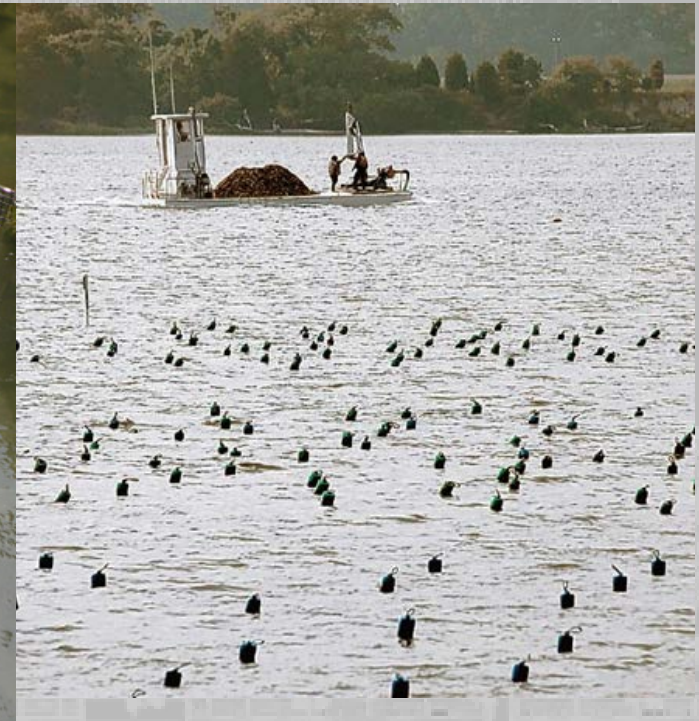


COMMERCIAL SHELLFISH AQUACULTURE WORKSHOP

Woody Francis
Regulatory Program Manager - Aquaculture
North Atlantic Division
Baltimore District
Operations Division
Maryland Section Southern
Date: March 21, 2019



US Army Corps
of Engineers®



TODAY'S WEBINAR



Streamed virtually | Corps Easton Field Office | MDNR Annapolis Office

Purpose: to provide information about the joint State leasing/Federal permit process for commercial shellfish aquaculture projects and for submittal of lease/permit applications.

- The Corps and MDNR have and will continue to make updates to our respective Shellfish Aquaculture web pages as listed here:

<https://www.nab.usace.army.mil/Missions/Regulatory/Aquaculture/>

<https://dnr.maryland.gov/fisheries/Pages/aquaculture/shellfish.aspx>

- This presentation will be posted to the Corps Regulatory shellfish aquaculture web site along with other related materials and information.

The Corps and MDNR are interested in obtaining feedback on the shellfish aquaculture leasing/permit process today and going forward.



CORPS AND THE CHESAPEAKE BAY



The Corps is committed to improving the health of the Chesapeake Bay through collaborative environmental restoration efforts, including oyster restoration and permitting for shellfish aquaculture projects.

- the progress made to date to help restore the Bay demonstrates the immeasurable value in working together to achieve a common goal.
- oyster aquaculture is considered as critical component to the economic and environmental health of our region,
- we are in ongoing conversations with our partners to find ways to make our processes better, and
- to achieve a balance between the development of these important projects and the protection of our natural resources.





OVERVIEW OF CORPS REGULATORY PERMIT PROGRAM

- Since 1890 the Corps of Engineers has been regulating activities to protect and maintain the navigable capacity of the nation's waters.
- The Regulatory Program is committed to protecting the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions.
- The Corps is neither a proponent nor opponent of any proposal.



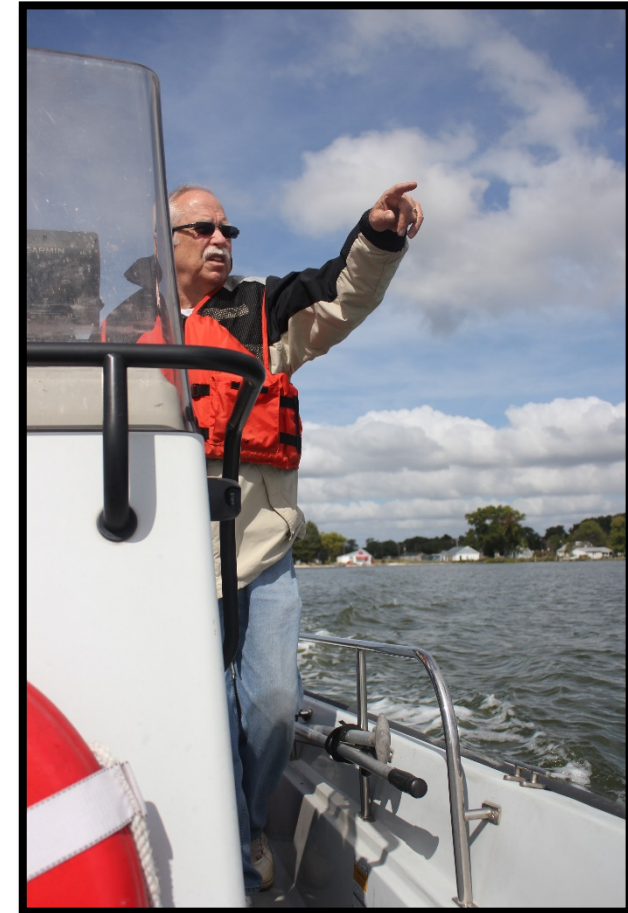


NAVIGATION



Protection of navigation to prevent obstructions is a primary concern of the federal government. (33 CFR 320-330).

- "Obstruction" is defined by regulation (33 C.F.R. 245.5.) as anything that restricts, endangers, or interferes with navigation.
- The right of navigation extends to the entire width of the navigable waterway.
- It's not limited to a dredged channel or the middle of the waterway.



USCG

- During the application phase the Coast Guard is involved in two ways:
 - Evaluating navigation safety during the permit process.
 - Oversight of aids to navigation marking requirements.

NOAA

- NOAA and USCG help address charting and aids to navigation needs.

TYPICAL INFORMATION AND REGULATORY MARKS

INFORMATION AND REGULATORY MARKERS

WHEN LIGHTED, INFORMATION AND REGULATORY MARKS MAY DISPLAY ANY WHITE LIGHT RHYTHM EXCEPT QUICK FLASHING, Mo(A), AND FLASHING (2)



SWIM AREA

BOAT EXCLUSION AREA



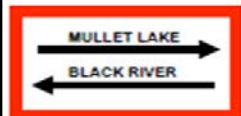
ROCK

DANGER



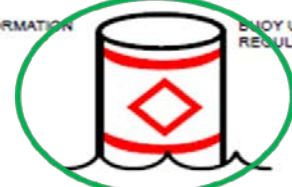
SLOW NO WAKE

CONTROLLED AREA



MULLET LAKE
BLACK RIVER

INFORMATION



USED TO DISPLAY REGULATORY MARKERS



MAY SHOW WHITE LIGHT MAY BE LETTERED

PLATE 1



*Corner numbering should start at the SW most point and move in a clockwise direction. Number designation here should also be consistent with your cross-section diagram(s).

Corner 2
xx° xx' xx" N
xx° xx' xx" W

Corner 1
xx° xx' xx" N
xx° xx' xx" W

Corner 3
xx° xx' xx" N
xx° xx' xx" W

Corner 4
xx° xx' xx" N
xx° xx' xx" W

Marker buoy (8x12" with name and lease #)



JOINT STATE/FEDERAL APPLICATION REVIEW PROCESS



- **Permit from the Corps and valid shellfish lease from MDNR are required.**
- Application is a Joint State/Federal Application.
- Application, instructions, and additional information:

<https://dnr.maryland.gov/fisheries/Pages/aquaculture/shellfish.aspx>

- The Corps' review period: commences with:
 - 1) the receipt of complete application;
 - 2) all requirements for pre-construction notification (PCN).
- The MDNR review process: commences with:
 - 1) receipt of complete application;
 - 2) all required lease information.



STATE SHELLFISH AQUACULTURE LEASE/FEDERAL PERMIT APPLICATION PROCESS



Application received by MDNR / Corps.

- Corps reviews and coordinates the application as required.
 - Permit decision.
- State performs an evaluation of application for completeness.
 - Legal and resource review by state and federal resource agencies.
 - Hydrographic survey.
 - Public notification process.
 - Property owners,
 - County Oyster Committee,
 - DNR website.
 - County newspaper.
 - State Public information meeting or administrative hearing is held if necessary.
 - Lease decision.

***NOTE:** Depending on the application, and any issues or concerns raised in the review process, the Corps and MDNR processes/decisions may or may not be completed within the same timeframe.



APPLICATION PROCESSING TIMEFRAMES



- General permits: 60 days after receipt of a federally-complete application.
- Standard permits: 120 days from receipt of a federally-complete application.
- Permit decisions are made on a case-by-case basis -- no two permits are alike.

Reasons for Delay

- Incomplete application.
- Lack of information or legible plans.
- Location and affects on the interests of others.
- Resolution of protests and objections.





REGULATORY ISSUES TYPICALLY ASSOCIATED WITH AQUACULTURE PERMIT APPLICATIONS



- Navigation, water user conflicts, facility operation and concerns over maintenance.
- Potential navigation obstructions.
 - Floats particularly and cages depending on their location and water depths.
 - Encroachment into unmarked channels.
 - Water depths over cages/structures placed on the bottom – “does it create a speed bump”.
- User Conflicts
 - Crabbing, fishing, water skiing, sailing, boating or some other use.
- Resource conflicts.
 - Submerged aquatic vegetation (SAV).
- Aesthetics
- Safety
- NIMBY (not in my back/front yard)
- Zoning on Water
 - Corps mandates are navigation and safety, not zoning.





CORPS: 2017 NATIONWIDE PERMIT #48

Commercial Shellfish Aquaculture

March 20, 2017: Corps announced that the 2017 Nationwide Permit 48 would be used for regulating Commercial Shellfish Aquaculture projects in the Chesapeake Bay & Coastal Bays (including their tidal tributaries in Maryland).

