

Site Selection and Permitting For Shellfish Aquaculture *Regulatory Aspects*

Tessa Getchis

Connecticut Sea Grant

Department of Extension

University of Connecticut

Getting Started

- Site Selection
- Environmental Considerations
- Social Considerations
- Gaining access to cultivation areas
- Obtaining permits to use structures
- Other requirements

Site Selection – Husbandry Aspects

3

- Multiple factors to consider when selecting a site for shellfish aquaculture:
- **Biological:** Phytoplankton abundance, spat availability, occurrence of predators, fouling organisms, etc.
- **Physical:** Hydrodynamics, bottom topography, sediment type, turbidity, etc.
- **Chemical:** Salinity, pH, conductivity, dissolved gases (oxygen, carbon dioxide, ammonia), etc.
- These characteristics, related to *husbandry*, are site specific and should be assessed.

Site Selection – Regulatory Aspects

4

- Federal, state, and in some cases, local regulators require an evaluation of the potential effects resulting from proposed aquaculture activity.
 - Environmental Effects
 - Social Issues – Use Conflicts
- The potential for these types of effects should be examined prior to investing in aquaculture, and *before seeking access to cultivation areas; gear permits.*

Environmental Considerations

5

- *Will the activity or gear ...*
 - alter water quality?
 - alter species abundance and/or diversity?
 - disturb or displace essential fish habitat?
 - disturb or displace endangered species?



Photo courtesy of AP

Environmental Considerations

6

- *Will the gear withstand forces of nature?*
 - Who can verify this?
 - Are you required to hire an engineer?



http://www.maine.gov/dmr/aquaculture/what_is_aquaculture.htm

Environmental Considerations

7

- What is the contingency plan for gear failure?



www.globalgarbage.org

Social Considerations

8

- *Will the activity prevent or limit ...*
 - Navigation (e.g. shipping, ferry routes, designated or common fairways) and other commercial uses (e.g. fishing)
 - Recreational uses (e.g. fishing, pleasure boating, moorings or anchorages)
 - Safe ingress and egress for riparian owners
 - Safe traverse for boaters
 - Public access to the site
 - Historical or cultural uses of the site

Social Considerations

9

- *Will the facility, vessels, gear or maintenance ...*
 - Be operational during early AM or late PM hours?
 - Cause visual or audio disturbance?
- Who are your neighbors?
- What do they think of the proposed activity?

Gaining Access to Cultivation Areas

10

- **Lease** rights usually provide:
 - Exclusive rights to shellfish
 - Right to cultivate/harvest shellfish within a defined term
- **License Agreements**
 - Usually less formal and shorter term
 - Area can be occupied, but limited rights
- Having a lease or license does not provide the right to place aquaculture structures (separate permitting process)
- Preventing public use in leased or licensed areas usually not allowed

Permitting Aquaculture Structures

The Agencies

- The use of any **structures** in navigable waters* is regulated by a joint state-federal permitting review process.
- U.S. Army Corps of Engineers (USACE) is the lead agency that regulates aquaculture activities in coastal waters and adjacent wetlands under:
 - **Rivers and Harbors Act of 1890**
 - **Clean Water Act of 1977**
- ****see next slide***

Permitting Aquaculture Structures

Navigable Waters

- **Navigable waters**, by definition (33 CFR 329), are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable “capacity.”

Permitting Aquaculture Structures

*US Army Corps of
Engineers (USACE)*

- Federal regulation:
 - Prohibits unauthorized obstruction or alteration of any navigable waters
 - Requires USACE approval for any work that may affect the course, condition, location or capacity of navigable waters.
- In addition, the federal **Coastal Zone Management Act (CZMA)** requires the USACE to ensure that the structure /activity is in compliance with the state's approved Coastal Zone Management Plan.

Permitting Aquaculture Structures

*Role of NOAA
National Marine
Fisheries Service
(NMFS) and
U.S. Fish &
Wildlife Service*

- **Fish and Wildlife Coordination Act** provides the authority for these agencies to evaluate impacts to fish and wildlife
- Provides avenue to protect quality of the aquatic environment as it affects the conservation, improvement and enjoyment of fish and wildlife resources
- **Magnuson-Stevens Fishery Conservation Act** requires that the USACE consult with the Department of Commerce (through NOAA NMFS) when a project may adversely affect any essential fish habitat

Permitting Aquaculture Structures

Acquiring Permits for the Use of Structures

Programmatic General Permit

- The “PGP” application is required to place structures in navigable waters
- Joint permit - reviewed by multiple state and federal agencies; municipalities if in town waters
- Review process can take several months, and should be a consideration when planning aquaculture projects
- Project may be subject to other permits; dependent on size and scope of project and potential for environmental effects, use conflicts, etc.

Permitting Aquaculture Structures

*US Army Corps of
Engineers (USACE)*

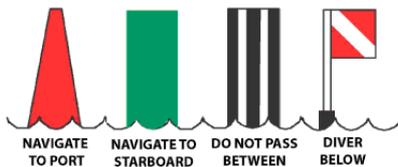
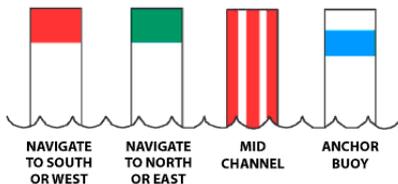
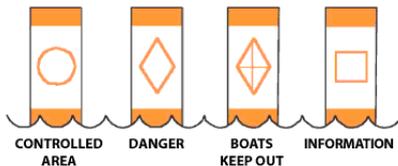
- In its review, USACE seeks input from:
 - Local and State Resource Managers
 - Environmental Protection Agency
 - NOAA National Marine Fisheries Service
 - US Fish and Wildlife Service
 - Other agencies depending on potential environmental effects, use conflicts, etc.

