effects, reproductive effects etc?) and how readily might these agents be accumulated by benthic and other organisms in the area? Dorchester County is a fishing/watermen community and the Chesapeake Bay is the primary source of sustenance to the people here. When there is a release of toxic materials into the waters of Dorchester County at some point in the future, it would simply be catastrophic to this community. So, I find the current plan for James Island to be naïve and at the same time, perhaps arrogant.	Please see attached discussion in Appendix B5 addressing comments related to the concern of 'toxic' levels of contaminants. USACE and MPA have engaged external regional experts from EA Engineering, Science, and Technology (EA) and the University of Maryland Center for Environmental Studies (UMCES) to provide a response to the questions regarding toxicity. Sediment quality data collected from the channels likely to be the source of sediments to be placed at James Island do not support the claims that the dredged material is toxic. In addition to the information added to Appendix B5 in response to the concerns about the suitability of the dredged material for habitat restoration, USACE/MPA have previously provided to you numerous resources to answer prior questions raised regarding toxicity, including information on: the source of material for Barren Island restoration, dredged material testing protocols for sampling of placed material (constituents included in the testing, methods, and when various tests are conducted), monitoring of discharges from placement sites, project site selection, results of baseline studies of benthic communities and sediment quality, and plans for monitoring benthic communities and sediment quality of the surrounding environment during construction. The following reports/documents have been provided over the course of our correspondence on the project: Poplar Island monitoring reports, the 2018 Upper Bay Sediment Sampling Report, The Ocean Placement Report, Honga River Sediment Sampling, 2023 Jan-June Bi-annual Discharge Report, Barren Island sEA Appendix B Part 1 and Part 2, Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual, and from the 2009 FR/EIS - the Site Formulation Process Diagram and Appendix B (Formulation Process). To re-iterate, the dredged material shall be sampled in accordance with the February 1998 EPA "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual: Inland Testing Manual". Results of these samples shall be provided to MDE. Dredged material that does not meet the criteria of the Inland Testing Manual shall not be placed at James Island. The project will comply with any requirements included in the WQC or TWL.
4	Dr. Laurence Chitlik	5/15/2024	Plan formulation	Project reports appear to be an attempt to convince the public that processes used to select James Island as the best location in the mid-bay area for relocating toxic dredging materials was both an objective and scientifically supported process. As is noted in discussions below, the process is neither objective nor based upon good science. Further, the project report skirts around the main purpose here which is simply to remove millions of cubic yards of toxic dredge spoils from channels leading into Baltimore Harbor and find a place to dump them. The creation of wetland and upland habitat on the Chesapeake Bay as a real function of this project is in reality just a very minor side□project while the risks created here by moving these toxic spoils are significant and prolonged and are not being fully considered by the project designers.	Non-concur. The selection of James and Barren was a well-documented and coordinated effort with a wide range of stakeholders and partners including the Bay Enhancement Working Group. This plan stems from the State and Federal DMMP and the Feasibility Study that was conducted in the 2000s. The beneficial use of dredged material is a well-recognized practice that leverages the resource of dredged material to provide ecosystem goods and services. USACE has been Congressionally directed to find ways to beneficially reuse dredge material to keep material within the system rather than ocean dumping. As stated previously, the sediment identified for placement at James Island does not contain toxic levels of contaminants.