- Nationwide permits: a form of general permit with a more streamlined process than standard permits where:
 - Activities qualify and result in minimal adverse effects individually and cumulatively on the aquatic environment and other public interest factors.
- Corps requires an application (Pre-construction Notification - PCN) be submitted where:
 - No valid Corps authorization in effect as of August 15, 2016.
 - Activity involves any change in the aquaculture type which was previously authorized by the Corps.
 - Activity includes a species that has never been cultivated in the water body.
 - Activity occurs in an area not used for commercial shellfish aquaculture activities during the past 100 years.



CORPS: 2017 NATIONWIDE PERMIT #48



Commercial Shellfish Aquaculture Activities

- Authorizes discharges of dredged or fill material and structures and work associated with new and continuing commercial shellfish aquaculture operations in authorized project areas.
- “Project area” is defined as:
 - Area where an operator is authorized, as identified through a lease or permit, issued by an appropriate state or local government agency, treaty, or any easement, lease, deed, contract, or other legally binding agreement, that establishes an enforceable property interest for the operator.





CORPS: 2017 NATIONWIDE PERMIT #48



- A “new commercial shellfish aquaculture operation”:
 - Operation in an area where commercial shellfish aquaculture activities have not been conducted during the past 100 years.
- NWP 48 authorizes the following activities in navigable waters of the United States (tidal waters).
 - Installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures, and
 - Discharges of dredged or fill material associated with
 - Shellfish seeding, rearing, cultivating, transplanting, and harvesting activities.

Rafts and other floating structures must be securely anchored and be clearly marked.



CORPS: 2017 NATIONWIDE PERMIT #48 REGIONAL CONDITIONS



- The Corps developed Regional Conditions (RC) for NWP 48 specifically to ensure minimal impacts associated with shellfish aquaculture on navigation and endangered species.
- Required information
 - The number and spacing of cages/floats/gear.
 - Number of vertical and horizontal lines, buoys and markers.
 - Notification to adjacent property owners.
 - Information identifying avoidance of adverse effects to navigation and ingress and egress to neighboring properties





CORPS: 2017 NATIONWIDE PERMIT #48



Nationwide Permit 48 Application/PCN Required Information

- A copy of the state lease or permit -if issued at the time of application/PCN submittal.
- Legible project vicinity map.
- Legible overview plans scale (100':1", or 50':1").
- Plans must show:
 - The entire project footprint and adjacent waters.
 - Approximate latitude/longitude coordinates of the project.
 - Water depths (bathymetry) within and near the project area.
 - Project overlaid on composite mapping of the 5 most recent years of SAV data.
 - Derived from the Virginia Institute of Marine Science (VIMS) aerial surveys.
<http://web.vims.edu/bio/sav/maps.html>



CORPS: 2017 NATIONWIDE PERMIT #48



Nationwide Permit 48 Application/PCN Required Information (cont.)

- Detailed description of the proposed project
 - Description of proposed activities.
 - Site preparation and harvest activities - e.g., dredging, harrowing and dragging of bottom substrate, tonging.
 - Arrangement of structures and vertical and horizontal lines.
 - Spacing of rows and spacing between structures.
 - Types of gear.
 - Anchoring devices.
 - Maximum number of vertical and horizontal lines, and buoys.
 - Acreage of footprint (bottom and water column).
 - Impacts (temporary/permanent).
 - Required for access to the aquaculture facility/gear.
 - Remedial measures to restore temporarily affected aquatic areas.
 - Substrate bottom affected (e.g., soft sand, hard sand, mud, shell, etc.).
 - Cross-sectional view
 - Structures and apparatus.
 - Bottom, suspended, or floating.



CORPS: 2017 NATIONWIDE PERMIT #48



Nationwide Permit 48 Application/PCN Required Information (cont.)

- If the applicant proposes work in waters adjacent to property owned by others
 - Must provide proof of notification to adjacent property owners via certified mail, return receipt requested.
 - May include: statement of no objection or comments from the adjacent property owner(s).
 - Must include: details to identify avoidance of adverse effects to navigation and ingress and egress from neighboring properties.





THREATENED/ENDANGERED SPECIES IN MARYLAND WATERS



Federally Listed Maryland Threatened/Endangered Species

Sea turtles: Loggerhead, Kemp's Ridley, Leatherback, Green
Sturgeon: Atlantic and Short-nose



- Applicant is required to identify whether:
 - The proposed activity might affect listed species or designated critical habitat.
 - Include name(s) of the endangered or threatened species affected or that utilize designated critical habitat

The Corps will determine whether the proposed activity “may affect” or will have “no effect” to listed species and/or designated critical habitat. **If the Corps determines that the proposed activity/work in the action area (all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action), may affect listed species or designated critical habitat, the Corps is required to initiate Section 7 consultation with the National Marine Fisheries Service (NMFS).**

- If Corps determines “no effect” – there is no requirement for consultation.
- If Corps determines “may affect” or “no effect” – must notify the applicant within 45 days.
- However, where listed species might be in the vicinity of the proposed project and/or critical habitat might be affected, the applicant cannot legally begin work until the Corps has provided notification of “no effect” or until the Section 7 consultation has been completed.

***The Corps and NMFS finalized a programmatic agreement in April 2017 that streamlined the ESA consultation process.**



THREATENED/ENDANGERED SPECIES IN MARYLAND WATERS



ESA species mapping- NMFS web site

<http://www.greateratlantic.fisheries.noaa.gov/protected/section7/guidance/maps/index.html>

- Mapping helps to identify where species/critical habitat may be in relation to a proposed shellfish aquaculture site
- The Corps must use the best available scientific and commercial information to determine whether the proposed activity may affect listed species and/or critical habitat
- Mapping represents:
 - NMFS best professional judgment where listed species are likely to be present
 - Based on geographic factors, time of year, and the biology of each species.
 - Critical habitat maps reflect the official designations established in NMFS regulations.
 - These maps provide technical assistance, but do NOT replace the Section 7 consultation process.
 - Intended to help determine if listed species or critical habitat may be affected by a proposed Federal action, such as authorizing a shellfish aquaculture project.
 - Any potential effect to listed species or critical habitat, no matter how small.

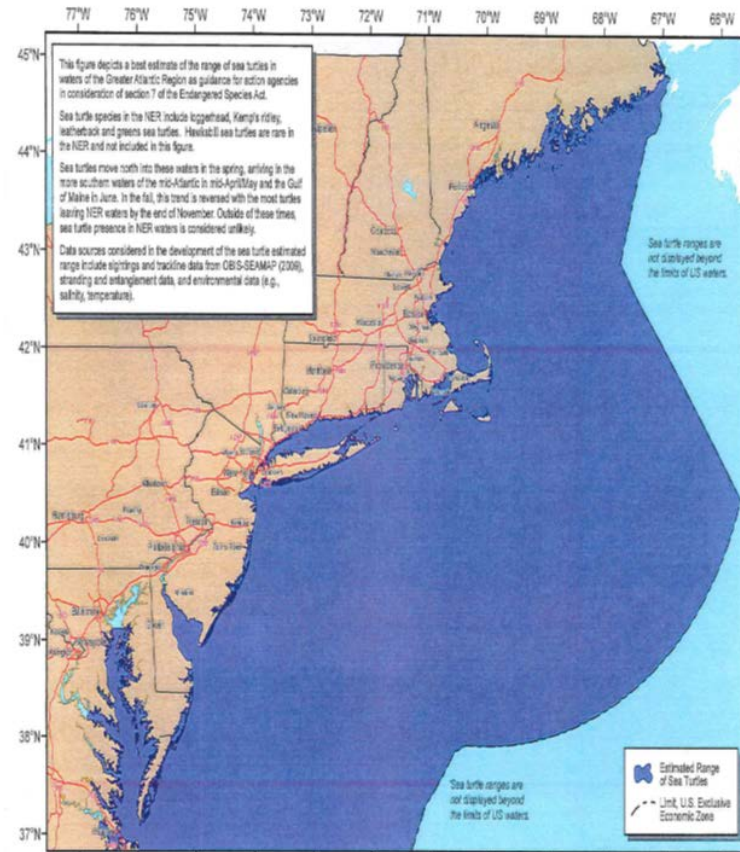
The presence of listed species and/or critical habitat, in combination with the nature of the activity, will help determine if consultation is needed.



