**EAST LYME HARBOR MANAGEMENT & SHELLFISH COMMISSION**
**REGULAR MEETING MINUTES**
**MAY 17, 2022**
**EAST LYME TOWN HALL**

| Chairman | Treasurer | Secretary |
|---|---|---|
| Stephen Dinsmore | Donald F. Landers Jr. | Craig Mason |

**Members Present**: Steve Dinsmore, Don Landers, Greg Murin, Rick Kanter, Don MacKenzie, Craig Mason
**Members Absent:** none
**Ex-Officio(s) Present:** Ann Cicchiello, BOS liaison
**Ex-Officio(s) Absent:** none
**Also Present:** Ron Johnson, Harbor Master, Mark Berger, Deputy Harbor Master
**1. CALL TO ORDER**: S. Dinsmore called the meeting to order at 7:00 PM

**2. APPROVAL OF MINUTES OF REGULAR MEETING OF APRIL 19, 2022**
**MOTION: (Kanter/MacKenzie) to approve the minutes of the regular meeting of April 19, 2022, as presented. Vote: APPROVED unanimously**

**3. PUBLIC DELEGATIONS:**
**A. Delegations from the Public-none**
**B. Review of Type II Shellfish lease area**
Bill Hurtle, 41 Sterling Hill Rd, Lyme, presented the Commission with an updated application and supporting materials for an aquaculture lease in Niantic Bay. (See File Copy). He referenced the state guide, "Marine Aquaculture Permitting" which he used as a reference for his application. Shannon Kelly from the Dept. of Aquaculture assisted B. Hurtle with maps and information.
B. Hurtle submitted the following:

- Latitude/longitude coordinates for the area
- NOAA Oceanographic/Navigation chart showing approximate location of proposed operation, with map
- Description of site, eelgrass/shellfish populations or other significant natural resources, with map
- Methodology and timing of growing and harvesting with time chart, pictures of equipment, tumbler and layout of equipment.
- Assessment of any known or anticipated conflict with other users or uses of town resources-none known.
- Species to be grown; oysters, clams and scallops
- Intended buoyage-12
- Time frame for operation; years 1-5
- Registration ID and photo of boat-TBD
- Certificate of availability from the town clerk for the proposed site-provided
- Address and phone number of applicant:
  William Hurtle
  41 Sterling Hill Road
  Lyme, CT 0637
- Signed affidavit that applicant has read and understands the guidance to aquaculture applicants which includes required documentation provided.

FILED
May 19 2022 AT 3:00 AM/PM
EAST LYME TOWN CLERK

The type of buoys were discussed, regulatory/exclusionary. W. Hurtle will clarify with S. Kelly as to what type of buoys should be used. He said the whole area does not need to be staked out, just the area he will be working in. Some members were concerned that recreational boating would be excluded from the area.
The members discussed the possibility of the applicant to sublet from an already approved lease of Tim Longdregan.
W. Hurtle submitted his application, including check, with the Town Clerk's signature to the Chairman.
The members questioned the chart provided and the depth of water of the proposed area. The map was provided by S. Kelly, Dept. of Aquaculture and was her suggestion of where to put the operation. The Commission requested the applicant verify the depth on the north side by an actual survey, not the map provided.

**MOTION: (Landers/Kanter) to schedule the Public Hearing to consider the application of W. Hurtle for an application of a Type II Shellfish Leasing operation in Niantic Bay on June 20, 2022 at 6:30. TABLED.**

S. Dinsmore noted a section of the Shellfish Management Plan, (map, page 29) which indicates designated areas for aquaculture, the area which is proposed is not allowed in the designated area of the map. The Plan does allow the Commission to override the designation by allowing an operation in a specific area.

**MOTION: (Landers/Mason) to approve Type II aquaculture in Niantic Bay area as proposed by W. Hurtle.**
The members were concerned about setting a precedence and if they would have to approve future applications in currently undesignated areas. They discussed the need to set conditions in a future revision of the Shellfish Management Plan.
The benefits to the environment and the use of local product was mentioned as a positive outcome of the proposed activity.
**Vote: APPROVED. In favor-Dinsmore, Kanter, Mason, Landers. Opposed-Murin. Abstaining- MacKenzie.**

**MOTION: (Landers/Kanter) to schedule the Public Hearing to consider the application of W. Hurtle for an application of a Type II Shellfish Leasing operation in Niantic Bay on July 18, 2022 at 6:30. Vote: APPROVED unanimously.**

**4. REPORTS**

**A. Treasurer:**
D. Landers informed the members that $5353.00 of the current budget has been spent, approximately 58% of the budget.

**B. Ex-Officio:**
Ann Cicchiello informed the members the BOS have been working on budgets which will go to a referendum on May 19, 2022. The proposed budget represents a 3.39 increase.

**C. Harbor Master:**
R. Johnson stated the mooring renewals went out in January and 161 have been returned with 7 new applications for moorings.
M. Berger informed the Commission that there is now a cap on moorings on the East Lyme side of the Niantic River.

The moorings cost was discussed; the funds go into the general fund and are not accounted for as income brought in by the Commission and a price increase should be considered.
M. Berger suggested standardizing the moorings, the town would charge $600 to provide and maintain the mooring. There are no inspections and the town makes money on the moorings. It would be an expensive initial layout of funds but would be made up very quickly. The moorings would not be private but owned by the town. The issue will be placed on next month's agenda.

**5. OLD BUSINESS**

**A. Shellfish Lease Renewal Process: in progress**
**B. Londregan Lease Renewal (EL3)-Update: Craig Mason-in progress**
**C. Shellfish Management Plan-winter project, current discussions have provided good ideas**
**D. Common River Issues – no report**

**6. NEW BUSINESS**

**A. Correspondence-none**

**7. FINAL COMMENTS:**

S. Dinsmore reminded members of the SHIP grant which would be a good opportunity for funding the dingy dock. The grant application is due July 1, 2022. He asked A. Cicchiello to bring forward to the BOS and the Town Planner.

**8. ADJOURNMENT**

**MOTION: (Landers/Mason) to adjourn at 8:30 PM. Vote: Approved Unanimously**

Respectfully Submitted
Sue Spang
Recording Secretary

**2022 Meeting Dates:** June 13*, July 18*, August 15*, September 20, October 18, November 15, December 20.

Meetings are conducted on the third Tuesday of the month
*Meetings are conducted on the third Monday of the month
The meetings will start at 7:00

1. Latitude/longitude coordinates defining the area to be used for aquaculture.

Position 1: 41.323068°N, 72.18861°W

Position 2: 41.323084°N, 72.186911°W

Position 3: 41.321787°N, 72.188589°W

Position 4: 41.321803°N, 72.18689°W

See Map 1

2. NOAA Oceanographic/Navigation chart showing the approximate location and extent of the proposed aquaculture operation.

See Map 2

3. Description of the site, focusing on bottom condition of the area to be used, and particularly noting the existence of eelgrass and/or shellfish populations or other significant natural resources.

See Maps 2 & 3

With respect to eelgrass, item 5 on page 5 of the Guide to Marine Aquaculture Permitting in Connecticut states, "aquaculture activity in any eelgrass bed, including harvest, is strictly prohibited". The guide states that the United States Army Corps of Engineers (USACE) requires that following conditions be regularly implemented: aquaculture gear will not be located over or within 25 feet of submerged aquatic vegetation (SAV), routine lease activity will not take place within 25 feet of SAV, every year a visual inspection for SAV will take place at low tide at the beginning of the growing season. In addition, the Connecticut Aquaculture Mapping Atlas shows the location of know eelgrass beds. Map 3 was generated from the mapping atlas.

As the permitting process progresses, leases are analyzed to ensure there will be no disturbance of SAV, interactions with protected species will be minimalized, and to determine the impact on human activity.

With respect to shellfish population, the state relies on local Shellfish Commissions for that information.

4. Specific methodology & timing of growing and harvesting.

The type of gear to be used will be cages on bottom using sunken lines with anchors on each end and a buoy on one end. The size of the cages will range in size (Table 1). Seed oysters will be set out at the start of growing season and mature oysters will be harvested when they reach market size. Cleaning of biofouling organisms by power washing will be performed as necessary (approximately every 3 – 6 weeks). Tumbling oysters will be performed as necessary. All operations will be completed shipboard.