ITEM #	Comment Provided by	Date	Section #/Topic	Comment	RESPONSE
5	Dr. Laurence Chitlik	5/15/2024		As a percentage of the increase of wildlife habitat (created by this project), increased wetland and upland habitat in Maryland, would be only be increased to an extremely negligible degree. That is, for example, the entire project would result in at best an increase of just 0.03% of wetlands currently existent in Blackwater Wildlife Refuge. As well, the increase in wetlands and uplands at "James Island" will occur with sacrifice of the benthic environment and damage to existent Oyster beds at the same time they are creating wetlands and uplands. Its just a trade off….. So, the project at James Island is not going to be creating some kind of immense good here.	Approximately 10,500 ac of remote island habitat have been lost in the Chesapeake Bay. Cumulatively, the beneficial use of dredged material at Poplar Island and Expansion, Mid-Bay (James and Barren Islands), and Swan Island will restore 3,904 remote island acres; resulting in a substantial contribution to restore habitat and connectivity along the Eastern Shore. It is correct, that shallow water bottom habitat will be converted to island habitats. These bottom habitats are plentiful in the region. One oyster bar, the Maryland historic bar named James Point will be impacted by dredging of the access channel. This bar has had limited harvests in recent years and some limited geotechnical work suggests that there are no substantial shell deposits in the area to be dredged. If valuable shell resources are produced by the dredging, USACE/MPA is working to identify a way to reserve that shell for use in restoration projects. The James Island project does incorporate ~40 acres of reef habitat around the periphery of the project. The stone perimeter dikes should provide additional setting locations for any larval production from the large-scale tributary efforts in the Choptank/Little Choptank River area. Time of Year restrictions will be in place to protect adjacent oyster habitat and minimize any negative impacts.
6	Dr. Laurence Chitlik	5/15/2024	SLR	As well, with the rapid rise in sea level in the Chesapeake Bay, wetland habitat created at the beginning of the project will not even exist beyond the next 20-30 years let alone until the end of the of the use of James Island as a dump site. So, the potential benefits generated by this project are actually NEGLIGIBLE and will not persist very long.	The risks and challenges posed by SLR are being factored into the design elevations of the island. The restoration project is being designed for a 50-year project life. We do acknowledge that long-term SLR is a serious issue for the entire Chesapeake Bay area, particularly the wetland complexes along the Eastern Shore. This project will provide for habitat during the project's life that are critical to many species. Thus far, the wetlands at Poplar Island have managed to maintain their elevation with increased SLR over the past twenty years. Additionally, the exterior dikes have been designed to allow future augmentation of the dikes to address SLR effects past the necessary 50-year design life of the project.
7	Dr. Laurence Chitlik	5/15/2024	Toxicity - potential for future failure	It seems to me that if materials used in the dikes fail due to limited lifespan or dramatically increased and dangerous storms increasing over time due to global warming or increased sea level rise occurs or pressure from erosion increases dramatically undermining the project construction foundation/footings, the potential for leaching of toxic materials into a pristine environment may become a reality. As a result, the potential of contamination of significantly toxic agents into a previously healthy portion of the Chesapeake Bay will become a reality. As well, as the ferocity of storms increases and the rate of rising sea level may increase dramatically over current levels, the risks in building toxic spoils storage islands in the middle of a dynamic changing estuary will become more hazardous than current studies suggest. We must understand that what is built now will likely serve well for a short while, but it is only a measure of time until failure becomes a certainty. So, whatever design issues are anticipated at present, the solution to getting rid of toxic spoils now is likely not as is currently contemplated.	Please see additional information contained within Appendix B5 (external review of sediment quality). As stated previously, USACE and MPA have incorporated external regional experts from EA and UMCES to evaluate questions regarding sediment toxicity. Existing data do not support claims that the dredged material designated for placement at James Island is toxic. With regards to future storm risk, USACE has undertaken hydrodynamic modeling to design the perimeter dike structures that incorporates future storm risk and SLR. The restoration of James Island is also projected to provide value to adjacent mainland communities by serving as a barrier to increasing storm forces and impacts.
8	Dr. Laurence Chitlik	5/15/2024	Toxicity - likelihood of the project to increase erosion	As the Chesapeake is about 5198 square miles not counting tributaries and James Island is right near a major narrow constriction in the middle of the estuary, (increasing erosion pressure at this site), might the planners of this project consider other places to better store toxic spoils?	Implementation of the project at James Island is expected to have a minimal impact on tidal currents. Modeling of the proposed project alignment as documented in the 2009 FR/EIS estimated that current speed would remain low and have a maximum speed of 2.1 ft/s at the southeast corner of the James alignment (USACE 2009, Attachment G (Moffatt and Nichol Engineers (2002, 2004) and Attachment O (Dinicola et al. 2006)) under normal conditions. During modeled hurricanes and northeasters, current speed was less than 3.58 and 2.53 ft/s, respectively. Modeling locations along the eastern shoreline typically were reduced with the project, and those along the western shoreline slightly increased. The current velocity also became stronger in the waters between the project and Taylors Island because of the narrower water exchange area between the land masses. The project design is considering the strategic placement of reef habitat in that area to abate those increased velocities. These modeling exercising also concluded that the project would have little effect on littoral drift for south-southeast and west-northwest winds. There would continue to be erosion along the Taylors Island shoreline with deposition offshore in deeper waters. However, for north-northwest winds, the project would reduce erosion along Taylors Island.
9	Dr. Laurence Chitlik	5/15/2024	Project lifespan	Also consider that some materials utilized have anticipated lifespans of 50 years and some of those used at Poplar Island and in previous dredging operations on the Honga, have in less than 20 years been shown to fail.	Lessons learned from the Poplar Island project are leveraged to select the best products available for construction of the project. USACE is not aware of any failed dredging operations in the Honga River.