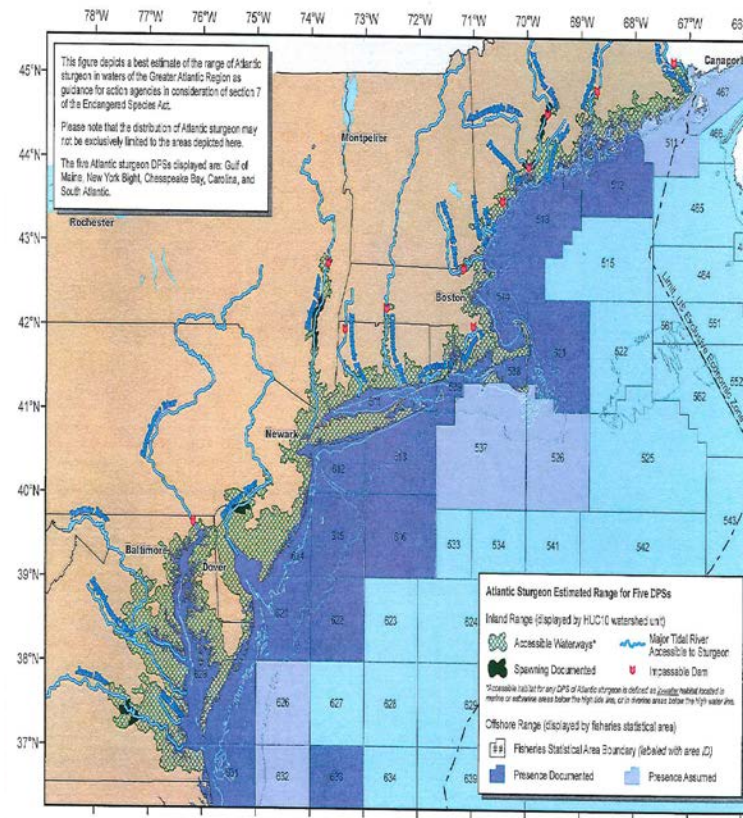
THREATENED/ENDANGERED SPECIES IN MARYLAND WATERS



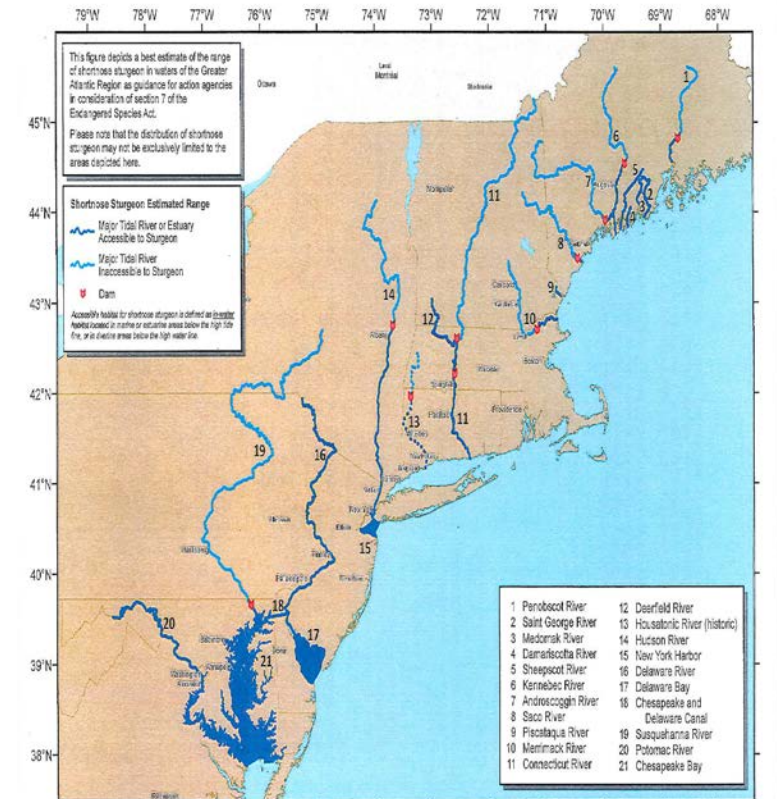
Estimated Range of Sea Turtles



Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)

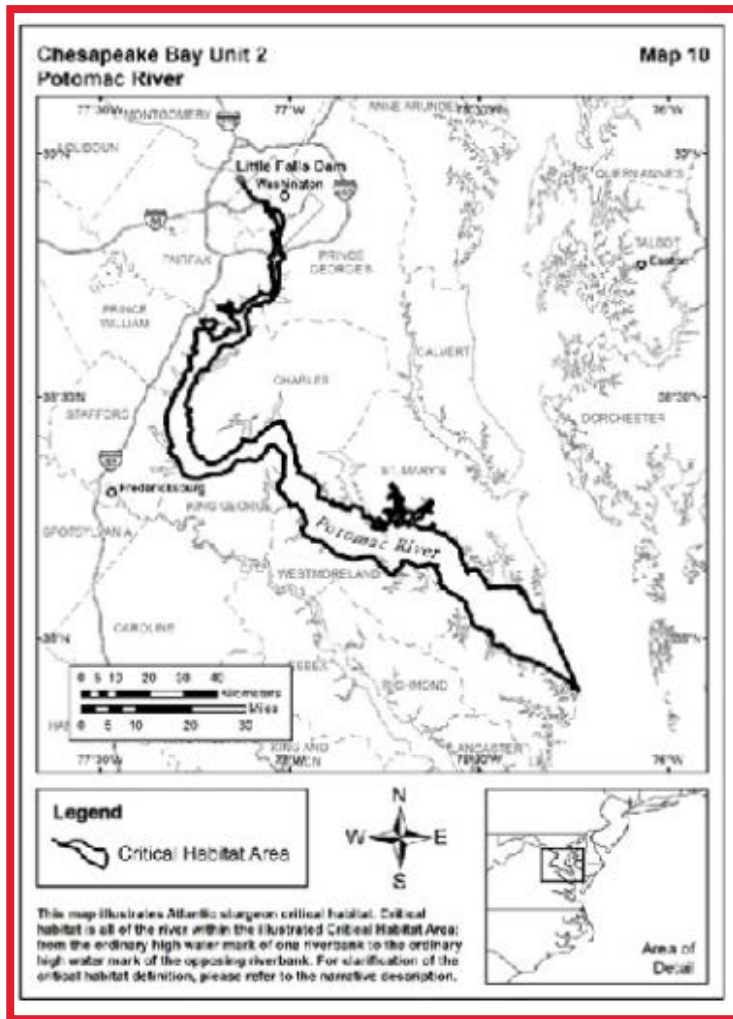


Estimated Range of Shortnose Sturgeon



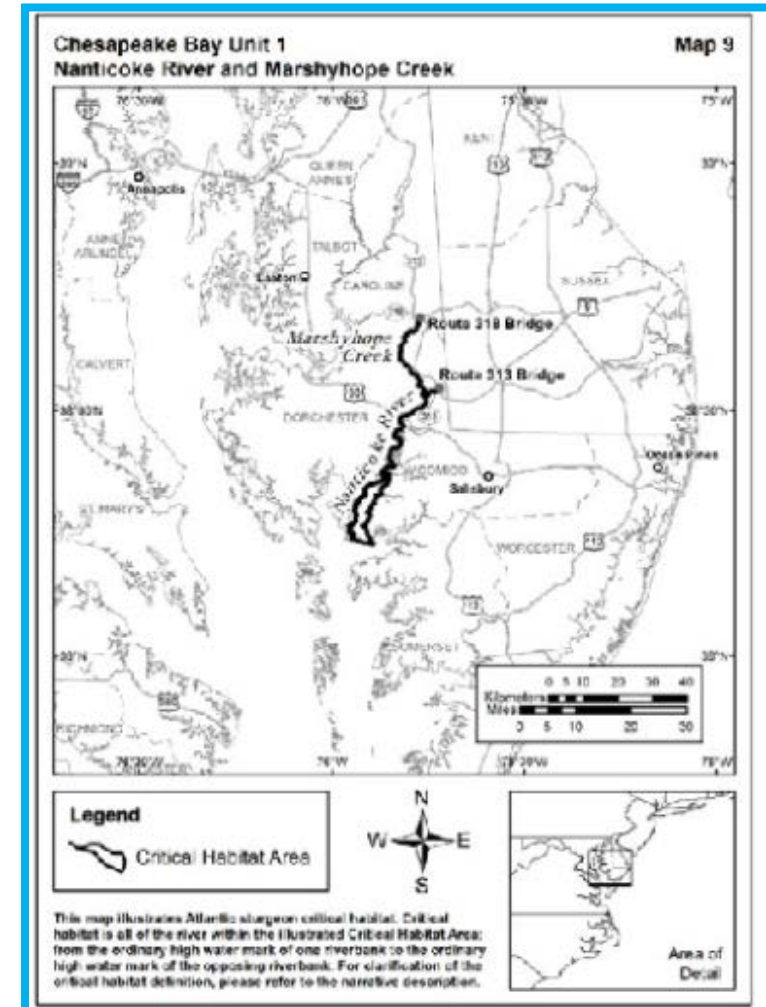
THREATENED/ENDANGERED SPECIES IN MARYLAND WATERS

Designated Critical Habitat for Atlantic Sturgeon in Maryland - Potomac and Nanticoke Rivers



Potomac River

Nanticoke River





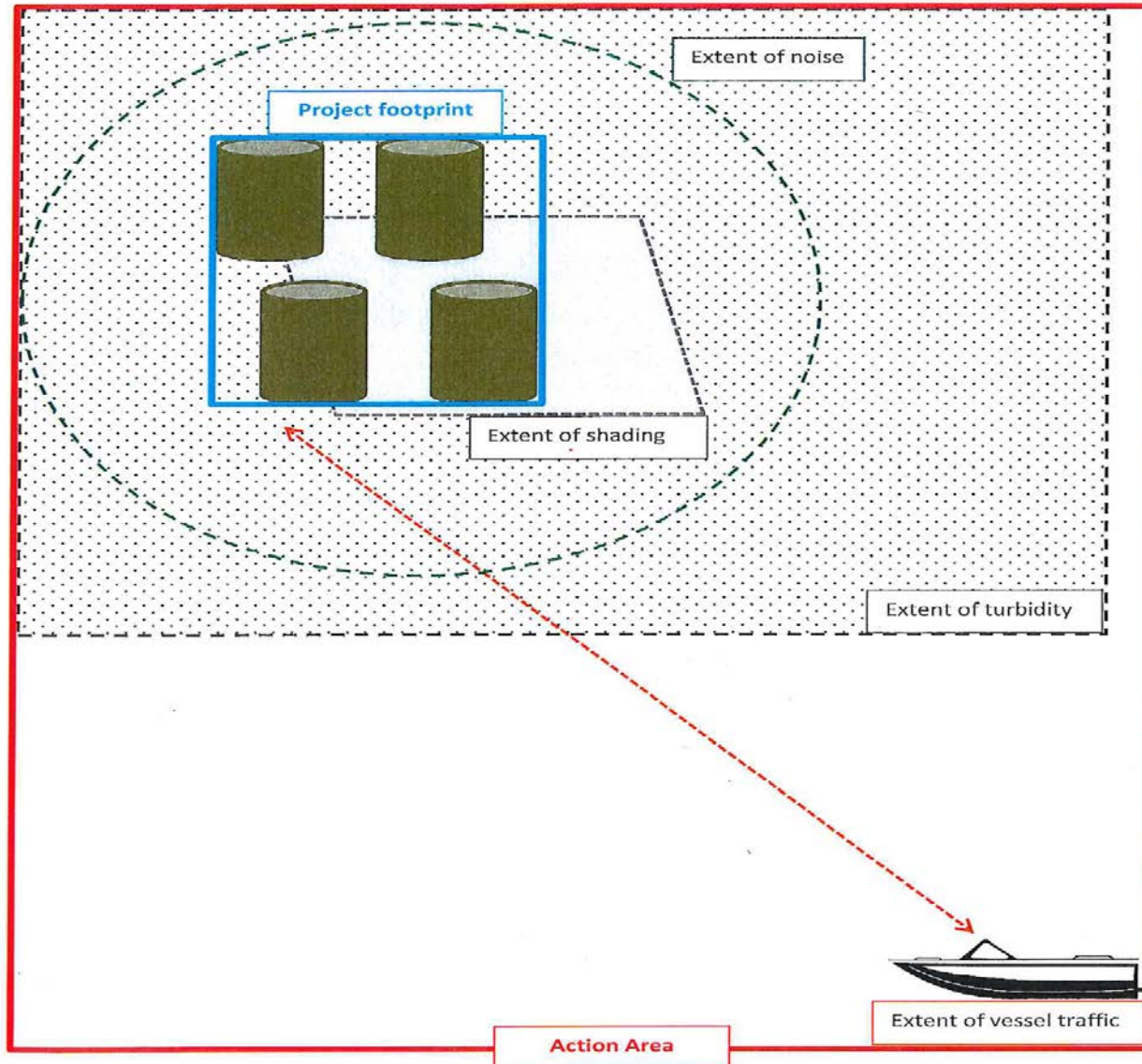
THREATENED/ENDANGERED SPECIES IN MARYLAND WATERS



The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50CFR§402.02).