Table 1. Cage Sizes

| Stacking | Length (Feet) | Width (Feet) | Height (Inches) | Number of Oysters |
|---|---|---|---|---|
| Double | 4 | 4 | 12 | 1200 |
| Single | 4 | 4 | 8 | 600 |
| Double | 4 | 3 | 12 | 900 |
| Single | 4 | 3 | 8 | 450 |
| Double | 4 | 2 | 8 | 600 |

If ¾" mesh is used then the height will be 13.5" double, 9" single

5. Assessment of any known or anticipated conflict with other users or uses of Town resources as a result of the proposed aquaculture operation.

None known.

6. Species to be grown.

The species to be raised will be eastern oysters (*Crassostrea spp.*), Bay Scallop (*Argopecten irradians)*, Hard Clam (*Mercenaria mercenaria).*

7. Intended buoyage.

One buoy per sunken line. The number of lines will be determined by the size and number of trays being used. I'm anticipating approximately 4 12 lines.

To designate the working area, I will have to place danger/info buoys spaced no greater than 300' around your gear (map 4). The red dots are where they would have to be placed if using the entire lot. If the entire lot is not being used (especially in first few years) these can be reduced. I will need to file an application with DEEP Boating Safety for the buoys, but not until after your Joint Application for Aquaculture in submitted.

8. Time frame of the proposed venture and if renewal would be anticipated.

Year One (Spring 2023): A limited number (5,000 – 10,000) of oysters will be raised to determine gear and husbandry issues if any.

Year Two (2024): Depending on how year one goes, the number of oysters raised will increase.

Year Three (2025): Knowledge gained from the previous two years will determine the number of oysters grown.

Year Four (2026): Full operation (100,000 oysters)

Year Five (2027): Full operation and lease renewal review.

9. Registration ID and photographs of all vessels to be used.

To be determined. See handout.

10. Certificate of Availability from the Town Clerk for the proposed site.

See the signed application.

11. Name, address and Phone number of the applicant/corporation.

William Hurtle

41 Sterling Hill Road

Lyme, CT 0637

12. Signed affidavit that the applicant has read and understood the provided guidance to aquaculture applicants. Any application to the East Lyme Shellfish Commission for Category II commercial aquaculture shall additionally include the following:

1. Type(s), Size(s), and Number(s) of Structures.

2. Method(s) of Structure Deployment.

3. Intended buoyage.

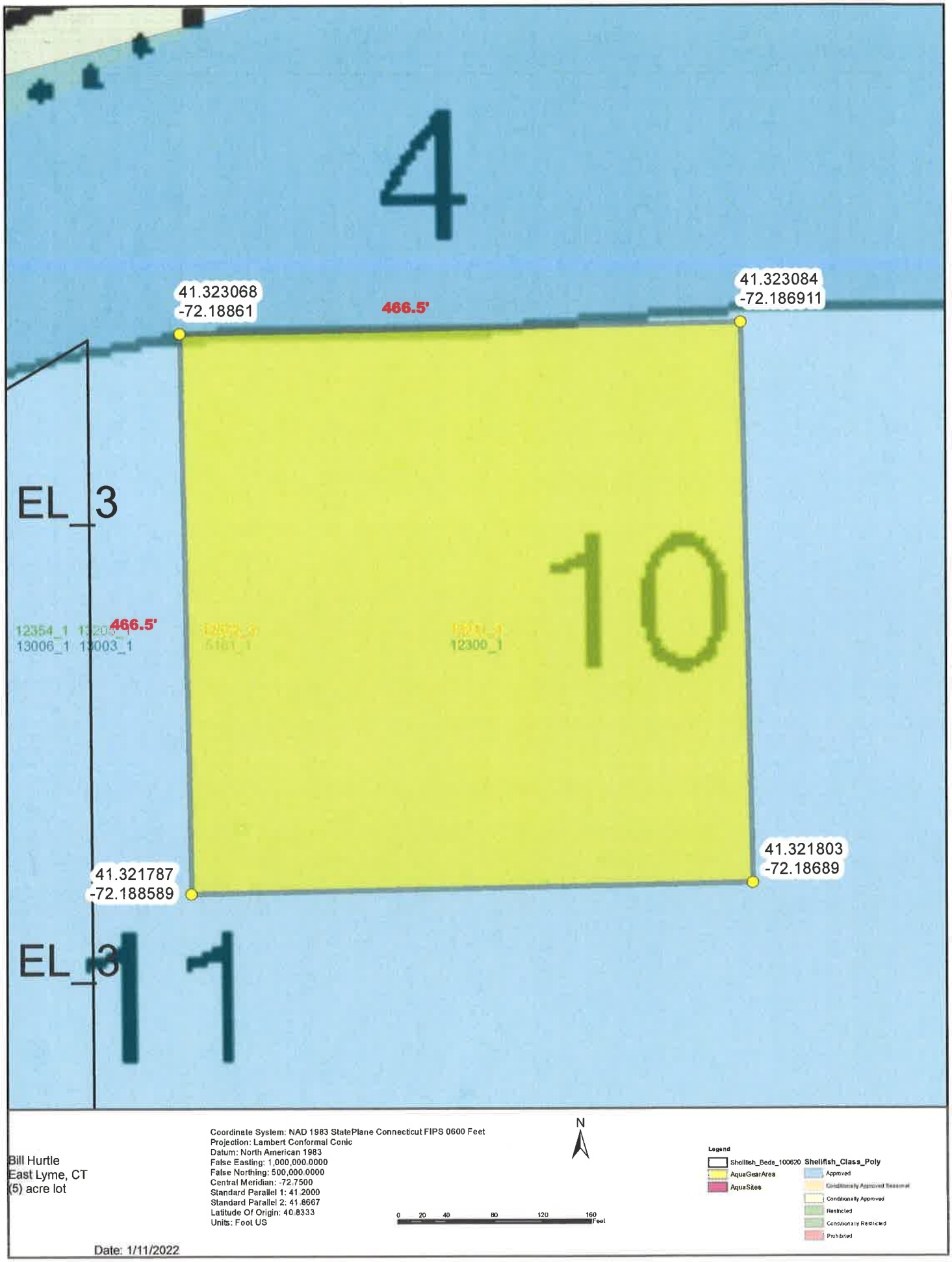
4. Plans to ensure that the Benthic Population is not Adversely Affected.

5. Detailed Charts showing the Area(s) to be Developed and Types of Activities in Each Area (e.g., Nets, long lines, cages, etc.)

6. Plan for remediation of impact caused by gear due to storm damage or other factors and assumption by applicant of liability for all operations.