ITEM #	Comment Provided by	Date	Section #/Topic	Comment	RESPONSE
10	Dr. Laurence Chitlik	5/15/2024	Plan formulation	1. James Island has been contemplated for the purpose of storing toxic dredging spoils based upon a seriously flawed selection process. The project authors declared that they were following an objective straightforward process but that is NOT the case as noted below:	Non-concur. The selection of James and Barren Islands was a well-documented and coordinated effort with a wide range of stakeholders and partners including the Bay Enhancement Working Group. This plan stems from the State and Federal DMMP and the Feasibility Study that was conducted in the 2000s. The beneficial use of dredged material is a well-recognized practice that leverages the resource of dredged material to provide ecosystem goods and services. Refer to attached write-up in Appendix B5 regarding suitability of the dredged material for beneficial use.
11	Dr. Laurence Chitlik	5/15/2024	Plan formulation	. The island selection process initially named 105 potential islands “from all over the Bay” that were to be considered for this project, but for some reason, only islands or areas on the eastern shore of the Chesapkeake Bay made it to the list and this occurred without any reasonable explanation. Islands on the north of the Chesapeake and western shores (closest to the source of the dredging sites) were simply excluded from the process. Use of islands in those areas would have kept the dredgings much closer to their source, (the channels leading into Baltimore Harbor) and keeping them in that area would have reduced project costs. An explanation from the project designers is mandatory. As well, it makes no sense that Islands that are associated with Anne Arundel, Calvert or Saint Mary’s Counties were not considered in this selection process for deposit of dredging spoils collected just off their coasts.	As discussed in the 2009 FR/EIS, the Mid-Chesapeake Bay Island Ecosystem Study was a product of a number of prior studies. Based on the findings of the Eastern Shore, MD and DE Section 905(b) Analysis, the preliminary assessment, and recommendations of the Federal DMMP study, the Mid-Chesapeake Bay study was initiated in November 2002 by the USACE-Baltimore District and the Maryland Port Administration (MPA). The study addressed the specific recommendation of the Eastern Shore study to replace aquatic ecosystem habitats lost through development and erosion activities within the study area through the beneficial use of dredged material, focusing on the loss of island habitat. The Mid-Chesapeake Bay study area was defined as the eastern half of the Chesapeake Bay, from the Chester River to the MD/VA state line. Due to those prior studied and the defined study area, the study did not include islands in the north Chesapeake or along the western shore.
12	Dr. Laurence Chitlik	5/15/2024	Plan formulation	B. The report includes statements that suggest objectivity was actually not a part of the selection process. It seems that the authors wanted to locate the toxic dredgings as far away (from?) as possible. For example, they state the goal of the project is, “to restore remote island habitats to benefit wildlife including a diverse assemblage of birds, fish, herpetofauna and invertebrates…” In another statement the report indicated, “The Mid-Bay Island Project recommends remote island restoration at James Island and Barren Island, both on the Eastern Shore of Maryland and in Dorchester County, Maryland…” (March 2024 EIS). It seems like there is a bias here to want to relocate these toxic spoils in a far away and “remote” location… However, for people living right here in Dorchester County and making their livings here and obtaining their food supply here, this relocation of toxic spoils is not remote at all and these hazardous/toxic dredgings are going to be dumped in our backyard instead. Most importantly, locations that might have been considered remote some twenty years ago are now near thriving and growing communities here in Dorchester and this project has simply decided to disregard its own island selection criteria and just float these dredgings down to Dorchester County. For people living here, James Island is not remote. For thousands of people along the Little Choptank River, this is not a fair, objective nor scientifically based choice. Further, the numbers of families now living on the Little Choptank River might be 4 fold higher than what they were just 20 years ago when James Island was first contemplated. So, one of the basic criteria for selection of the dredgings dump site as “not near a populated area” has changed considerably and the James Island site now fails to meet the project’s selection criteria.	The plan formulation was not biased to relocate dredge material as far away as possible, but rather the focus was to restore lost remote island habitats along the Eastern Shore, as guided by the investigations listed in the response to comment #11. The term 'remote' refers to habitats that are disconnected by water from the mainland (i.e., offshore) to prevent or limit interactions with predators and human populations. 'Remote' does not have a specific connotation to population centers. With regards to criteria #9 'Avoid major population centers', the James Island project remains 15-20 miles from the closest major population center of Cambridge, MD.
13	Dr. Laurence Chitlik	5/15/2024	Plan formulation	C. Screening Criteria were supposed to be applied to the initial 105 island sites reducing that number by 83. 1. “only large island restoration can cost-effectively accommodate the needed dredge material placement capacity” So, as James Island actually no longer even exists, what makes selection of James Island meet this criteria? As well, the“original” footprint used by the project investigators is not a footprint of anything but only a measurement in time. So, application of this criteria alone would negate selection of James Island by the project designers.	An objective of the Mid-Bay Island Restoration Project is to restore island habitats, to include efforts to restore habitat lost to sea level rise and erosion. The loss of all of the remaining James Island habitat during the authorization, environmental review, and design processes further highlights the important need for remote island habitat restoration. The recently submerged island remnants remain a viable site to support large island restoration efforts.
14	Dr. Laurence Chitlik	5/15/2024	With project hydrodynamic changes	2. “Must not unduly interfere with existing navigation” Well, the goal of the project will be to reduce the size of the mouth of the Little Choptank by approximately 50%, this will dramatically affect the capability and time necessary for residents living on the south side of the Little Choptank trying to reach the Chesapeake Bay. As a consequence, they will then need to travel miles north over water in order the leave the Little Choptank River and enter the Chesapeake Bay. As well, constricting the mouth of the Little Choptank will dramatically alter currents especially during times when the tides are coming in or going out of the river. This may also alter the pattern of flooding of communities living along the shores of the Little Choptank River during severe storms and unusually high tides.	Public outreach has been undertaken to present the project to local stakeholders. This concern has not been raised by others. Traveling to a point in the Bay on the western shoreline of the project is estimated to take 1-2 additional miles (depending on if travel is to the north or south) with the project in place compared to without the project. As discussed in the response to comment #8, modeling completed as part of the project does not suggest that restoration of James Island will negatively impact or change currents or flooding.