This includes the project’s footprint as well as the area beyond it that may experience direct or indirect effects that would not occur but for the action.

For more information on how to determine the scope of the action area, please consult the definition of “effects of the action” (50 CFR §402.02).





SITING CONSIDERATIONS



Things to avoid when choosing your site

Public Shellfish Fishery Areas (PSFAs)

Yates Bars within Sanctuaries

Harvest Reserve Areas

Submerged aquatic vegetation (SAV)

Registered pound net sites

Restricted/prohibited water classification

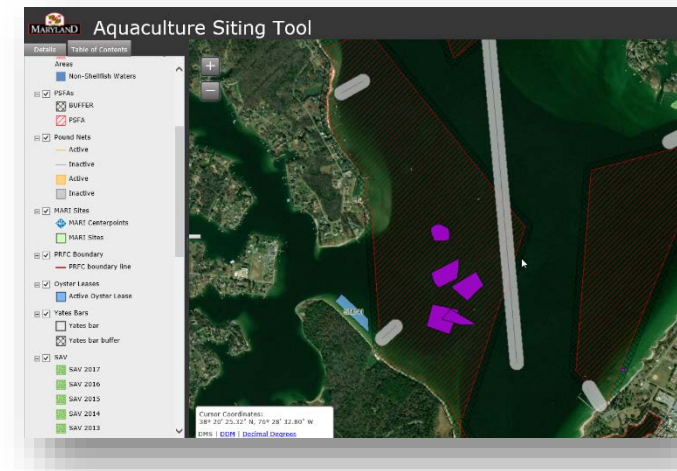
Other existing leases

Federal navigation channels

Commercial fishing conflicts

Any other resource conflicts not listed here

One-on-one or joint meetings can be arranged with MDNR and/or the Corps to review and discuss the application.





SITING CONSIDERATIONS



Things to Consider when Developing Your Aquaculture Operation

Location:

- Is the site near or adjacent to an existing or proposed residential area with or without piers?
- Any affect on ingress/egress or access to/from nearby properties?
- Any affect on routes where vessels usually navigate?
- Can boats navigate through or around the proposed site?
- Is the site near or adjacent to a marked channel or in areas used for navigation?
- Is the site used frequently by commercial watermen or recreational fishermen or located in a high recreational use area?
- Any conflict with other waterway uses?
- Any submerged aquatic vegetation in the location?





SITING CONSIDERATIONS



Alternatives

- Are there other areas nearby with more limited effects on navigation, safety and recreation?
- Can you revise or reduce your site to minimize or avoid these effects?
- Have you considered alternative locations?
- Utilize the MDNR's Aquaculture Siting Tool - an online interactive mapping utility that can assist interested parties in identifying potential lease locations by minimizing known resource and other types of conflicts.



<http://gisapps.dnr.state.md.us/Aquaculture/index.html>

MDNR'S AQUACULTURE SITING TOOL

Aquaculture Siting Tool



March 7, 2018

- | | | |
|--|---|---|
|  Aquaculture Enterprise Zones |  Pre-Approved Leasing Areas |  Harvest Reserves |
|  Pre-Approved Leasing Areas |  Restoration Sites 2009 - 2016 |  Harvest Reserves 150ft Buffer |
|  Aquaculture Enterprise Zones |  Restoration Sites 2009-2016 | |

1:28,396
0 0.23 0.45 0.9 mi
0 0.38 0.75 1.5 km
Maryland DNR Fisheries, Amy LaBerte, MDE, USDA FSA, GeoEye, CNES/
Airbus DS, MD IMAP, MDE, MD DNR Fisheries, DNR Fisheries