7. Must be in an area designated for the type activity proposed by the applicant.

MAP 1

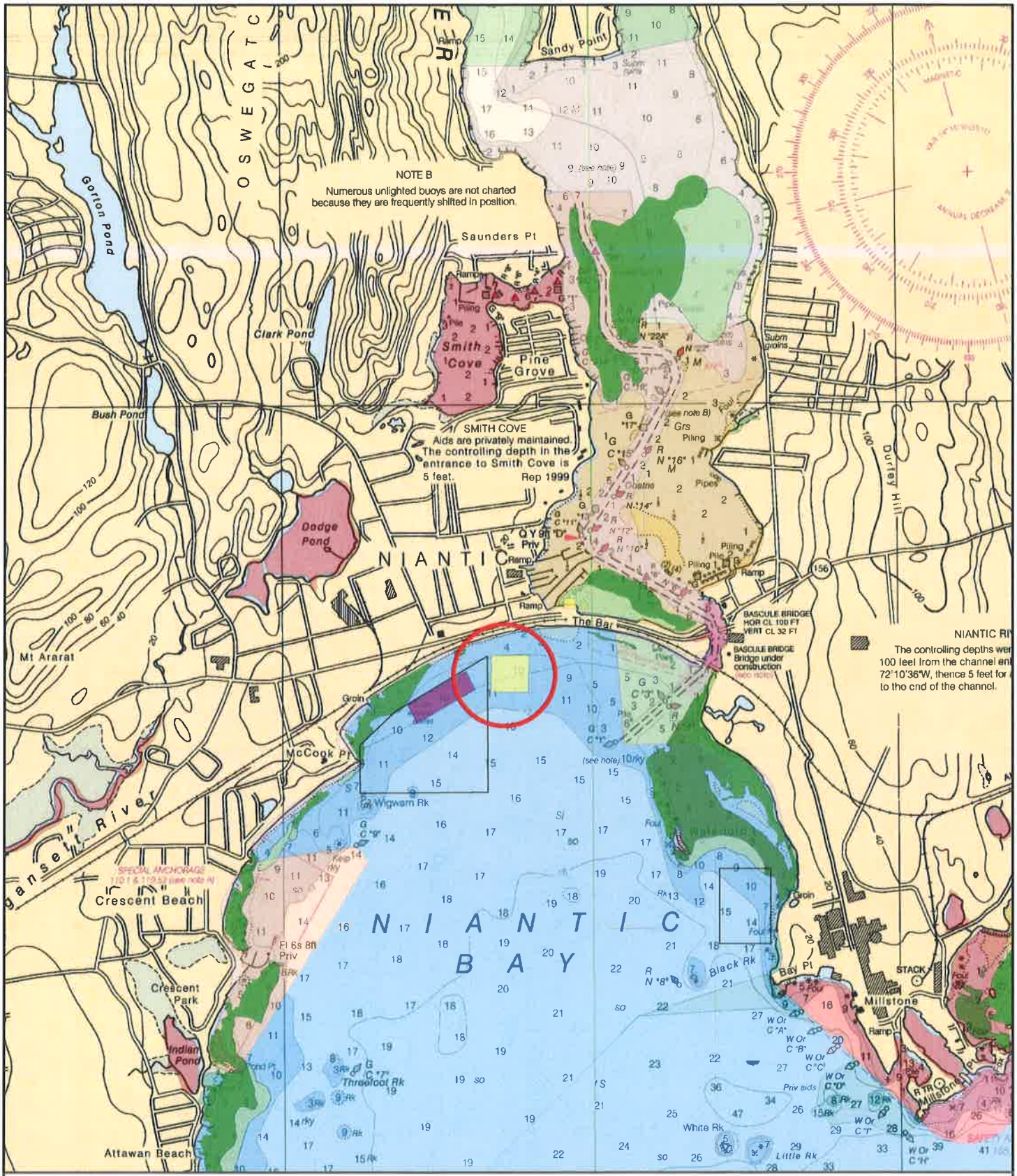



Bill Hurtle
East Lyme, CT
(5) acre lot

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 1,000,000.0000
False Northing: 500,000.0000
Central Meridian: -72.7500
Standard Parallel 1: 41.2000
Standard Parallel 2: 41.8667
Latitude Of Origin: 40.8333
Units: Foot US

Date: 1/11/2022

MAP 2




**William Hurtle**
**East Lyme lot**
**7.1 acres**

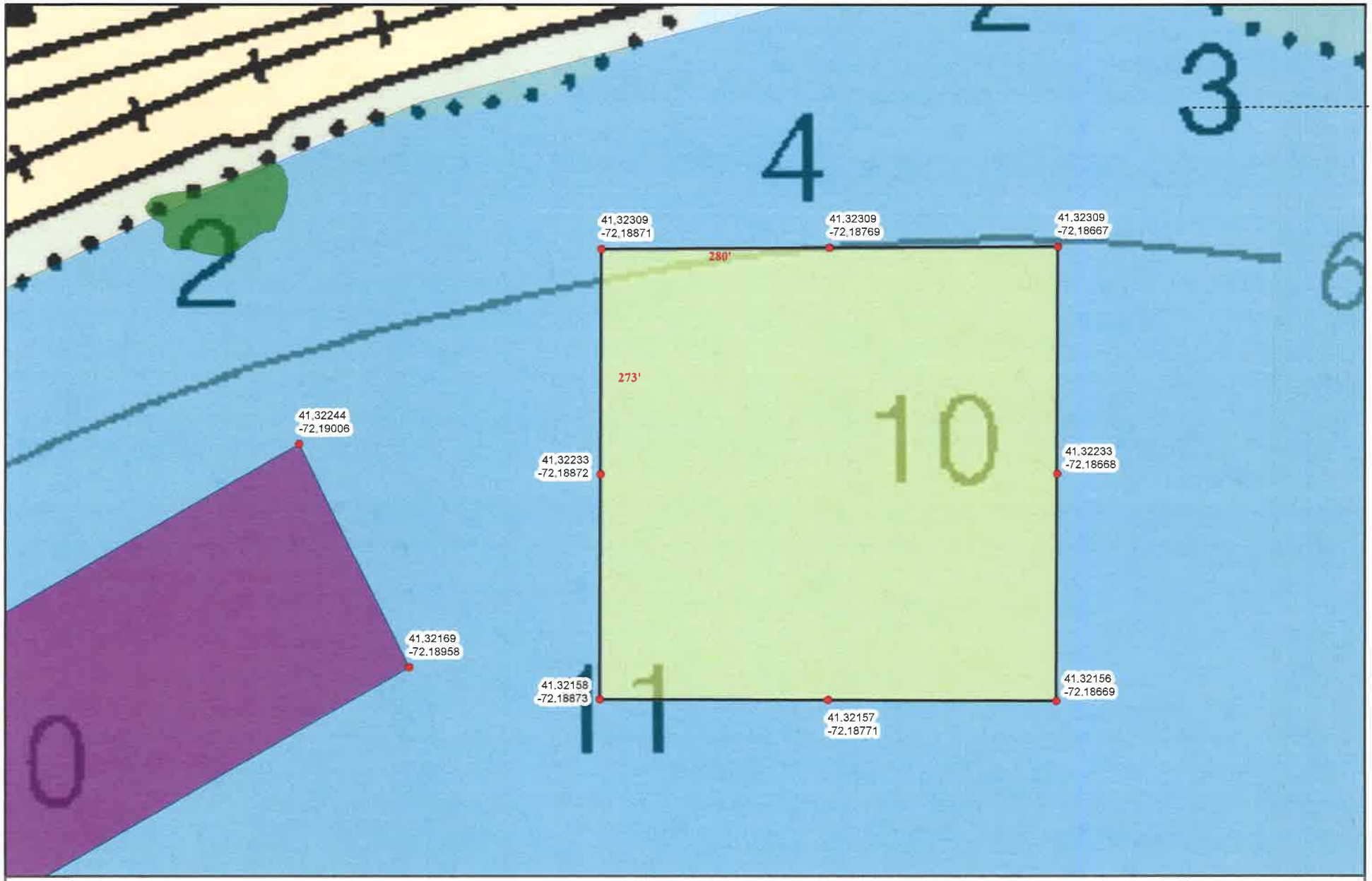
**East Lyme, CT**

**Fig. 1**

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 1,000,000.0000
False Northing: 500,000.0000
Central Meridian: -72.7500
Standard Parallel 1: 41.2000
Standard Parallel 2: 41.8667
Latitude Of Origin: 40.8333
Units: Foot US

Date: 4/20/2022

Map 4




**Bill Hurtle**
**Niantic Bay Lot**
**7.2 acres**
**bottom cages**
**East Lyme, CT**

**Danger buoys**

**Fig.**

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 1,000,000.0000
False Northing: 500,000.0000
Central Meridian: -72.7500
Standard Parallel 1: 41.2000
Standard Parallel 2: 41.8667
Latitude Of Origin: 40.8333
Units: Foot US

N

0 37.5 75 150 225 300 Feet

Legend

AquaGearArea
AquaSites
GearCornersApp

**Eelgrass Beds 2012**
High
Medium
Low

**Shellfish_Class_Poly**
Approved
Conditionally Approved Seasonal
Conditionally Approved
Restricted
Conditionally Restricted
Prohibited