ITEM #	Comment Provided by	Date	Section #/Topic	Comment	RESPONSE
15	Dr. Laurence Chitlik	5/15/2024	Plan formulation	3. “avoid potential MEC” MEC means “Munitions and Explosives of Concern”. The study report indicates that the potential for the presence of MEC will have potential design constraints and higher costs associated with preliminary site surveys and removal of any MEC. The report seems to raise a caution relative to the initial costs relative to initial site survey and removal of munitions, but this does not seem to be an insurmountable task as it seems that the best location for dredging spoils might be associated with Bloodsworth Island including Pone, Adam, Northeast and Great Cove Islands. These islands comprise a very sizable area perhaps two by three miles in size and while some of the area has been used as a navy gunnery range, some parts might work well for locating dredged toxic spoils. As the area is not inhabited and is located a significant distance from populated areas and has elevations of up to 33 feet, development of the area for dredged spoils needs to be seriously considered instead of James Island.	Avoiding MEC was and is a concern for USACE/MPA. In the initial screening process completed for the 2009 FR/EIS Bloodsworth Island and the Bloodsworth complex (Pone, Adam, Northeast) were screened as having MECs due to prior use as a range which would make them unsuitable for this project (see 2009 FR/EIS Table 4-1). While there is always a chance of MECs throughout the Chesapeake Bay, as discussed in the EIS and this supplement, there is not expected to be MECs at the James Island site. There is some potential MECs may be present in dredged material, in which case it will be promptly investigated and cleared by a qualified explosive ordinance disposal (EOD) unit. With regards to plan formulation, if you were to compare the subsequent ranking of potential islands (Table 4-4 in the 2009 FR/EIS) with the inclusion of Bloodsworth, it is reasonable to conclude that Bloodsworth Island would have scored similarly to its neighbor islands, South Marsh and Holland Island. These islands are all very alike in characteristics. Neither of these islands that are in the same region (both Holland and South Marsh are within 5 miles of Bloodsworth), scored in the top three islands based on the project scoring metrics, and therefore were eliminated from further consideration.
16	Dr. Laurence Chitlik	5/15/2024	Plan formulation	4. A brief examination of the Initial Screening Island Tables demonstrated numerous errors in elimination of a number of the 83 islands removed from consideration when these elimination criteria were applied. It is suggested that the study authors revisit and correct these tables and in doing so, other potential more suitable locations for dredging spoils might become apparent. As just one example of the errors that are apparent here, note that Asquith Island is NOT a population center although the table indicates otherwise and so this site was eliminated erroneously following the report’s own criteria?? The mis-application of elimination/exclusion criteria is widespread in these tables. This indicates a serious loss of study objectivity in the selection process.	The study team does not agree that there are flaws in the formulation. The 2009 FR/EIS is a completed document that underwent rigorous reviews. Asquith Island was eliminated due to its limited restoration potential (<200 ac) in addition to being designated as near a population center. Correcting the population center designated would not changes its status.
17	Dr. Laurence Chitlik	5/15/2024	Plan formulation	5. “ Avoid major population centers” . James Island is no longer a remote island location. Since this Island was originally considered for holding dredging spoils nearly 20 years ago, the Little Choptank River has increased dramatically in population along its banks. For that reason, James Island no longer meets the criteria specified as the basis for island site selection as it is a dramatically increased population center. In addition, the developers of the James Island spoils relocation plan, failed to recognize that between Taylor’s Island and the western shore is among the narrowest sections of the Chesapeake Bay. As a result, erosion pressures where James Island is located, are among the worst in the Chesapeake Bay and the James Island site is simply not the proper location for relocating millions of cubic yards of toxic dredgings from the channels just outside of Baltimore Harbor. This narrow stretch on the Chesapeake to a significant extent explains the complete erosion of James Island in a relatively short period.	With regards to population, census data does not support a significant increase in the area, or a change in the determination that it avoids major population centers. The population of Dorchester County in 2000 was 30,581 and in 2022 it was 32,726. For the three specific areas discussed in the 2009 FR/EIS that are adjacent to the project: Taylors Island is documented in the 2009 FR/EIS as having a population of 270, and in 2022 the population was 109; Neck had a population of 934 in 2000 and in 2022 the population is 932; and Madison had a population of 557 in 2000 and the population was 213 persons in 2022. See response to comment #3. Also, refer to response to comment #12.
18	Dr. Laurence Chitlik	5/15/2024	EWN	Vegetated sand dikes are being contemplated in-lieu of a rock dike at James Island. This should not be considered for use at James Island as the erosion pressure in this area is so severe. Further the sEIS indicates that an updated internal design is underway and is not presented in the current sEIS. As there is a deadline for making final comments of May 15, 2024, it seems a bit unworkable to limit the comment period when the internal design is not even incomplete.	Vegetated sand dikes have been eliminated from further consideration. The Final sEIS documents this status. The 2009 FR/EIS and this sEIS are designed to meet the NEPA requirements to fully consider the environmental impacts of the proposed action and reasonable alternatives. It is not expected that the integration of EWN features and other elements of the final design will result in a significant change to environmental impacts. As such, it is not expected that further NEPA action will be required. However, if there are significant changes further NEPA analysis will be completed as appropriate. Specific internal designs for the wetlands and habitats will be determined through the project's workgroups. The project team will continue to conduct public outreach to provide project updates and solicit feedback throughout the entire duration of the construction phase. Again, as required by the NEPA compliance process, all impacts associated with the proposed action have been considered and addressed in this sEIS.
19	Dr. Laurence Chitlik	5/15/2024	Toxicity	In conclusion, the James Island project needs serious reconsideration. It is a poor location for creating an island to hold millions of cubic yards of toxic dredging materials. As well, if work does proceed at James Island despite the issues raised here, thorough background data for specific toxics identified in dredging materials from the channels outside side Baltimore need to be gathered and in place before proceeding with the project itself. It is recognized that general water quality data have been gathered for the area these data will be of no use. Baseline data toxicity for all major toxic materials identified in channel dredgings (in a grid pattern surrounding the footprint of James Island) needs to be considered mandatory before proceeding further. With such data in hand, if contamination of the area is ever anticipated as having occurred, baseline data will be available to determine if leaching of toxics has actually occurred.	Non-concur. The project underwent a thorough planning effort, and baseline conditions have not changed substantially to negate the conclusions of the 2009 FR/EIS. Please see the discussion on sediment quality information provided in Appendix B5 and as discussed in Comment #3. Additionally, the project will comply with all testing requirements specified in the Tidal Wetlands License and Water Quality Certificate issued by the State of Maryland.