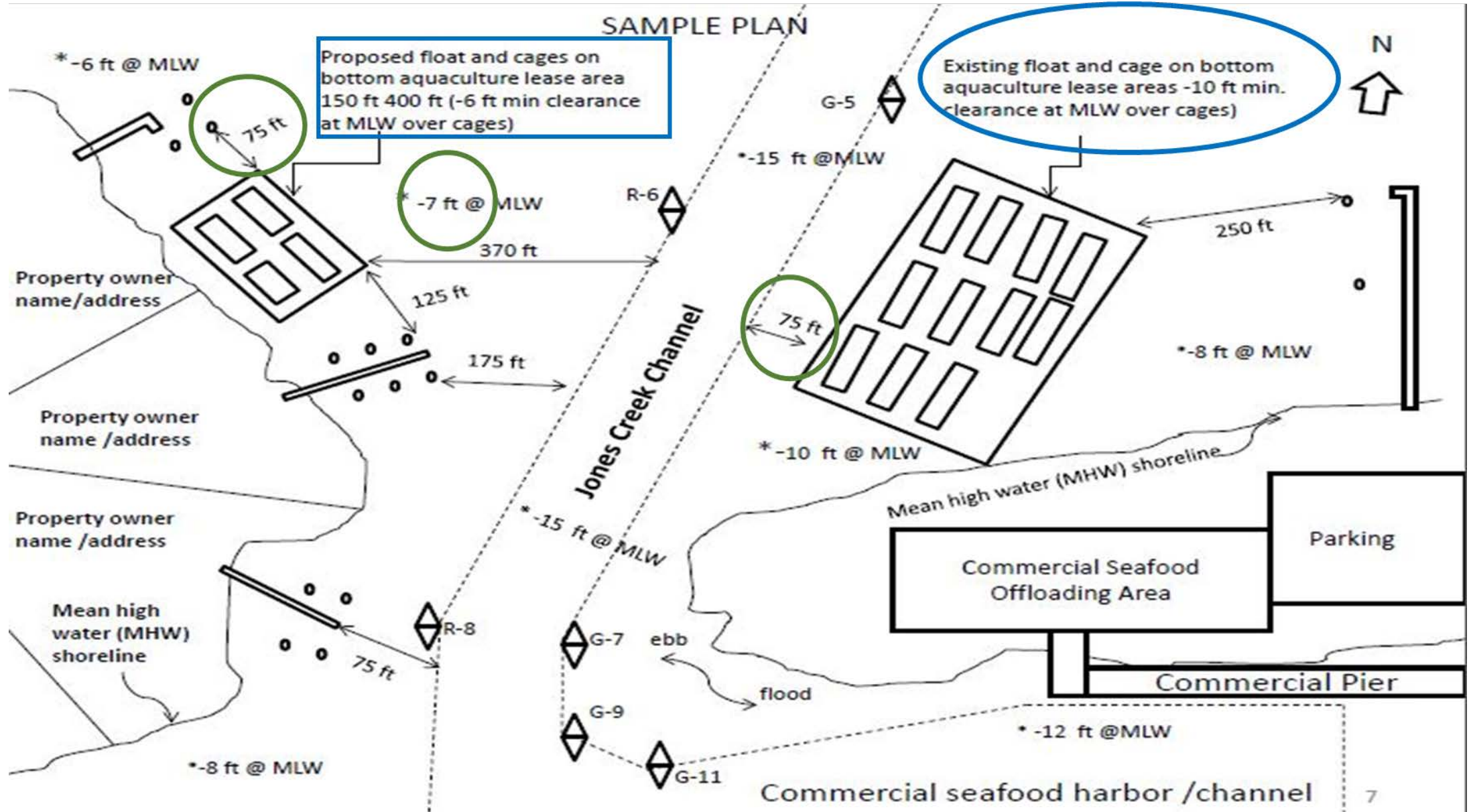


BEFORE SUBMITTING APPLICATION

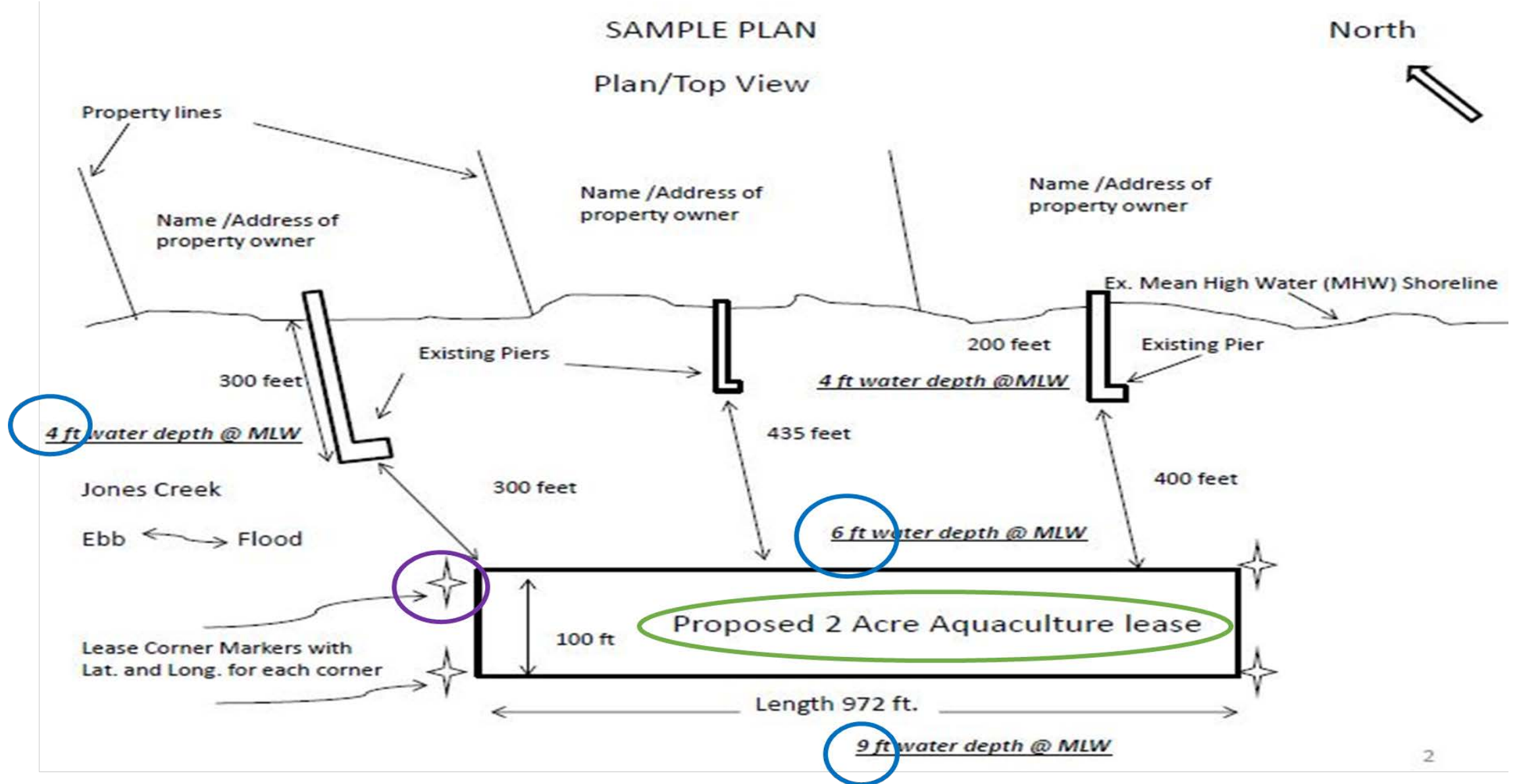


- Are your plans complete?
- Does your site plan show how your site will not affect boating and identify where and how boats can navigate in the area?
- Are there existing leases or other structures nearby? If so, show them on your plan.
- Are you proposing to build a nursery facility either on/over the water or on land?
- Review the Shellfish Aquaculture Best Management Practices (BMP) Guidelines.
 - http://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/aquaculture/9_Managing_Maryland_Aquaculture.pdf
 - https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_035319.pdf

EXAMPLES SITING AND NAVIGATION



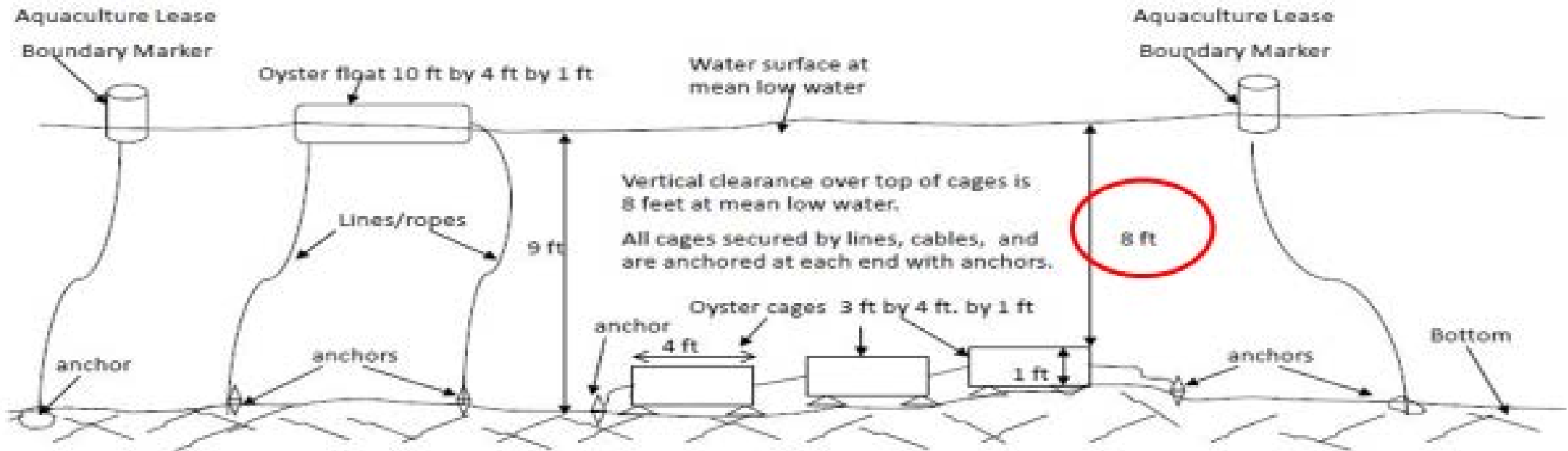
EXAMPLES SITING AND NAVIGATION



EXAMPLES SITING AND NAVIGATION

SAMPLE PLAN

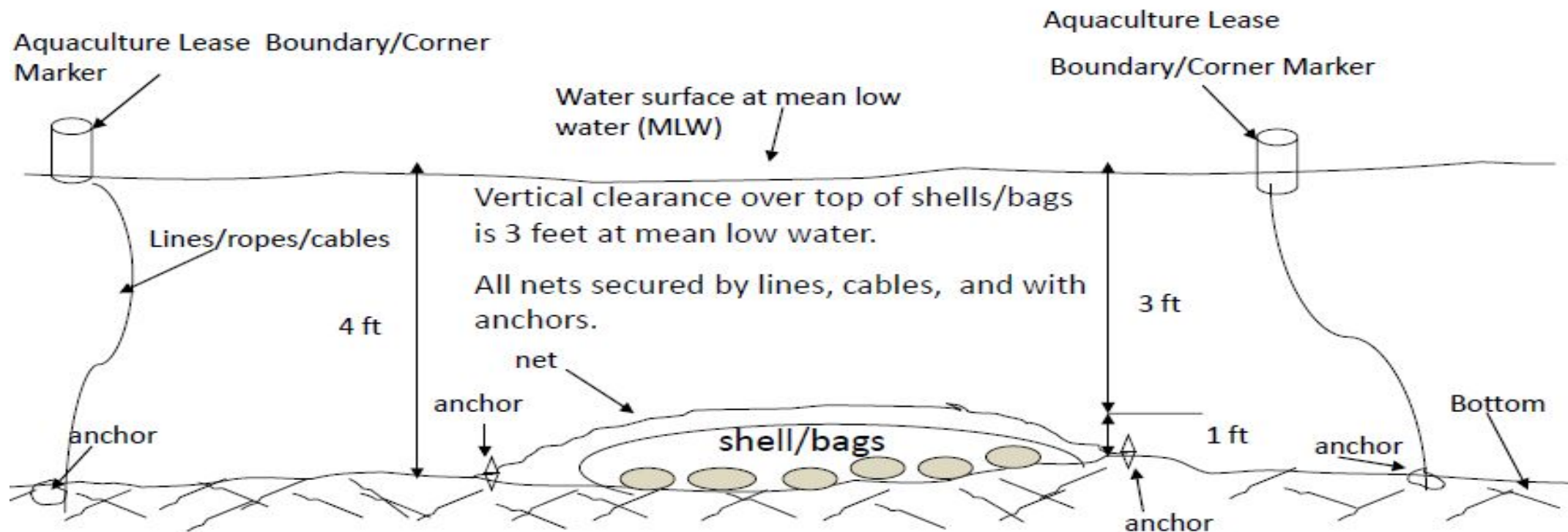
Typical Cross Section Details – Oyster Floats and Oyster Cages relative to mean low water (MLW)



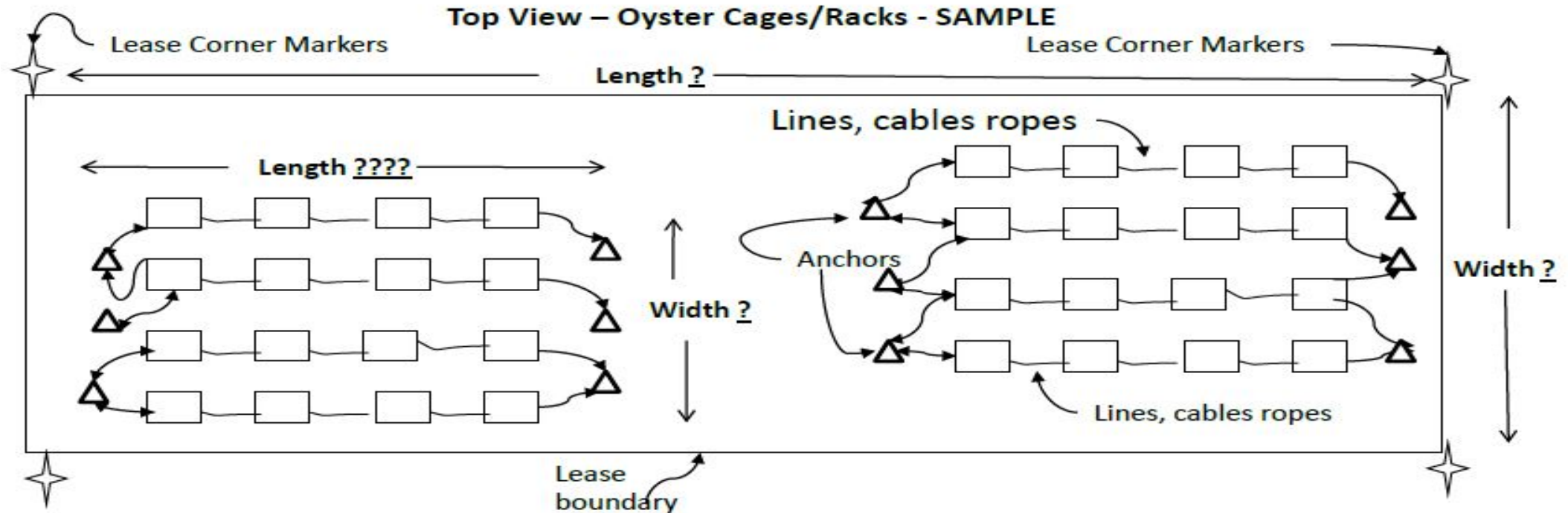
EXAMPLES SITING AND NAVIGATION

SAMPLE PLAN

Typical Cross Section Details – Shell/Bags/Nets - On-Bottom - relative to mean low water (MLW)