Date: 5/3/2022

Map 3. Eelgrass Beds

## Oyster Trays

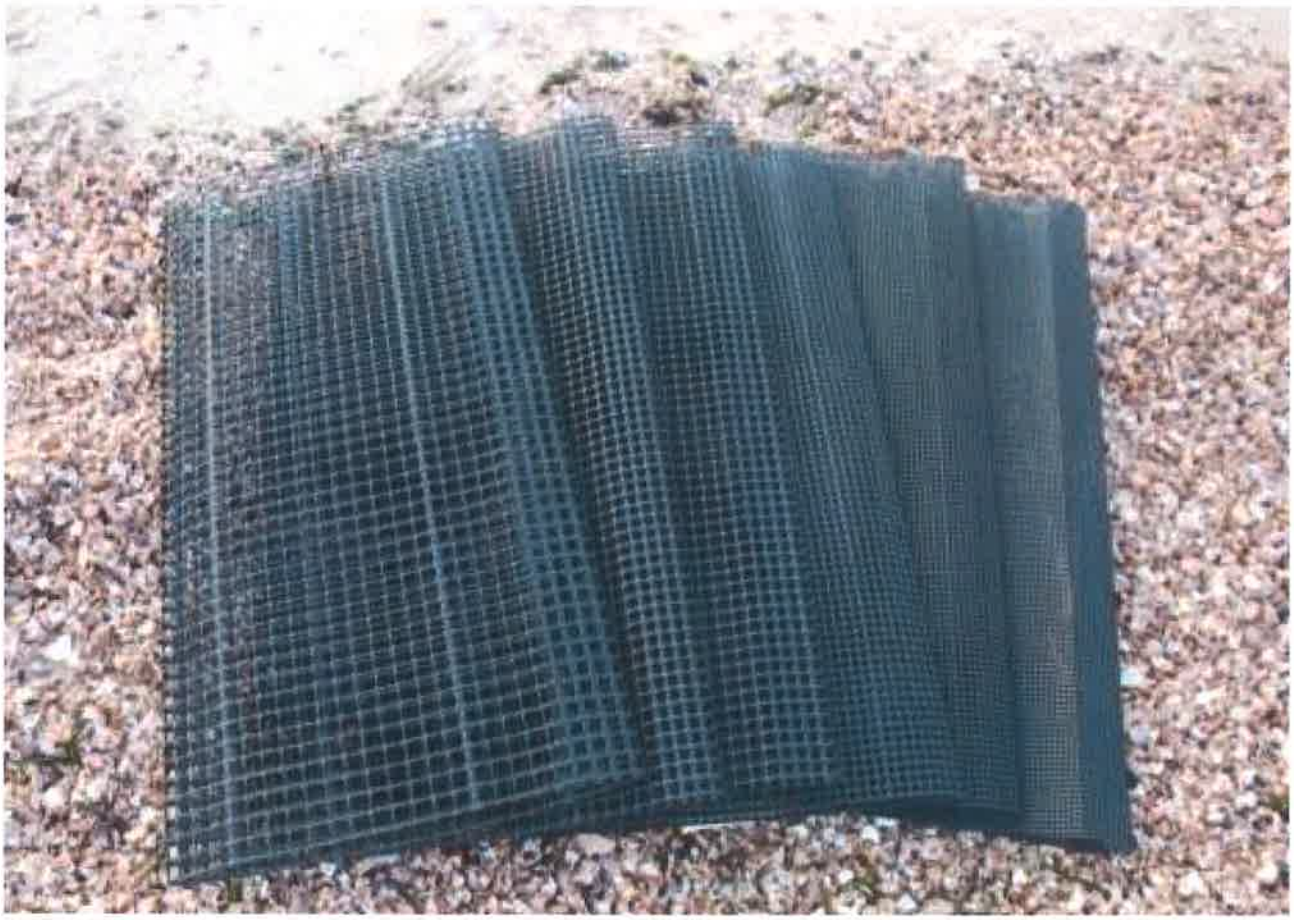
Oyster grow out trays in 1/2" 3/4" or 1" square wire mesh, may be used with or without bags. Cages measure 3' x 4' and are 4" tall (cages made from 3/4" wire will be 4.5" tall). Trays may be single, double or triple stack, with or without feet, doors, v-braces and hooks.

Oyster trays can be made any size.

4 X 4 Double = 1,200 Oysters
4 X 4 Single = 600 Oysters
4 X 3 Double = 900 Oysters
4 X 3 Single = 450 Oysters
4 X 2 Double = 600 Oysters

Oyster Bags, Square Mesh

Square bags are open on both ends, they can be cut down and squared off, or maximize your growing space by using our wire mesh bag closures. We carry 4mm, 6mm, 9mm, 14mm, 18mm and 25mm mesh bag sizes. Bags measure 100cm long by 50cm wide (3.28 feet by 1.64 feet)



After beginning our adventure in aquaculture, we quickly realized we needed a sorter/tumbler to maximize our efficiency. Due to the constraints of working on a small skiff, we developed the 40" sorter/tumbler to exceed our needs and add a dependable machine to our operation.

Comes standard with the following features:

- Fully welded 6061 Aluminum frame
- 12V DC 6 amp motor
- Stainless Steel Casters
- 3- 15.5" fully welded Aluminum tubes (hole sizes 0.5" -2.75")
- Adjustable length legs with 6" of adjustment
- Water resistant toggle switch

Upgrades:

- 110V IP67 Rated 120V Transformer - $150

24 foot Carolina Skiff DXL. 7’9” Beam.

50hp Electric Start with an extended tiller arm.

Figure 1

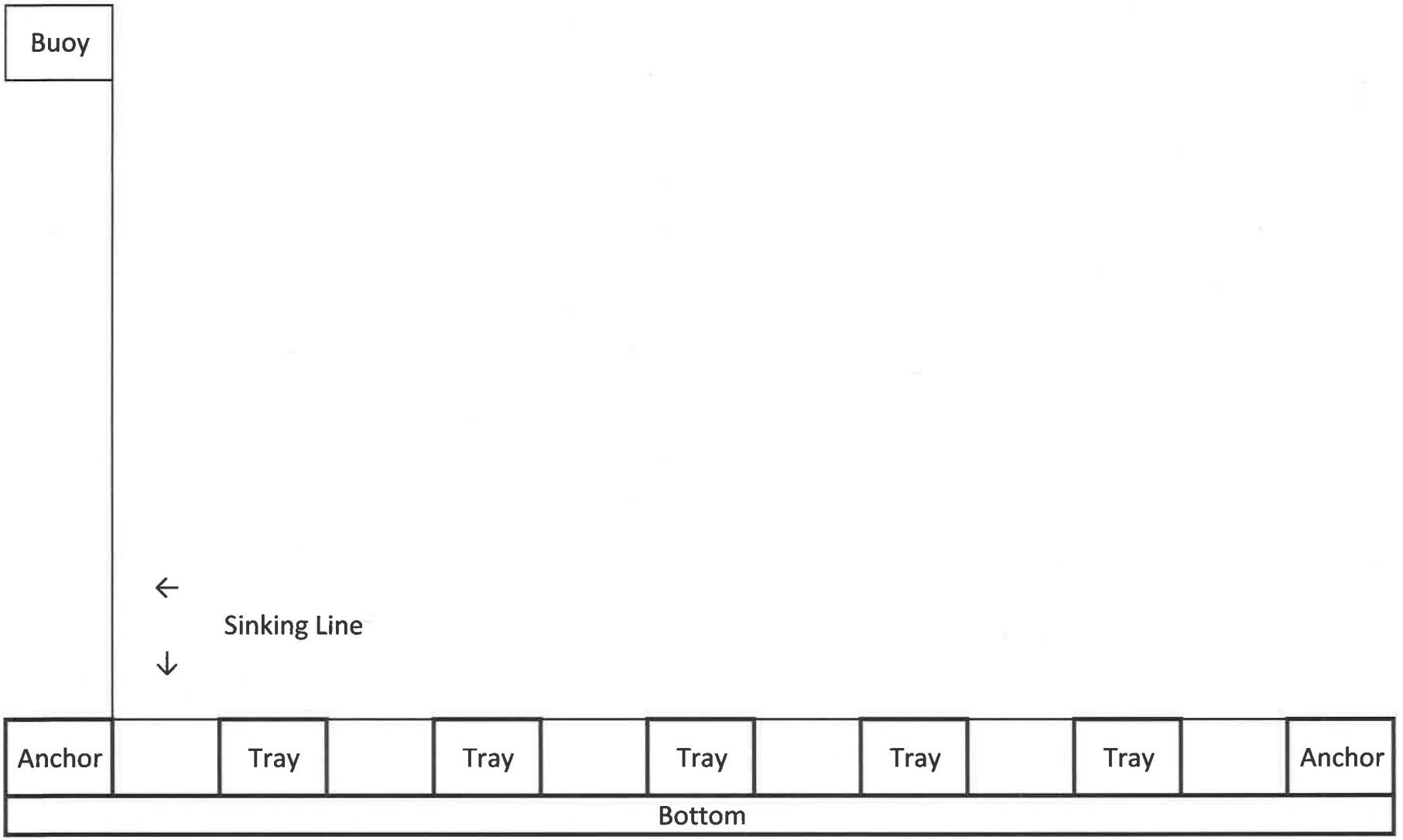
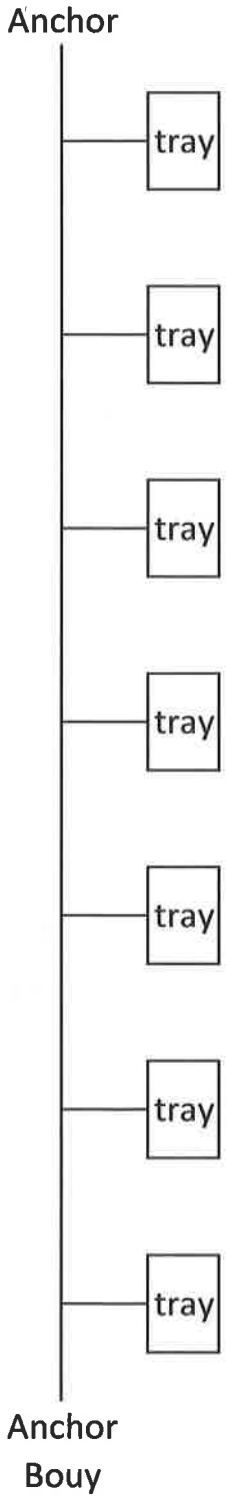