ITEM #	Comment Provided by	Date	Section #/Topic	Comment	RESPONSE
20	Dr. Laurence Chitlik	5/15/2024	Dredged material management	Better and more secure solutions for relocating toxic channel dredging material need to be identified rather than removing them from areas of poor water quality to the more pristine parts of a dynamic changing estuary. Further, considering relocation to high erosion island habitats like that at James Island makes no practical sense when intensity of storms is on the increase and sea level is rising. Perhaps ways should be considered to directly assist communities in low lying areas with rising sea water by increasing height of road beds or building dikes around endangered communities in those areas. Meanwhile, I would not consider James Island as a repository for toxic dredging spoils as it fails to meet the basic criteria the project authors originally decided to use.	Non-concur. The beneficial use of dredged material to restore remote island habitat along the Eastern Shore in Dorchester County is an action supported by many agencies. The island is being designed with stone perimeter dikes for containment. The design considers future SLR and storm activity. Whereas there is valid concern with how to make the Eastern Shore resilient to climate change, the Mid-Bay project is not authorized for that investigation.
21	Dr. Laurence Chitlik	5/15/2024	Plan formulation	Perhaps the best immediate possibility to consider, until more appropriate solutions are developed, would be to reconsider the Bloodworth Island group. At least, the islands offer a substantial sized area with some areas of significant elevation. In addition, and most importantly, the Bloodworth Islands are unoccupied and away from any significant population centers.	Refer to response to Comment #15.
22	Dr. Laurence Chitlik	5/15/2024	Barren Island material for restoration	There must be a clear understanding here that the Barren Island Site can never be used for any dredgings except for those coming out of the Honga River channel.	The Barren Island project is authorized to received dredged material from small local federal navigation channels only. The closest channels to Barren Island, and therefore, the most likely channels, are the Honga River, Muddy Hook Cove, Hearns Cove, and Back Creek. Sources of sediment designated for placement at Barren Island will be evaluated as specific channel dredging needs and funds are identified.
23	Dr. Laurence Chitlik	5/15/2024	Toxicity	Background toxicity data need to be gathered surrounding the footprint of the Barren Island project on the same toxic materials as identified in the channels entering Baltimore Harbor. These baseline data might assist dramatically if at some point dredging spoils from areas of the main channel start to be stored at Barren Island contrary to the current agreement/understanding.	Please see attached write-up as discussed in Comment #3. The project will comply with all testing requirements specified in the Tidal Wetlands License and Water Quality Certificate.
24	Dr. Laurence Chitlik	5/15/2024	Barren Island material for restoration	It is suggested that dredging of channels into Fox Creek off the Honga (marina at Toddville and Wingate-Bishop's Head Road) and to other County boat ramps/marine facilities near Barren Island be carried out to support the local community and watermen in the area. While this is a Federal Program, it needs to better and more widely support Dorchester County facilities and watermen. Coordination of this effort with local Dorchester County officials is essential to good relations and to make what is being done at Barren Island more helpful to south Dorchester communities.	The recommend plan that Congress authorized allowed for dredged material from local shallow draft Federal channels to be placed at Barren Island as the Federal Government would have full contractual control over that work. While it would be advantageous to the development of Barren Island for dredged materials from local County channels to be placed there, it presents a few problems. (1) The Federal Government cannot dredge any channel that it is not authorized to maintain (i.e., County, State, or private channels); (2) should the Federal Government allow the County to place their dredged material at Barren Island it would have limited control over their placement efforts, which could cause damage to the project for which the Federal Government would have limited recourse to remedy any damages (damages being those of a physical nature, violation of permit requirements, violation of real estate boundaries, etc.).