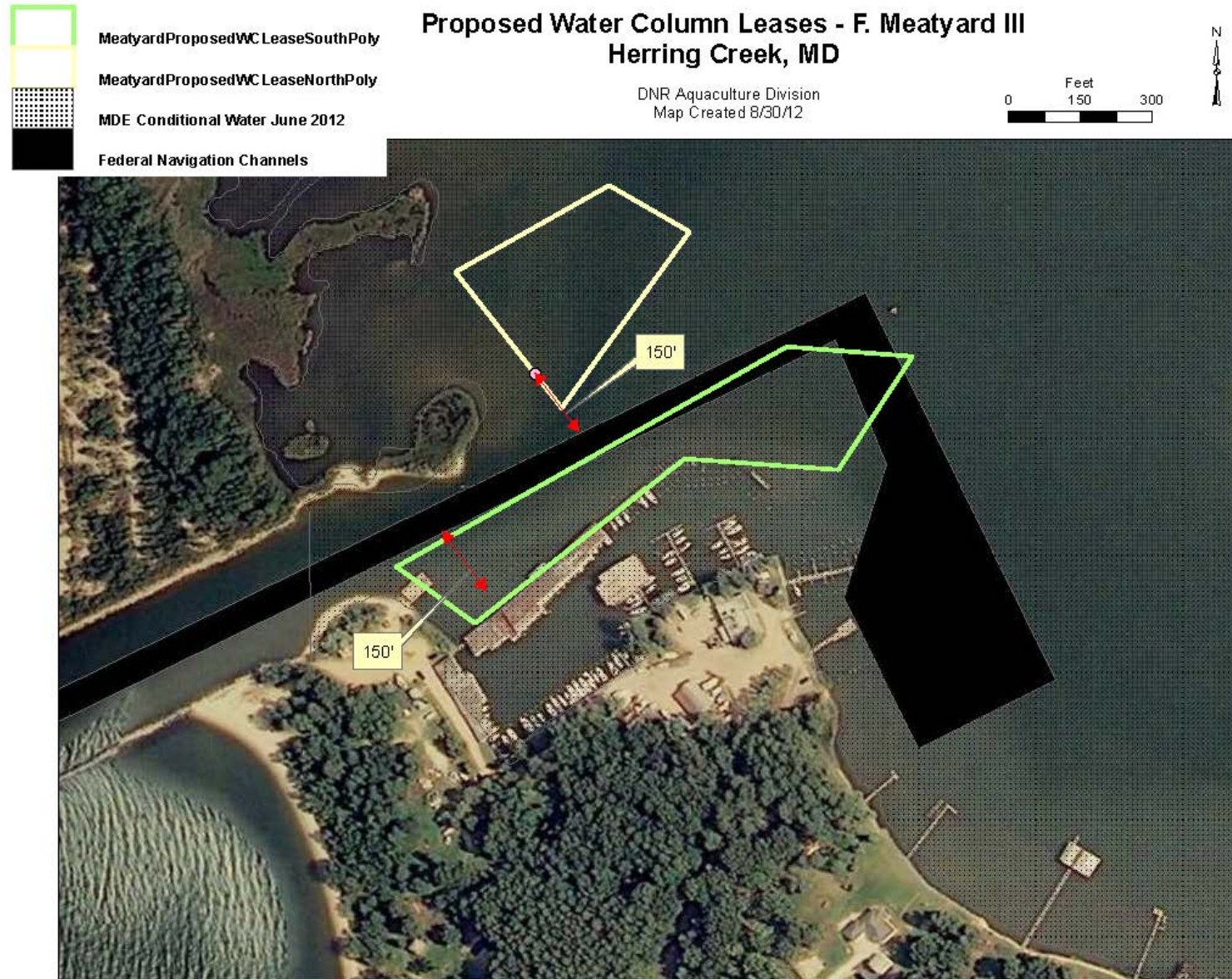
EXAMPLES SITING AND NAVIGATION



1. What is the size /area of lease in square feet/acres? _____
2. What is the length and width of lease in feet? _____
3. What is the length and width of the area where the cages/racks will be placed? _____
4. What is the size of the cages/racks (length, width, height)? _____
5. What is the spacing between cages/racks? _____
6. What is the maximum number of cages/racks that will be used? _____

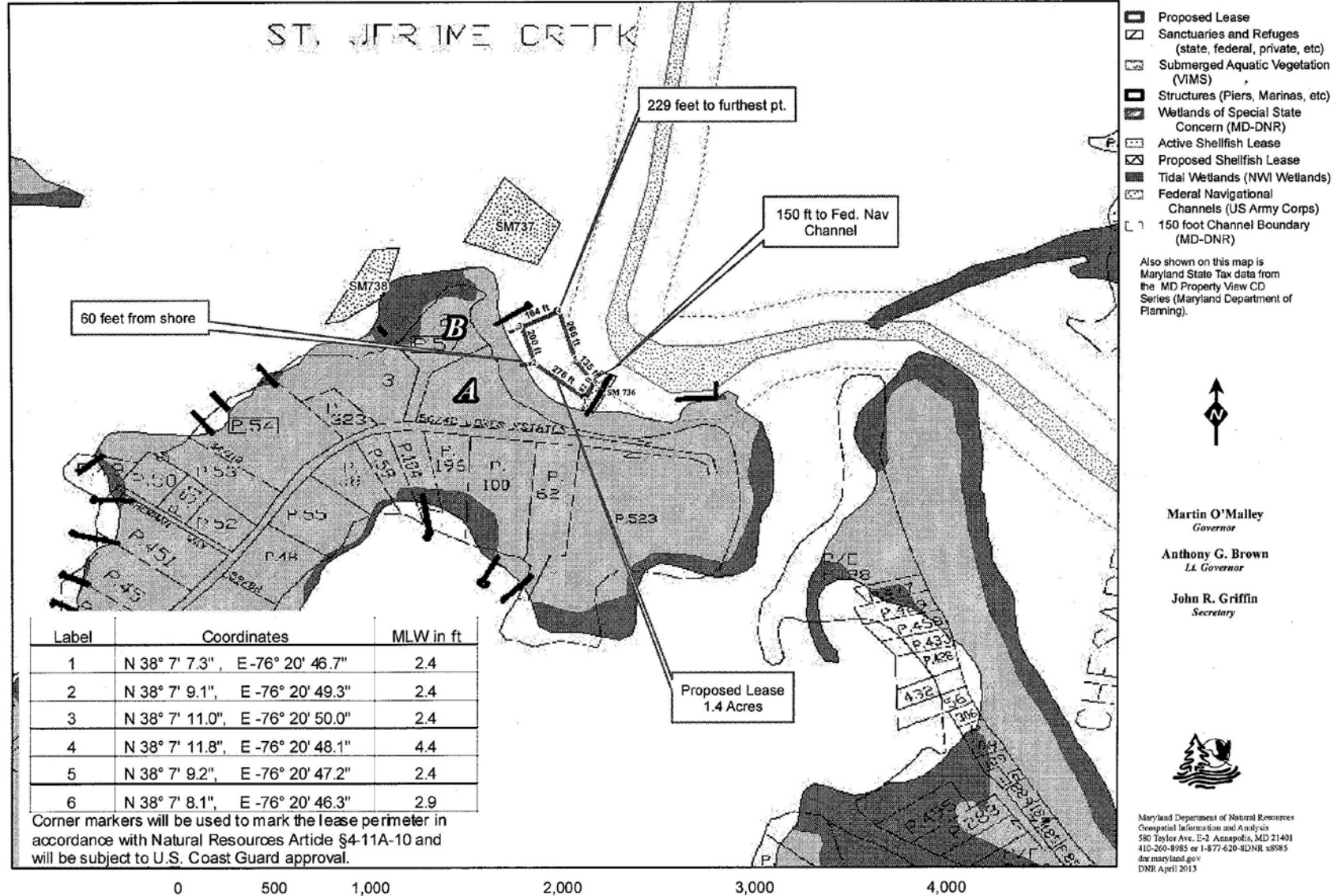
Applies to baskets, cages, floats, etc., and shell-on-bottom projects