Buoy
Sinking Line
Anchor
Tray
Tray
Tray
Tray
Tray
Anchor
Bottom

Figure 2



A GUIDE TO

# MARINE AQUACULTURE PERMITTING

IN CONNECTICUT

**JOINT AGENCY AQUACULTURE PERMITTING WORK GROUP**

**JULY 2019**

This document may be referenced as:

Getchis, T.L., Carey, D.H., Kelly, S., Rose, C.M., Romero, K. and D. Gonyea. 2019. A Guide to Marine Aquaculture Permitting in Connecticut. Connecticut Sea Grant. CTSG-19-06. Groton, Connecticut. Copies of this document can be downloaded at:

http://aquaculture.uconn.edu/commercial/

or requested from:

Connecticut Sea Grant College Program
University of Connecticut
1080 Shennecossett Road
Groton, CT 06340-6048
(860) 405-9128

**For questions, please contact:**
Connecticut Department of Agriculture
Bureau of Aquaculture
190 Rogers Avenue, P.O. Box 97, Milford, CT 06460
Telephone: (203) 874-0696; Email: david.carey@ct.gov

## ABOUT THE PUBLISHER

Sea Grant is a unique partnership between the nation's universities and its primary ocean agency, the National Oceanic and Atmospheric Administration. Connecticut Sea Grant, based at the University of Connecticut, collaborates with maritime industries and coastal communities to identify needs, and fund research, outreach and educational activities that have special relevance to Connecticut and Long Island Sound. Connecticut Sea Grant's vision is to foster sustainable use and conservation of coastal and marine resources for the benefit of the environment and current and future generations of residents of Connecticut and the region.

This publication is sponsored in part by the National Oceanic and Atmospheric Administration (NOAA) Project # NA14OAR4170086 and Connecticut Sea Grant Project No. A/E-1.

## LEGAL DISCLAIMER

This guide should serve as an introduction to the permitting process, but should not replace regular communication with the regulatory agencies. The authors have made every effort to ensure the accuracy of the information in this guide at the time of its completion. Laws, regulations, and guidelines can change at any time, and the status of laws and regulations in the future cannot be predicted with certainty. Therefore, every reader of this guide should contact the state regulatory authority to ensure that the regulatory information is up to date.

## ACKNOWLEDGEMENTS:

This document was subject to a public review and comment period. The authors wish to acknowledge the shellfisheries community, private citizens, and especially the following individuals, for their careful review and contributions: Nancy Balcom, Judy Benson, Anoushka Concepcion, Kristin DeRosia-Banick, Alissa Dragan, James T. Carlton and Karen Ward.

# TABLE OF CONTENTS


OVERVIEW ..... 4

KEY CONSIDERATIONS and RESTRICTIONS ..... 5

LONG ISLAND SOUND BLUE PLAN ..... 7

THE REGULATORY PROCESS ..... 8

1. SITE SELECTION AND DESIGNATION ..... 8
- *1.1. Aquaculture in State Waters* ..... 9
  - 1.1.1. Shellfish Sites ..... 9
  - 1.1.2. Seaweed Sites ..... 9
- *1.2. Aquaculture in Town Waters* ..... 11
  - 1.2.1. Shellfish Sites – *All town areas except those listed in 1.2.2. and 1.2.3.* ..... 11
  - 1.2.2. Shellfish Sites – *Bridgeport, Milford, West Haven, New Haven and Westport* ..... 12
  - 1.2.3. Shellfish Sites – *Branford Initiative Area* ..... 12
  - 1.2.4. Seaweed Sites ..... 13

2. USE OF AQUACULTURE ORGANISMS ..... 13
- *2.1. Policies* ..... 13
- *2.2. Application Process* ..... 13

3. PLANTING AND CULTIVATION ..... 14
- *3.1. Description of Bottom Culture* (*molluscan shellfish only*) ..... 15
  - 3.1.1. Application Process ..... 15
- *3.2. Description of Aquaculture Gear and/or Facilities Use* ..... 17
  - 3.2.1. Application and Review Process ..... 19

4. PRODUCTION ..... 29
- *4.1. Shellfish Production License and Associated Requirements* ..... 29
  - 4.1.1. Shellstock Shipper I License: Combined Harvest and Relay Activities ..... 29
- *4.2. Seaweed Production Licenses and Associated Requirements* ..... 30
  - 4.2.1. Raw Agricultural Seaweed Commodity ..... 30
  - 4.2.2. Processed Seaweed Commodity ..... 31

5. HANDLING, HARVEST AND SALE ..... 32
- *5.1. Safe Seafood Harvest* ..... 32
- *5.2. Training and Plans* ..... 32
- *5.3. Inspection* ..... 33

6. GOVERNANCE OF AQUACULTURE IN CONNECTICUT ..... 33

APPENDIX I. Contact Information for Permitting Agencies and Extension Services ..... 35

APPENDIX II. Licenses and Permits Associated with Aquaculture ..... 37

## OVERVIEW

## PURPOSE

The purpose of this guide is to assist individuals with navigating the regulatory process for marine aquaculture in Connecticut.

## DEFINITION OF AQUACULTURE

Aquaculture is defined in the Connecticut General Statutes (Sec. 22-11c.) as "the controlled rearing, cultivation and harvest of aquatic plants and animals in land-based and marine-based culture systems, tanks, containers, impoundments, floating or submerged nets or pens and ponds." Aquaculture is governed by the Connecticut General Statutes, and is subject to other municipal, state and federal regulations. Relevant statutes and regulations can be found in section 6.

## AUDIENCE

This guide is intended for those seeking authorization for:

- A new commercial operation or facility
- A change to an existing commercial operation or facility
- A non-commercial project (e.g. research, education, habitat restoration, stock enhancement) that includes use of aquaculture organisms, gear, facilities and/or planting and cultivation methods

## WHAT DOES THIS GUIDE COVER?

This guidance document reviews the steps necessary to conduct commercial aquaculture activities in the state of Connecticut.

An overview of the regulatory process for commercial aquaculture is provided in Fig. 1. The regulatory requirements for non-commercial activities are also included.

**Figure 1 Overview of the Regulatory Process for Aquaculture**

## LEAD AND SUPPORTING AGENCIES

The Connecticut Department of Agriculture, Bureau of Aquaculture (DA/BA) is the lead state agency for aquaculture development. The DA/BA Director serves as the state aquaculture coordinator, and acts as a liaison among local, state and federal permitting officials who comprise the Connecticut Aquaculture Permitting Work Group. The key agencies include the Connecticut Department of Energy and Environmental Protection (DEEP), the U.S. Army Corps of Engineers (USACE) and municipal shellfish commissions. The Work Group coordinates the regulatory review process with other local, state and federal agencies depending on the nature of the proposed aquaculture activity.

## KEY CONSIDERATIONS AND RESTRICTIONS

There are several key factors that should be considered in planning for marine aquaculture in Connecticut. This guidance is important for anyone considering aquaculture activity.

1. **Identify the intent of the project and the final product.** Commercial aquaculture involves the sale of a cultivated organism. The final product form dictates where the organism can be grown and which agency regulates the processing and sale of such product. Aquaculture organisms that are cultivated or used as part of a research, education, habitat restoration or stock enhancement projects may not be sold and must be properly disposed of.

2. **Use native species and strains only.** The introduction and transfer of non-native marine species poses a risk of transporting competitors, predators, parasites, pests and diseases which can compromise the aquaculture operation and the marine environment. The use of non-native species is strictly prohibited in open water. Native species may be transplanted within Long Island Sound and its tributaries with the appropriate license. Restrictions on import of native species from outside of Long Island Sound exist (see section 2.1).