RESPONSE TO COMMENT RECEIVED FROM DR. LAURENCE CHITLIK on the Mid-Chesapeake Bay Island Ecosystem Restoration Project (Mid-Bay Project)

The channel dredged materials proposed for placement at the Mid-Chesapeake Bay Island Ecosystem Restoration Project are tested by the USACE and the MPA every 3 to 5 years following guidelines in the *Inland Testing Manual* (USACE/USEPA 1998). The frequency of the sampling varies based on availability of federal funding. Sediments and standard elutriate samples created with the sediments are tested to identify and determine the concentrations of chemical constituents that may be present. The chemical testing program includes metals, nutrients, and a comprehensive list of organic constituents, including polychlorinated biphenyls (PCBs), pesticides, polycyclic aromatic hydrocarbons (PAHs), and dioxin/furan congeners. This testing program has been conducted since the late 1990s and includes each of the Upper Chesapeake Bay channels currently being placed at Poplar Island and each of the channels proposed for placement at James Island as part of the Mid-Bay Project.

Since 2009, the channel testing program has also evaluated dredged material with respect to ocean placement at the Norfolk Ocean Disposal Site (NODS). Ocean placement serves as a back-up placement option in the event that capacity is limited at a Chesapeake Bay island restoration site. The testing for ocean placement follows guidelines in the *Ocean Testing Manual* (USACE/USEPA 1991) and must comply with requirements under Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA). The testing requirements are designed to examine impacts to the aquatic marine environment as a result of placement of the material in a designated ocean site. The MPRSA testing program includes water column bioassays, whole sediment bioassays, and bioaccumulation studies to assess sediment quality with respect to aquatic life and the potential for trophic transfer of chemical constituents in the food chain. Results of MPRSA testing conducted in 2009, 2012, and 2018 indicated that the dredged material from each of the channels met the requirements for ocean placement at the NODS. Therefore, adverse effects to aquatic life and the potential for movement of chemicals through the food chain would not be expected for either ocean placement of the material or for in-water confined placement of the material to restore remote island habitat. Further, exterior monitoring studies of sediment quality, benthic and epibenthic communities, and clam tissue at Poplar Island demonstrate that the quality of the placed channel material is suitable for successful restoration of both remote upland and wetland habitats. Exterior monitoring also demonstrates no adverse impacts to the surrounding environment due to operation of the restoration site.

The toxicity of a chemical constituent is dependent upon the dose (concentration), the route or type of exposure, and the duration of the exposure. The implication that the dredged material to be placed at James Island is toxic is not supported by the chemical testing performed or by expected human exposures to the material. The community surrounding James Island is not expected to have direct contact with dredged material that is placed at the James Island site. Regardless, testing of the dredged material has not revealed chemical concentrations that may cause concerns for human health, which includes increased cases of cancer or other health effects, if direct contact with dredged material was to occur. It is noted that the Mid-Bay area (from the Patapsco River south to the Patuxent River inclusive of tributaries) has current Maryland Department of the Environment fish consumption advisories for a number of chemicals and aquatic species. The waters immediately surrounding James Island have a consumption advisory specific to PCBs. The MPRSA bioaccumulation studies of dredged material have not revealed potential movement of chemicals from sediment through the food chain. Therefore, the dredged material does not present potential cumulative health concerns for residents who consume fish, crabs, or other seafood near the James Island site.

The following pages provide additional information on the source of sediments that ultimately are dredged from the navigation channels and placed at the restoration islands.

A Short Note Regarding the Sources of Dredged Sediments for Poplar Island and the Mid-Bay Project

Jeffrey Cornwell
University of Maryland Center for Environmental Science
Horn Point Laboratory
Cambridge, MD 21613
Cornwell@umces.edu

Introduction

Recent questions regarding the potential toxicity of dredged deposits from Baltimore approach channels prompted this consideration of the nature of these deposits, including source materials that infill navigation channels. The Cornwell laboratory characterized these channel deposits with regard to potential nutrient releases during dredging and in-water placement (Cornwell and Owens 1998, Cornwell 1999), including estimates of potential nitrogen releases (Cornwell and Owens 2011). In addition, characterization of the marsh soils at Poplar Island has been an ongoing process for ~20 years (Cornwell et al. 2020, Staver et al. 2020). Although the Cornwell laboratory has not been directly involved in the issues of metal (or other) toxicity with regard to dredged materials, the characterization of the geological and chemical environments in which the materials are dredged and developed into marsh soils is germane to considerations of their impact on the environment. The ongoing characterization of these approach channel materials, including trace metal and organic contaminants, as well as toxicity experiments, are routinely carried out by contractors for the Corps of Engineers and the Port.