EXAMPLES SITING AND NAVIGATION

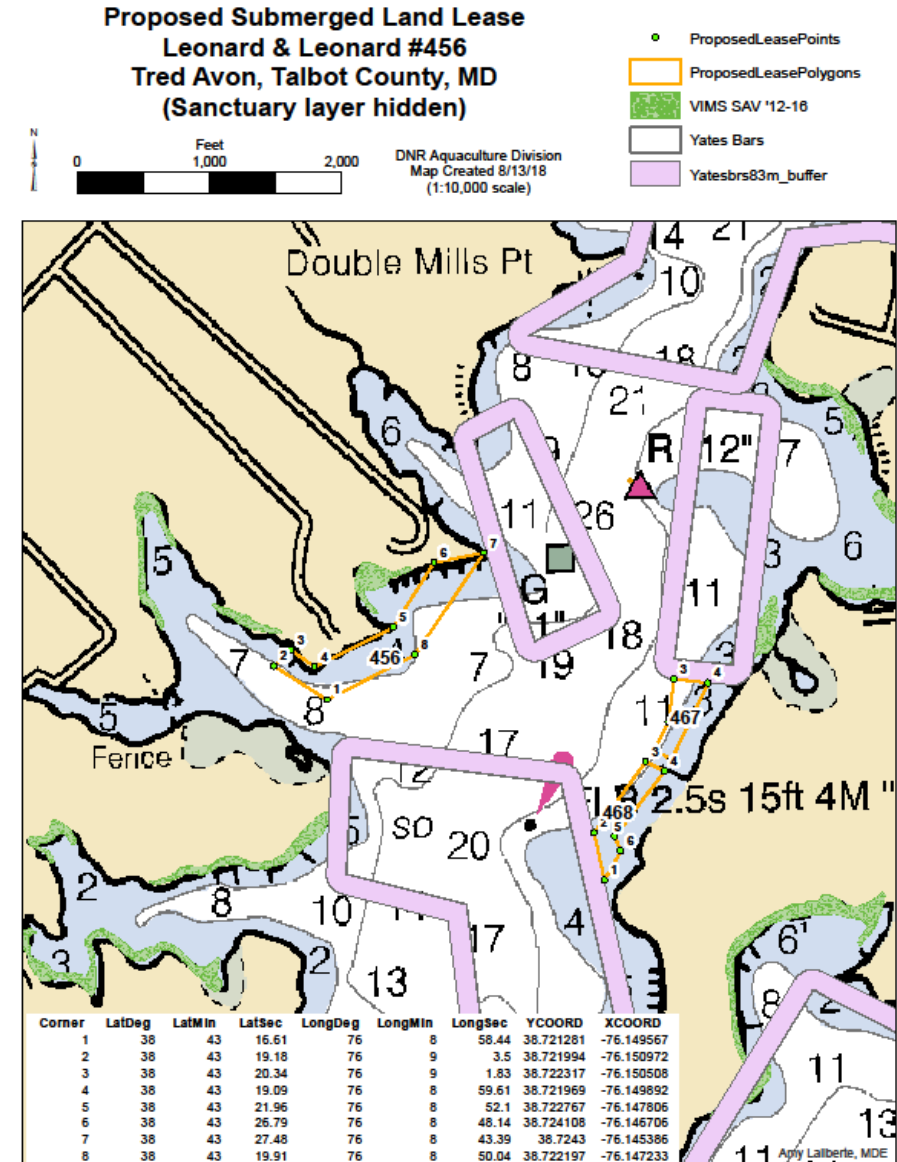
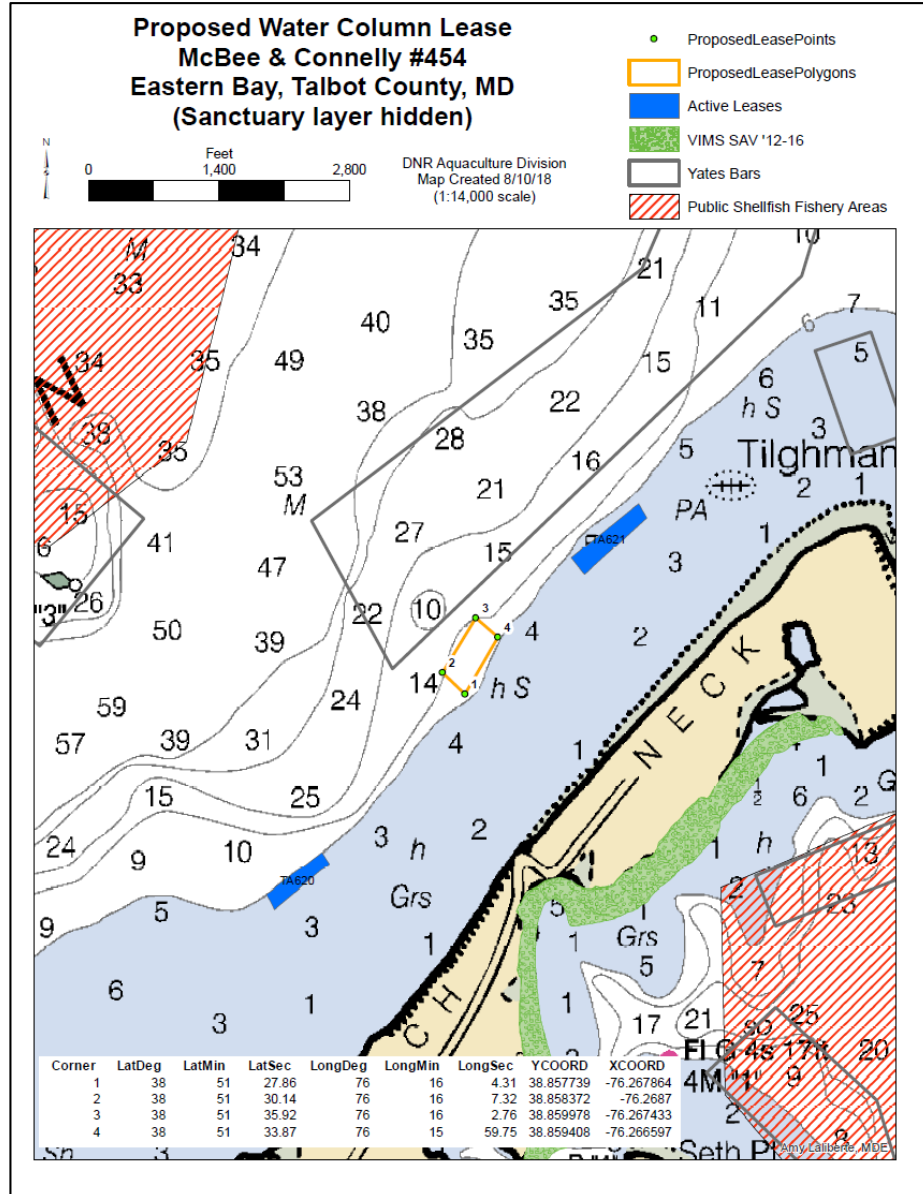


EXAMPLES SITING AND NAVIGATION

Proposed Shellfish Water Column Lease Overview Map
Chesapeake Fresh Oyster Co., LLC - St. Jerome Creek, St. Mary's County Maryland



EXAMPLES SITING AND NAVIGATION



EXAMPLES SITING AND NAVIGATION



EXAMPLES SITING AND NAVIGATION

water depth 8 ft. @ MLW

Proposed shellfish aquaculture lease – shell on bottom

water depth 7 ft. @ MLW

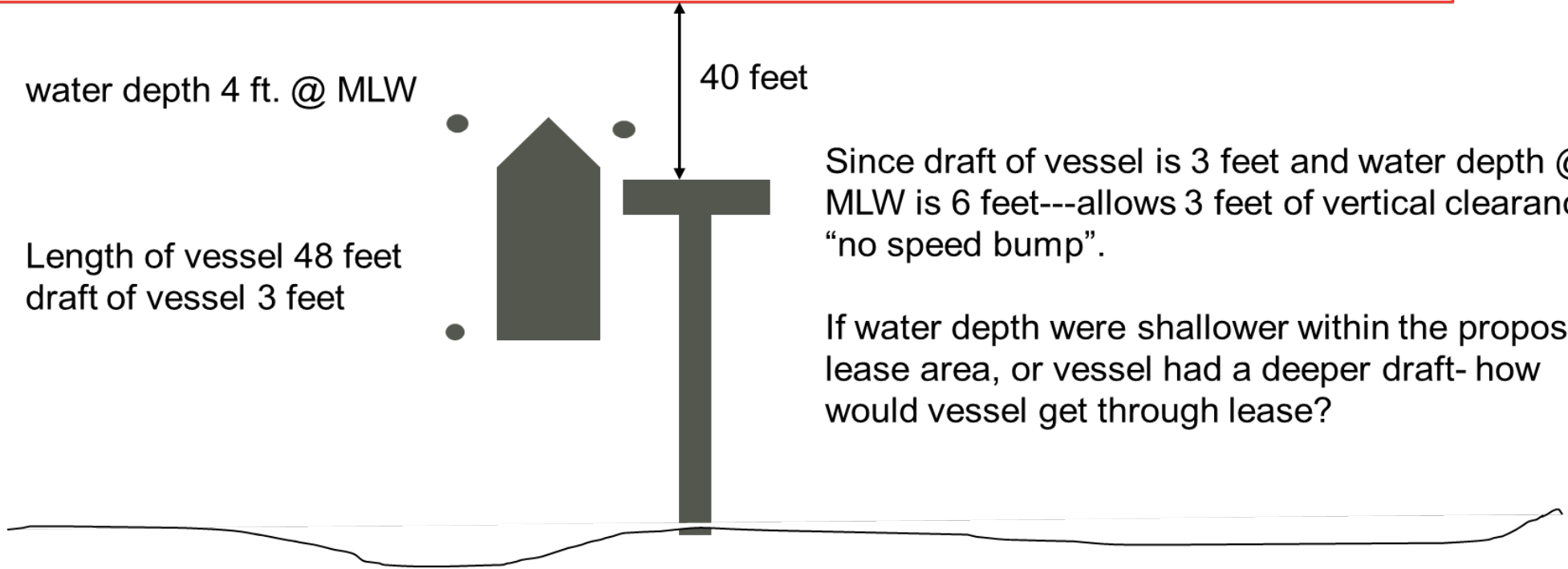
water depth 4 ft. @ MLW

40 feet

Length of vessel 48 feet
draft of vessel 3 feet

Since draft of vessel is 3 feet and water depth @ MLW is 6 feet---allows 3 feet of vertical clearance "no speed bump".

If water depth were shallower within the proposed lease area, or vessel had a deeper draft- how would vessel get through lease?