3. **Seek an area designated as appropriate for the activity to be conducted.** Harvest of molluscan shellfish for direct human consumption is only allowed from harvest areas classified as "Approved" and "Conditionally Approved" areas that are in "Open" status. Harvest of seaweed for direct human consumption is only allowed from harvest areas classified as "Approved" that are in "Open" status. View the Aquaculture Mapping Atlas to identify harvest area classifications.

4. **Avoid to the greatest extent possible, and minimize potential interactions with protected species.** Certain marine species (e.g. mammals, turtles, birds) and habitats (e.g. eelgrass) are protected by state and federal law. Restrictions may be placed on projects proposed in proximity to the approximate locations of endangered, threatened and special concern species in natural communities in Connecticut, as defined in the Natural Diversity Data Base maps. View them on the Aquaculture Mapping Atlas. State or federal agencies may also request changes to the project design or configuration to address potential impacts to these resources.

5. **Avoid activity in protected habitats** (e.g. eelgrass, salt marsh). Aquaculture activity in any eelgrass bed, including harvest, is strictly prohibited.

   The following conditions will be regularly implemented by the USACE:

   **(a)** aquaculture gear may not be located over or within 25 feet of beds of submerged aquatic vegetation (SAV), nor shall such beds or vegetated marsh areas be damaged or removed;

   **(b)** routine lease activity including gear maintenance, washing, etc. shall not occur within 25 feet of the edge of SAV beds;

   **(c)** every year at the onset of the growing season (May 15 through June 15) that gear will be placed at the authorized gear location(s) near SAV, the permittee shall conduct a visual assessment of the gear area (see Joint Federal Agency SAV Survey Guidance - Tier 1), at low tide, for eelgrass. If eelgrass is present, the outer boundary of the bed should be marked with buoys of a different color than the shellfish aquaculture gear markers, and the gear shall be installed or relocated such that it is placed a minimum of 25 feet away from the seasonal boundary of the eelgrass. Buoys that mark the SAV area shall be relocated each year, as needed, to maintain the 25-foot offset and ensure compliance.

   View the Aquaculture Mapping Atlas to identify the most recent data available on location of eelgrass beds.

## KEY CONSIDERATIONS AND RESTRICTIONS

6. **Keep a minimum clearance of 18 inches between floating gear types** (e.g. upwellers or bag lines) **and the sea floor at the lowest tide, usually referred to as mean lower low water.** This is an environmental condition contained within the Department of Army (USACE) General Permit for the State of Connecticut and is also an important consideration during a programmatic coordination with the National Marine Fisheries Service for impact on Essential Fish Habitat and resources protected under the Endangered Species Act.

7. **Avoid to the greatest extent possible, and minimize impacts to significant human use areas.** Certain existing significant human uses (e.g. fishing, boating) as well as historic sites (e.g. shipwrecks and lighthouses) may be protected by state and federal law. The Long Island Sound Blue Plan contains maps and descriptions of Significant Human Use Areas, and should be consulted in planning an aquaculture project (see following section on "Long Island Sound Blue Plan"). Consider the audio, visual and olfactory effects of the proposed aquaculture activity and how these might affect the surrounding community and existing water dependent uses. When planning the project, contact adjacent property owners, local shellfish and harbor management commissions, harbormasters, fishermen and other important user groups to discuss existing uses and potential perceived conflicts before submitting an application. Use the information obtained from these stakeholders to design the project to minimize impacts. Regulatory agencies may place conditions on proposed projects in order to minimize adverse impacts to other water-dependent uses or to adjacent property owners.

   A link to the lists of Shellfish Commissions and Harbor Management Commissions/ Harbor Masters is provided in Appendix 1.

8. **Provide sufficient distance between aquaculture gear units so that the right of the public to traverse or utilize the waters between the authorized structures is not impeded.** Applicants should determine gear spacing based on their knowledge of the type/class of vessels transiting the area.

9. **Maintain a buffer between aquaculture activity and federal navigation projects.** Aquaculture activity in federal navigation projects is strictly prohibited and aquaculture operations must maintain a reasonable buffer to ensure that operational features will not interfere with an existing or proposed federal project (e.g. navigation channel, anchorage area or structure such as a levee or breakwater created at public expense), or its use. The potential for an aquaculture operation's interference with a federal project will be assessed on a case-by-case basis by the USACE. If the project has the potential to adversely impact these areas, a separate permit application may be required. View U.S. Coast Guard navigation charts on the Aquaculture Mapping Atlas.

10. **Identify transit routes and shoreside infrastructure.** Ensure safe transit routes to/from aquaculture projects and product landing sites, and access to adequate infrastructure such as utilities, ice, storage, transportation. Note that publicly funded recreational boat ramps may not be used for commercial purposes including landing aquaculture product.

11. **Consult with relevant local, state and federal agencies about the proposed activities.** These regulatory agencies may have similar and overlapping interests, so it is a good strategy for applicants to work with these agencies concurrently (rather than sequentially) to the extent that the process allows. Doing so will provide opportunities for all of the agencies to share information and coordinate their review processes, increasing the prospects for a timely decision on the application and minimizing the chances of having conflicting requirements from two or more authorities.

## AQUACULTURE SITE SELECTION TOOL

The Aquaculture Mapping Atlas is available to assist applicants with the site selection process. The tool provides regulatory, human use and environmental data that may be helpful in the decision-making process, and in developing an application for aquaculture activity.

## LONG ISLAND BLUE PLAN

All aquaculture projects proposed within the Long Island Sound Blue Plan Area will be subject to the policies of the plan. Upon approval of the Long Island Sound Blue Plan by the Connecticut legislature (expected in 2020), the Plan's resource and use policies will apply to certain project applications within the Blue Plan Policy Area. This area is seaward of a mapped line based on the 10-foot depth contour (based on the North American Vertical Datum or NAVD) within the Connecticut waters of Long Island Sound, and the applicable policies can be found in Chapter Four of the Plan document. Among other things, the Blue Plan policies support aquaculture and other water-dependent uses and seek to minimize conflicts between different uses and between uses and natural resources. By designing an aquaculture project to avoid potential use conflicts and minimize potential environmental impacts, permit processing can be streamlined and potential issues identified early in the process.

On a broader level, the Long Island Sound Blue Plan will also help applicants with the aquaculture site selection process. The Blue plan includes a Resource and Use Inventory at www.ct.gov/deep/lisblueplaninventory that provides information on the location of resources and human uses in Long Island Sound, and The Blue Plan Map Viewer contains all data layers for the project in a format for exploration by overlaying various maps of resources and human uses. The Blue Plan data includes additional information beyond what is currently available in the Aquaculture Mapping Atlas, as the Plan is intended to identify and protect places of traditional use and ecological significance, and to minimize conflicts, now and in the future. This includes preserving a collective vision of Long Island Sound, and facilitating a transparent, science-based decision-making process. The Blue Plan is expected to be approved in 2020 by the CT legislature, at which point the Blue Plan policies will guide decisions made by local shellfish commissions, DOA and DEEP for projects within the Blue Plan policy area.

## THE REGULATORY PROCESS

**STEP 1.**
**Site selection and designation**

STEP 2.
Use of aquaculture organisms

STEP 3.
Planting and cultivation

STEP 4.
Production

STEP 5.
Handling, harvest and sale

# THE REGULATORY PROCESS

## 1. SITE SELECTION AND DESIGNATION

The first step in the regulatory process is for the applicant to obtain permission to use the proposed site for the project. The process for authorizing the location of the proposed project depends on where the project will take place and the organism to be cultured (Fig. 2).

Aquaculture on private property is allowed in certain circumstances. Private property refers to locations such as hatcheries, docks, marinas, research and education facilities, or private underwater deeds (e.g. King's Grants) that predate the current system of leasing public waters. Applicants proposing activity on private property must be the owner or have written authorization from the property owner to use the site for the described activity. Land-based projects may also be subject to local land use and zoning regulations.

Public waters include all underwater lands in Connecticut. These are considered to be held in the public trust and cannot be purchased for sale. In all cases, applicants need legal authorization (described in the next section) to establish a commercial operation or to conduct a non-commercial project that includes use of aquaculture organisms, gear, facilities and/or planting and cultivation methods in navigable waters of the State of Connecticut.