Sources of Sediment to the Upper Bay

Sediment in the upper Chesapeake Bay is largely derived from fluvial sources, primarily the Susquehanna River, and shoreline erosion (Hobbs et al. 1992). In the upper (Maryland) part of the bay, shoreline erosion is about twice as high as Susquehanna River inputs, though geochemical estimates of sources may vary (Biggs 1970, Russ et al. 2019). Of the fine-grained materials typical of dredged channel deposits, fluvial inputs and shoreline erosion input fluxes are quite similar; about 1/3 of shoreline erosion is sand. The rapid infill of channel edges with fine grained materials and the continual dredging required for navigation would suggest that these deposits are 1) very recent and 2) reflective of the sediments in the upper bay. These deposits are affected by changes in contaminant inputs imposed by many

ABSTRACT

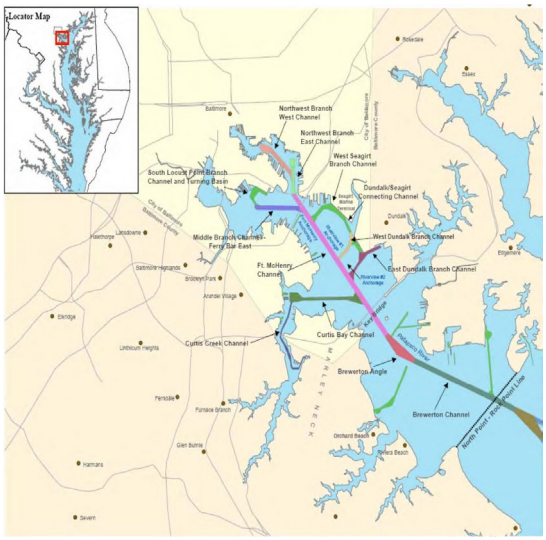
HOBBS, C.H., III; HALKA, J.P.; KERHIN, R.T., and CARRON, M.J., 1992. Chesapeake Bay sediment budget. *Journal of Coastal Research*, 8(2), 292–300. Fort Lauderdale (Florida), ISSN 0749-0208.

Chesapeake Bay is a depositional basin that is filling from both ends and the sides. During the one hundred years ending in the mid-1950's between 1.0×10^9 and 2.92×10^9 metric tons of sediment accumulated in the bay. The water of the continental shelf, flowing into the bay's mouth, is the largest single source of sediment for the basin. A massive quantity of sand, perhaps as much as 40% of the net deposition, enters the bay with these waters and moves tens of kilometers up-estuary. The Susquehanna River is a major source of fine-grained sediments; its coarser load is trapped by dams.

Other sources of sediment are shoreline erosion, biogenic production, and, perhaps, the tributary estuaries. The tributaries do provide coarse sediment through longshore drift and bedload movement in the nearshore shallows and, perhaps, in the channel bottom. The quantity of suspended sediment supplied by the tributary estuaries is unknown. Indeed the tributaries may be sinks not sources.

ADDITIONAL INDEX WORDS: *Chesapeake Bay, sediments, erosion, deposition, sediment budget.*

decades of environmental regulation, such as decreases in lead after the ban on lead in gasoline (Owens and Cornwell 1995).



Baltimore Harbor, with hardened shorelines that limit erosion, has sediment inputs from the Patapsco River, street runoff, and Chesapeake Bay suspended sediment. Geochemical evidence suggests that the Chesapeake Bay-derived materials are important sediment sources to Baltimore Harbor (Sinex and Helz 1982), with particulate export to the Chesapeake Bay likely minimal. While metal inputs have historically been much larger than currently observed (Mason et al. 2004), surface deposits still have high concentrations of contaminants (Baker et al. 1997, Kramer et al. 2009). While dredging in Baltimore Harbor is an ongoing endeavor, dredged materials may not be placed outside the North Point/Rock Point line (see chart on the left). In addition, any redeposition of dredged material on the bay bottom, including material from outside Baltimore Harbor, other than for beneficial uses, is prohibited by state law (sb0830f.PDF (SECURED) (maryland.gov).

The material used at Poplar Island is thus:

1. Not contaminated from Baltimore Harbor pollution, and
2. Reflective of the bay bottom areas which currently support demersal fish, crab, and oyster harvest.

Poplar Island Wetland Chemical Environment

The inundation of tidal waters onto the dredged materials during the development of wetlands generally occurs after several year of sediment drying and compaction. The soils initially have low organic matter content and over time develop much high organic concentrations due to macrophyte detritus. The chemical environment changes from iron oxide-rich soils to iron sulfide-rich soils due to microbial sulfate reduction (Cornwell et al *in prep*). Iron oxides are excellent metal sorbents and iron sulfides reduce the mobility of a number of trace metals (DiToro et al. 1992, Huerta-Diaz and Morse 1992).