EXAMPLES SITING AND NAVIGATION

Proposed shellfish aquaculture lease – cages on bottom/or floats on surface or suspended in water column

water depth 8 ft. @ MLW

water depth 7 ft. @ MLW

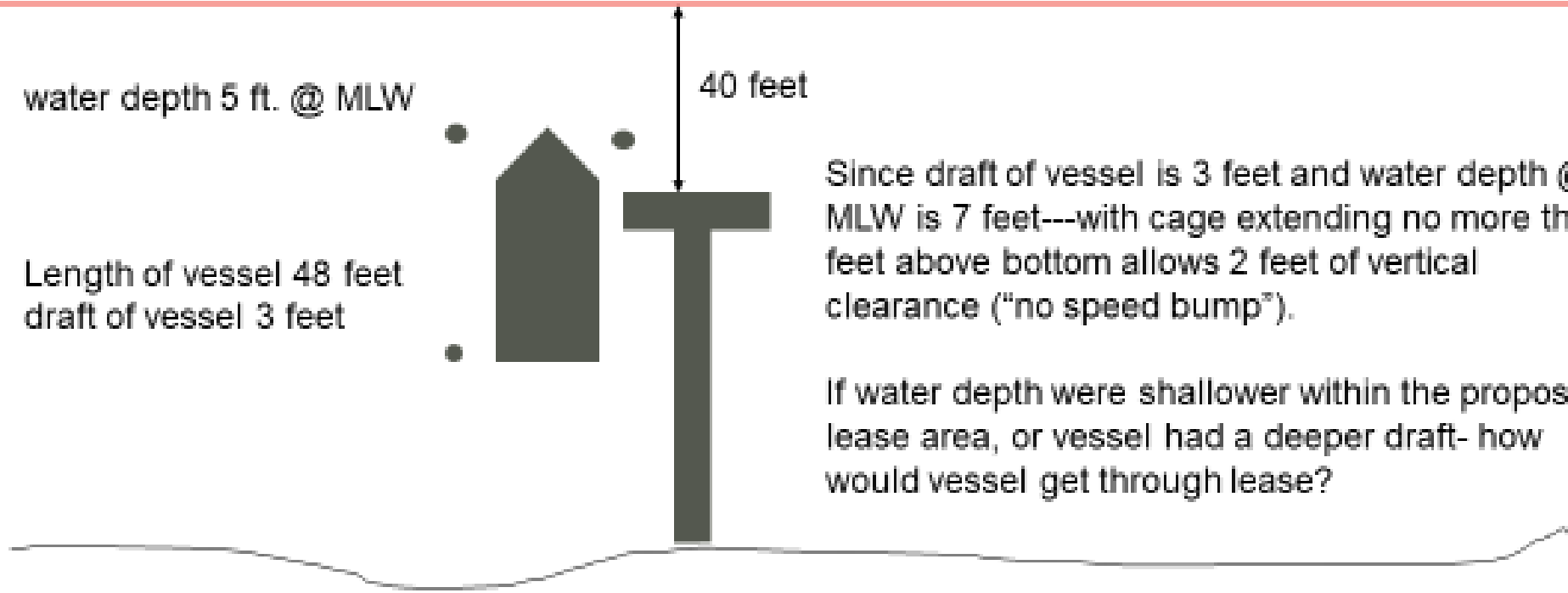
water depth 5 ft. @ MLW

40 feet

Length of vessel 48 feet
draft of vessel 3 feet

Since draft of vessel is 3 feet and water depth @ MLW is 7 feet---with cage extending no more that 2 feet above bottom allows 2 feet of vertical clearance ("no speed bump").

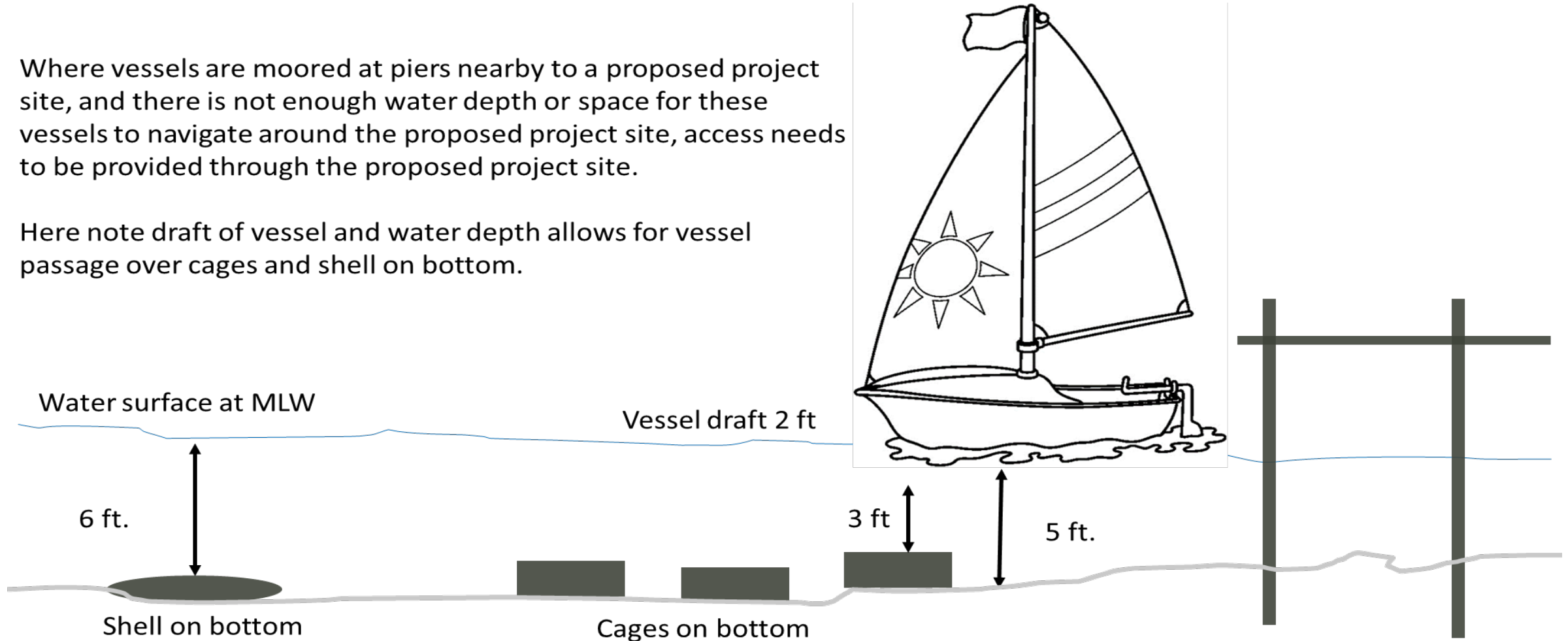
If water depth were shallower within the proposed lease area, or vessel had a deeper draft- how would vessel get through lease?



EXAMPLES SITING AND NAVIGATION

Where vessels are moored at piers nearby to a proposed project site, and there is not enough water depth or space for these vessels to navigate around the proposed project site, access needs to be provided through the proposed project site.

Here note draft of vessel and water depth allows for vessel passage over cages and shell on bottom.

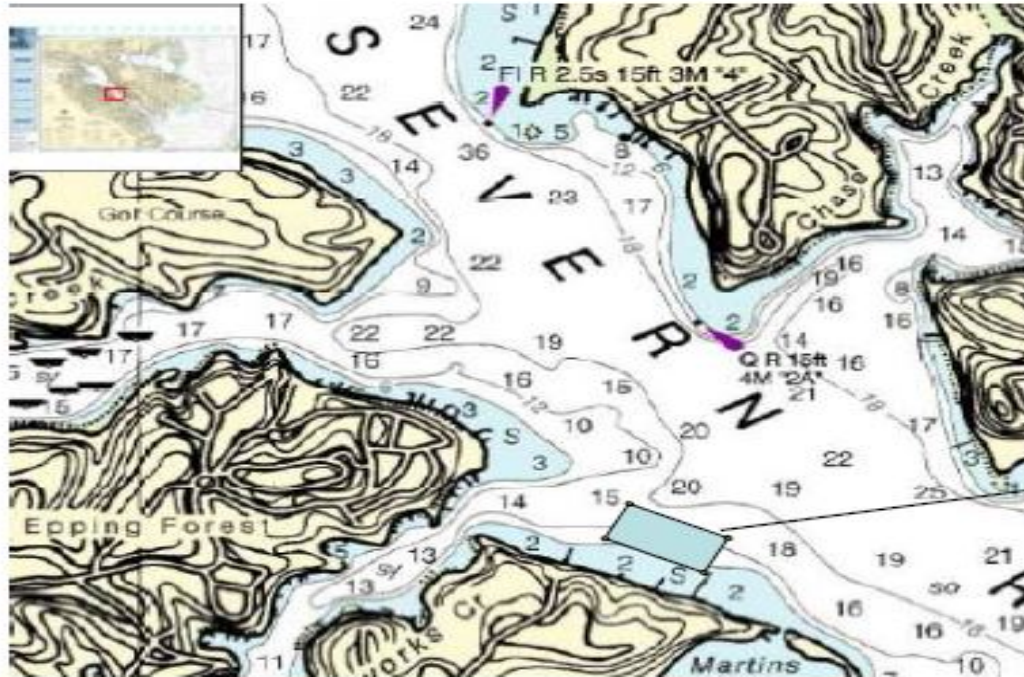


SAMPLE PLANS

Example of how to show the location of your proposed site using a map and aerial diagram:

**Please include this info on all attachments submitted with your lease application*

Name/Business: John I. Doe
Town, State: Your Town, MD
Waterbody: Your River
Date: April 14, 2017




**Corner numbering should start at the SW most point and move in a clockwise direction. Number designation here should also be consistent with your cross-section diagram(s).*

Corner 2
xx° xx' xx" N
xx° xx' xx" W

Corner 3
xx° xx' xx" N
xx° xx' xx" W

Corner 1
xx° xx' xx" N
xx° xx' xx" W

Corner 4
xx° xx' xx" N
xx° xx' xx" W

 Marker buoy (8x12" with name and lease #)



QUESTIONS??



Woody Francis, Corps of Engineers, Baltimore District, 410-935-3921

woody.francis@usace.army.mil