A State Jurisdiction Line separates shellfish harvest areas that are under the exclusive jurisdiction of the state (DA/BA), and those under the jurisdiction of the towns in which they are located (CGS

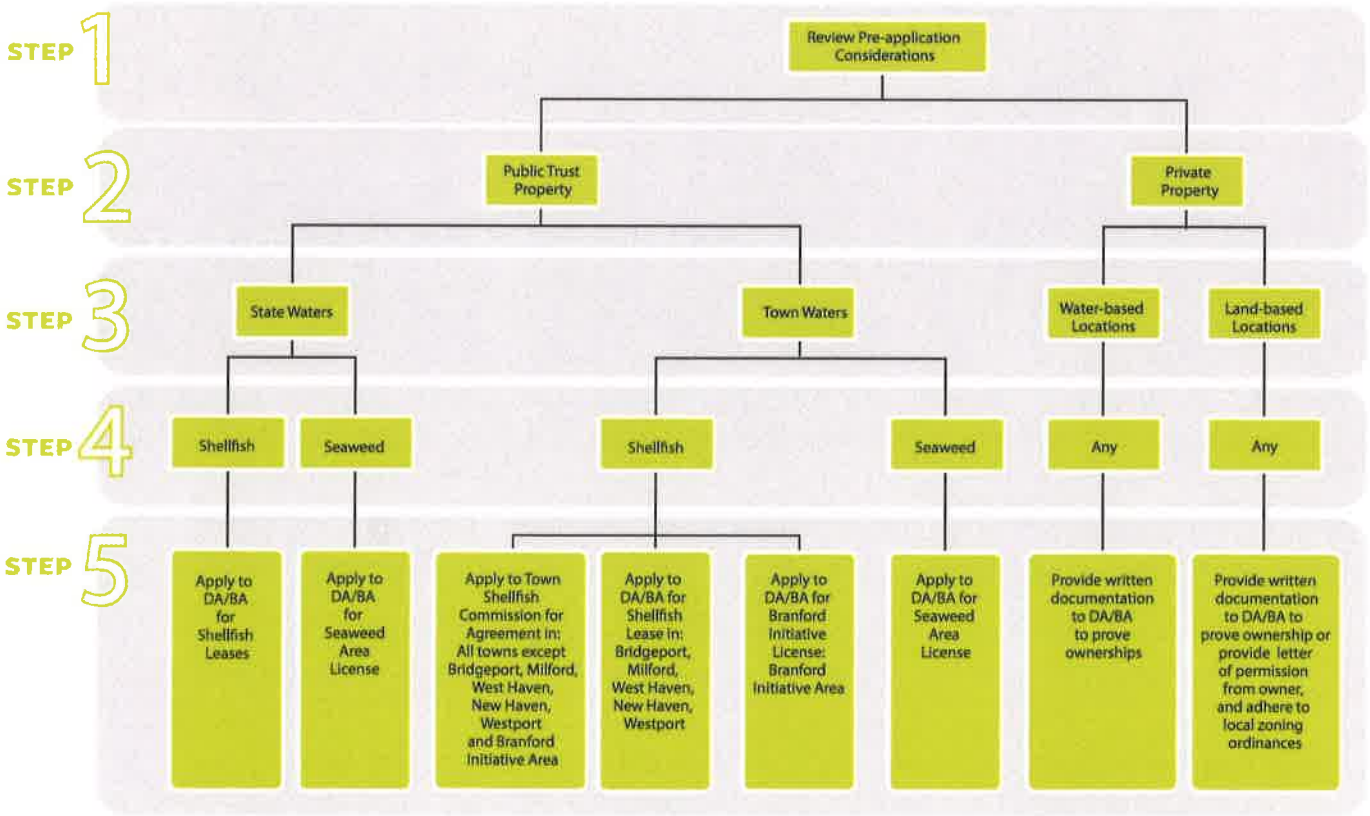



**Figure 2 . Aquaculture Site Selection & Designation Overview**

## THE REGULATORY PROCESS

**STEP 1.**
**Site selection and designation**

STEP 2.
Use of aquaculture organisms

STEP 3.
Planting and cultivation

STEP 4.
Production

STEP 5.
Handling, harvest and sale

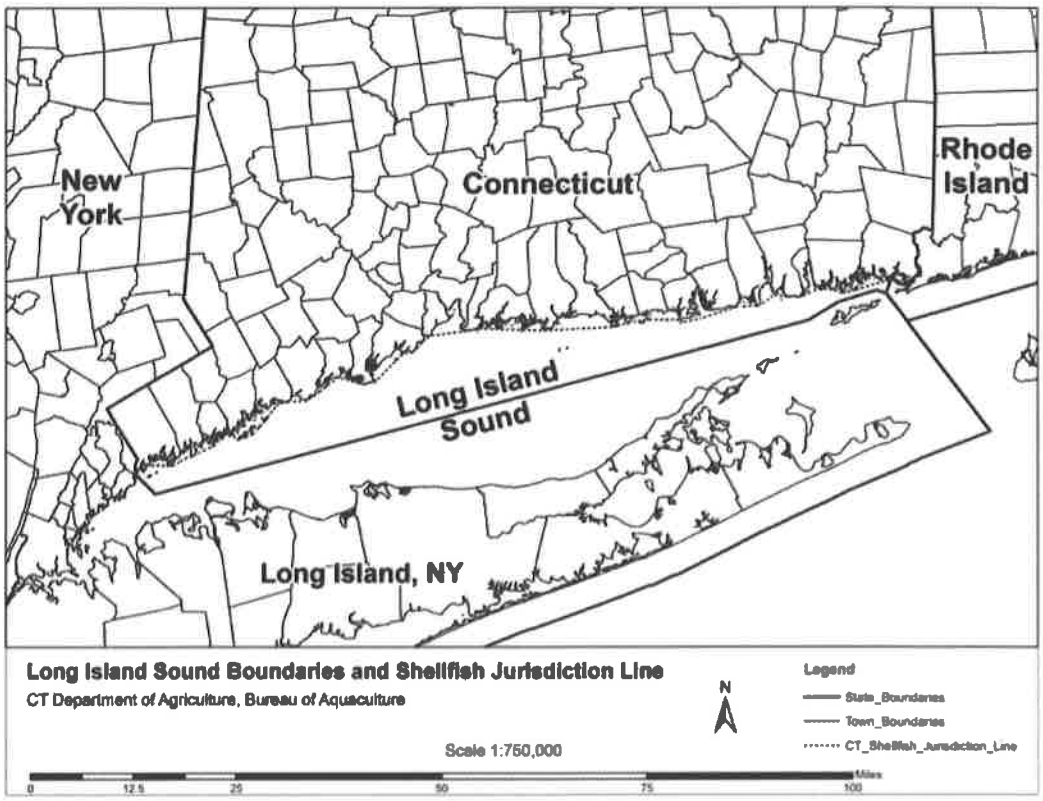



**Figure 3 . Connecticut Shellfish Jurisdiction Line**

Sec. 26-192) (Fig. 3). There are a few exceptions where aquaculture in the following towns is under exclusive jurisdiction of the state: Bridgeport, Milford, West Haven, New Haven, Westport and the Branford Initiative Area. In those locations, applicants must follow the rules identified in section 1.2.2 and 1.2.3, respectively. To view the shellfish jurisdiction areas for aquaculture in Connecticut, view the Aquaculture Mapping Atlas.

There is no such jurisdiction line for seaweed harvest areas, and all areas are under sole jurisdiction of the state. There is no Exclusive Economic Zone (e.g. federal offshore waters) in Long Island Sound.

While town officials have the authority to authorize a space for aquaculture activity to occur, state and federal officials bear the statutory responsibility to ensure the proposed activity is consistent with the town shellfish and harbor management plans, to facilitate an environmental impact review, to authorize the use of aquaculture organisms, gear and facilities, as well as planting, cultivation, harvest, processing and sale. Upon receipt by state and federal agencies, applications are reviewed, permitting path determined, and if deemed necessary, proposals are subject to Environmental Impact Review.

The following section describes the site selection and designation process by location and species.

***Site authorization only provides an individual with access to the site. The use of aquaculture gear, facilities and species, the planting and cultivating of aquaculture organisms, and the handling, harvest and sale of aquaculture product requires additional state and federal agency review, authorizations and licenses identified in subsequent sections.***

## THE REGULATORY PROCESS

**STEP 1.**
**Site selection and designation**

STEP 2.
Use of aquaculture organisms

STEP 3.
Planting and cultivation

STEP 4.
Production

STEP 5.
Handling, harvest and sale

# 1.1. AQUACULTURE IN STATE WATERS

## 1.1.1. Shellfish Sites

DA/BA and the Commissioner of Agriculture leases shellfish grounds through competitive bids. Connecticut General Statutes (CGS) Sec. 26-194 specifies a minimum bid of $4.00/acre. It is the policy of the Department of Agriculture (DOA) that the lease be square or rectangular in shape. There is a 50-acre minimum and 200-acre maximum per bid. A lease is granted for a 3- to 10-year term with renewal option, provided the lessee has paid rental fees. Leases are granted by the Commissioner of Agriculture to the highest responsible bidder.