Export of the soils appears minimal at this time and ongoing modeling efforts with regard to channel design will optimize the retention of sediment, with a view towards building up the wetlands. The large-scale loss of Poplar Island marsh soils has not been observed, even with the flooding of the project by Hurricane Isabel. However, such losses would be similar in most ways to the loss of wetland soils from existing wetlands (Cornwell et al. 2022), with modest inputs of bioavailable nitrogen from eroded materials. Eroded metals would likely stay in particulate form and be re-deposited on the bottom.

Concluding Remarks

In conclusion, the sediments used in the Poplar Island and future Mid-Bay Projects are unremarkable with regard to their composition. Highly contaminated Baltimore Harbor sediments are not part of the dredged materials, and the materials are reflective of upper bay environments currently used for the harvest of living resources.

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Mid-Chesapeake Bay Island Ecosystem Restoration Project
Public Meeting for the James Island Supplemental Environmental Impact Statement
April 17, 2024

Questions/Comments

Dr. Larry Chitlik (community member) made multiple statements and requests:

- The island selection process was not thorough, used antiquated methods and data (such as sea level rise projections, water tables, and subsidence), and incorrectly applied metrics. Some islands were removed for potential use due to incorrect reasons (such as Bloodsworth Island).
- Dorchester County has 1/3 of the wetlands in the state, and therefore there are enough wetlands present, meaning wetland remediation should be targeted toward other counties along the western shore of the Chesapeake Bay.
- There is no baseline data recorded for toxicity in aquatic life in the island region to determine if the dredge material added at the site will impact aquatic life and humans consuming them in the future. Under RCRA, toxicity has to be assessed, but it was not.
- Request to provide a guarantee that any future health problems will be paid for by the state, and that there will not be any leaching toxins from the material being dumped at the islands. There is not a responsible party to pay for problems that occur later on.
- Since 2003, while originally the project was looking to not build near a populated area, the population of the region has grown significantly ("quadrupled, at least"). The project partners are choosing to dump 3.2 mcy of material per year in a pristine area that has a high population.
- The dredge material being dumped is not analyzed and the toxicity levels are not defined.
- Property values on the water will be adversely affected because of the reduction in total viewshed. There are additional statutes regarding reduction of property values that aren't properly being considered.
- Placing land across the mouth of the Little Choptank River can cause changes to flow rates in the region, which can have impacts on future flooding due to a reduction in the drainage of the rivers.
- According to Executive Order 11990 actions should not be concentrated in poor or disadvantaged areas, but Dorchester County is one of the poorest counties.
- Keep the material coming from the northern Bay channels in that area instead of transporting and using it in the James Island restoration.

Angie Sowers (United States Army Corp of Engineers, USACE) responded to multiple statements made by Dr. Chitlik:

- The feasibility analysis looked for islands with large scale restoration potential. The analytical process and findings were thoroughly vetted through state and federal resource agencies, the U.S. Army Corp of Engineers, and a diverse group of stakeholders. All of

those groups agreed that this site was the best fit. The Bay Enhancement Workgroup (BEWG) reviewed 52 environmental criteria to determine the feasibility of this project.

- The selection was based on the best information available at the time and the selection criteria.
- Congress authorized the project in 2014, so at this time we cannot change the location.
- The Eastern Shore of Maryland has seen extreme wetland loss.
- During design, updated water levels and sea level rise projections were used when determining heights of island features.
- Without the Barren Island portion of the project, the extensive submerged aquatic vegetation (SAV) beds currently to the east of the island will die when the island is entirely eroded. Crab populations and fisheries will decrease if remediation does not occur as they depend on the SAV for a nursery area.
- We have extensive experience with island restoration and management of dredged material. Poplar Island, which is constructed from the same material that will be placed at James Island, has been extensively monitored and has shown no negative impacts. Additionally, construction and operations of the Mid-Bay Project must adhere to all conditions listed in the issued Tidal Wetlands Licenses and Water Quality Certifications.
- Ms. Sowers asked Dr. Chitlik to write down the statutes that are being referenced, the constituents he believes would be best to be considered and reviewed, and that will be followed up on.

Morgan Tolley comments in response to Dr. Chilik's concerns:

- Barren is aiming to maintain the habitat already there. There will not be continuous 30 years of placement, and only the local channels will be used to provide material.
- This island restoration will be quite beneficial to the local community and residents as it will provide an opportunity for local channels to be dredged, which has been cost prohibitive.

Councilman Mike Detmer comments:

- The state of Maryland relies on the port of Baltimore; this project is very important, and I support it.
- Environmental concerns, such as monitoring toxicity, is crucial and important.
- I empathize with people who have homes there that have an unfettered view of the Bay as I also live right along the water. However, the view will also now include wildlife.
- I agree with what Mr. Tolley said about the ability to accommodate the dredging of local channels, and the engagement with the community. I appreciate the community involvement and hope to see it continue.
- Dorchester County has a large number of wetlands, but also the greatest loss of wetlands of any other county in Maryland.
- Having more projects like this is in the favor of the land and the people of Dorchester County.