Permitting Aquaculture Structures

NAVIGATION RULES

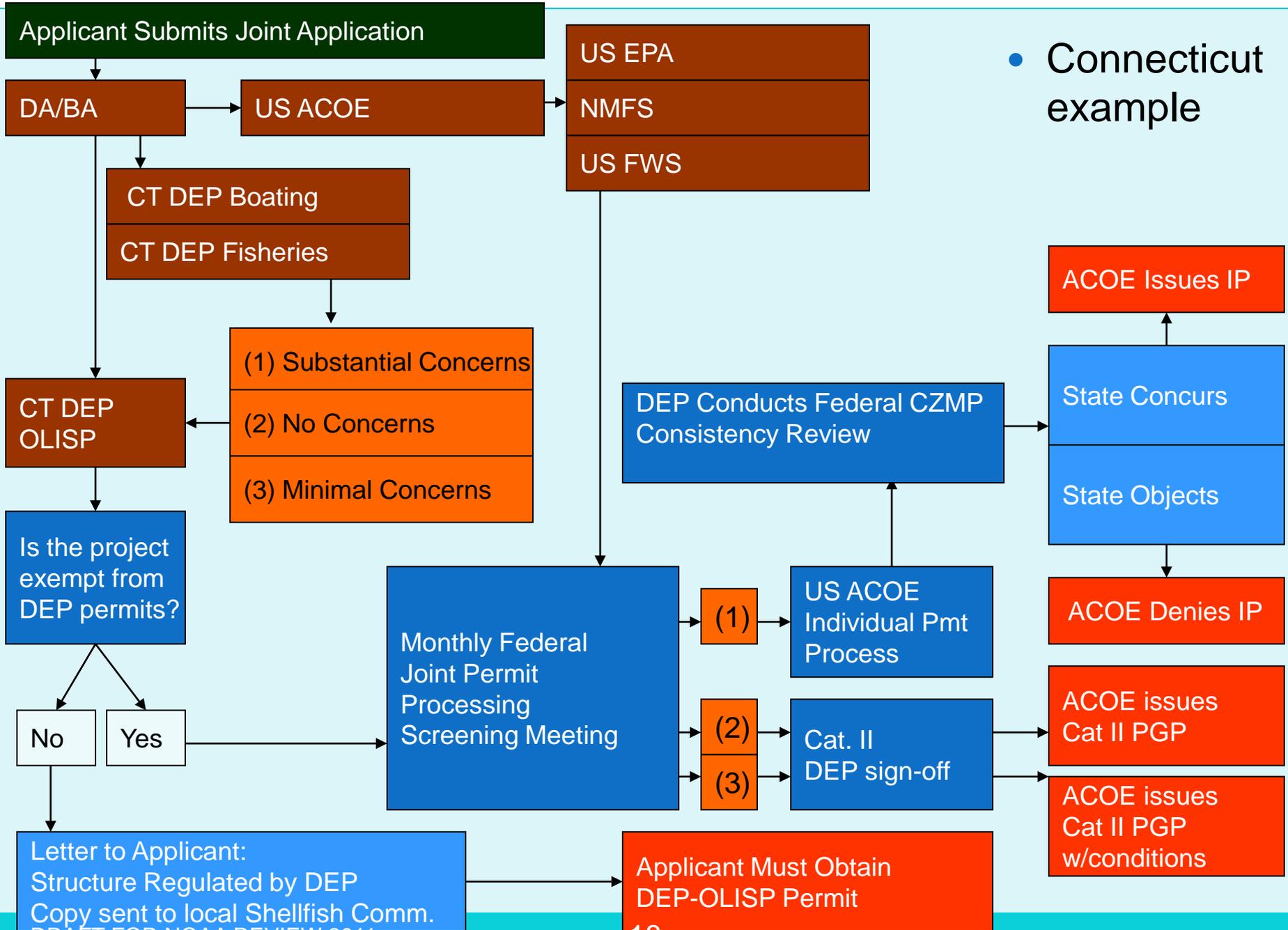
1. OVERTAKING - PASSING: Boat being passed has the right-of-way. KEEP CLEAR.
2. MEETING HEAD ON: Keep to the right.
3. CROSSING: Boat on right has the right-of-way. Slow down and permit it to pass.

STANDARD RESERVOIR MARKERS



Permit to Place Marker Buoys

- State may require that informational buoys mark the location of aquaculture structures.
- If a boat is able to transit the area where structure(s) is proposed to be placed, the applicant will likely be required to obtain a permit to place marker buoys.



- Connecticut example

Other Basic Regulatory Requirements

19

- Seed source (if not local) must be approved by the designated animal health professional.
- Hazard Analysis & Critical Control Points training (if a dealer/shipper)
- Boat inspection
- Record keeping (harvest log, HACCP records)
- Shellstock Shipper number (provided for tagging purposes)
- Other activities fall under individual licenses or permits (e.g. relaying, etc.)

SUMMARY

- Leasing and/or licensing of shellfish grounds usually does not include rights to utilize structures
- Review of applications for placement of structures is a joint process involving several State, federal; possibly local agencies
- Written authorization from local, state and federal agencies is required before any activity begins or gear is placed in the water

SUMMARY

- The permitting process for coastal aquaculture is complex.
- Recognize and address environmental and social concerns; seek out experts to assist
- Review process can take several months; plan ahead
- Learn what is expected of you during the application/ review process and *follow the instructions*
- Know the status of your application