**Step 1.** To acquire space to cultivate shellfish in the state waters of Connecticut *(or the town waters of Bridgeport, Milford, West Haven, New Haven and Westport)*, the applicant must contact DA/BA to determine availability.

**Step 2.** The applicant must complete and submit a DA/BA Shellfish Lease Application.

**Step 3.** DA/BA reviews the application for use conflicts, and assuming none, sends the boundary/coordinates to the State Bureau of Engineering so that a legal description can be written.

**Step 4.** A notice of the application is advertised by the Commissioner of Agriculture for one day in a newspaper having a daily circulation in the town or city where the shellfish grounds are located and on the DOA website. The advertisement must appear at least 10 days before the date set for the bid opening. It is the policy of the DOA that all new leases are posted to the DOA website on or before the 15th of the month with the bid opening the first week of the following month.

**Step 5.** DA/BA issues a survey license to all additional prospective bidders.

**Step 6.** The applicant and all additional prospective bidders submit to DA/BA a sealed bid which must be accompanied by a check, payable to the Commissioner of Agriculture, for one year's rental fee.

**Step 7.** The bids are opened as part of public process. All bidders are notified of the outcome.

**Step 8.** The successful bidder additionally pays the legal notice fee - $200.00 (more or less), $35.00 per corner to mark the lease boundaries, and the costs of any poles, buoys, buoy stones, floats, and rope used. These materials may be furnished by the DOA and billed to the lessee. If an applicant is not the highest bidder the application fee and the one-year rental fee will be returned.

***Site authorization only provides an individual with access to the site. The use of aquaculture gear, facilities and species, the planting and cultivating of aquaculture organisms, and the sale of aquaculture product requires additional state and federal agency review, authorizations and licenses identified in subsequent sections.***

### 1.1.2. Seaweed Sites

DA/BA and the Commissioner of Agriculture license seaweed areas per CGS Sec. 22-11j. DOA issues a nontransferable license, in the name of the state, for a period of not greater than five years and with an annual license fee of twenty-five dollars ($25.00) per acre. Any person who has a shellfish lease authorized pursuant to CGS Sec. 26-194 or Sec. 26-257a is not required to remit an annual license fee.

**Step 1.** To acquire space to cultivate seaweed in Connecticut state waters, applicants must contact DA/BA to determine availability.

**Step 2.** The applicant must complete an application for a DA/BA Seaweed Area License and submit it along with the associated fee (unless not required).

**Step 3.** DA/BA reviews the application for use conflicts and, and assuming none, assigns the boundary/coordinates and writes a lot description.

**Step 4.** DA/BA executes a Seaweed Area License Agreement and provides to applicant.

***Site authorization only provides an individual with access to the site. The use of aquaculture gear, facilities and species, the planting and cultivating of aquaculture organisms, and the sale of aquaculture product requires additional state and federal agency review, authorizations and licenses identified in subsequent sections.***

## 1.2. AQUACULTURE IN TOWN WATERS

### 1.2.1. Shellfish Sites –

*All town areas except those listed in 1.2.2. and 1.2.3.*

According to CGS Section 26-257a of the Connecticut General Statutes, municipal officials (typically shellfish commissions) may designate suitable places within its jurisdiction for the planting and cultivating of shellfish.

**Step 1.** To acquire space to cultivate shellfish in town waters (except Bridgeport, Milford, West Haven, New Haven, Westport and Branford Initiative Area – see following sections), the applicant must contact the local shellfish commission or the town selectman/mayor (if a shellfish commission does not exist) to determine site availability. A list of shellfish commission contacts can be viewed at www.ct.gov/doag and select "aquaculture."

**Step 2.** The applicant must complete and submit the town-specific application.

**Step 3.** Upon receipt of an application, town authorities make a determination or tentative determination (depending on the town-specific process) of site suitability and provide notice to DA/BA.

**Step 4a.** In the case that the town provides authorization for the space to the applicant, the town reviews the application and holds a public hearing, per CGS Sec. 26-240, before making a decision. The town sends the approved application to DA/BA so that the shellfish area coordinates can be added to the town shellfish bed GIS layer.

**Step 4b**. In the case of a tentative determination, notice to DA/BA allows for the space to be set aside for a period of time (as determined by the town) to allow the applicant to seek relevant state and/or federal authorizations. Once the applicant applies for and receives all necessary state and/or federal authorizations, the applicant must provide this information to the town. The town will review the application along with the state and/or federal authorizations, and hold a public hearing, per CGS Sec. 26-240, before making a decision. The town sends the approved application to DA/BA so that the shellfish area coordinates can be added to the town shellfish bed GIS layer.

Site authorization only provides an individual with access to the site. The use of aquaculture gear, facilities and species, the planting and cultivating of aquaculture organisms, and the sale of aquaculture product requires additional state and federal agency review, authorizations and licenses identified in subsequent sections.

### 1.2.2. Shellfish Sites –

*Bridgeport, Milford, West Haven, New Haven and Westport*

According to Connecticut General Statutes, Section 26 257, there are certain local shellfish grounds under state control.

Refer to section 1.1.1. ("Shellfish in State Waters").

### 1.2.3. Shellfish Sites –

*Branford Initiative Area*

In 2014, the State of Connecticut acquired 900 acres of commercial shellfish franchise ground in the Town of Branford. The purpose of this acquisition was to create an aquaculture incubator area that allows for the planting and cultivating of shellfish. The intent is to foster the development of new commercial aquaculture enterprises, public awareness of, and support, for local and sustainable aquaculture, and public stewardship of the environment.

The DA/BA administers this program and issues Branford Initiative Licenses for individuals to access a site. Sites are limited to a maximum of a five-acre plot with an annual license fee of $25.00 per acre. DA/BA may renew the license annually for a maximum of five years.

**Step 1.** To acquire space to cultivate shellfish in the Branford Initiative Area, located within the town waters of Branford, the applicant must contact DA/BA to determine site availability.

**Step 2.** The applicant must complete and submit an application for a DA/BA Branford Initiative Area License.

**Step 3.** DA/BA reviews the application for use conflicts and requests comments from municipal officials, including shellfish and harbor management commissions and the Thimble Islands Association secretary and Thimble Islands Ferry District on all applications utilizing aquaculture gear and facilities.

**Step 4.** Assuming no conflicts, and after addressing local concerns (if any), DA/BA assigns the area to the applicant and executes a Branford Initiative Area License Agreement and collects the associated fee.

***Site authorization only provides an individual with access to the site. The use of aquaculture gear, facilities and species, the planting and cultivating of aquaculture organisms, and the sale of aquaculture product requires additional state and federal agency review, authorizations and licenses identified in subsequent sections.***

### 1.2.4. Seaweed Sites

The licensing of seaweed aquaculture is under exclusive jurisdiction of the state (CGS Sec 22-11j). Refer to section 1.1.2. ("Seaweed in State Waters").

## 2. USE OF AQUACULTURE ORGANISMS

Individuals must obtain state authorization for the use of aquaculture organisms, regardless of the type of setting (e.g. commercial, research, education, habitat restoration or stock enhancement project).

### 2.1. POLICIES

The state requires the use of native species sourced from within Long Island Sound. Some exceptions exist (see below) but are on a case-by-case basis. Native species may be transplanted within Long Island Sound, its tributaries, coves and embayments with the appropriate license. Specific policies, identified below, are subject to change:

- **Native oysters** (*Crassostrea virginica*): In the case that Long Island Sound sources are not available, oysters may be obtained from New York (outside Long Island Sound), Rhode Island or Massachussetts. DA/BA requires two years of health certificates from a certified laboratory and a physical sample.
- **Native clams** (*Mercenaria mercenaria*): In the case that Long Island Sound sources are not available, clams may be obtained from New Jersey, New York (outside Long Island Sound), Rhode Island or Massachussetts. DA/BA requires two years of health certificates from a certified laboratory and a physical sample.
- **Native kelp** (*Saccharina latissima*): The source tissue must be obtained from Long Island Sound or a Connecticut hatchery that is producing native kelp spores originating from Long Island Sound source tissue.
- **Non-native species:** These may only be used in closed, recirculating systems.

### 2.2. APPLICATION PROCESS

For commercial uses of aquaculture organisms, proceed to section 3.2. For all other uses, the following rules below apply:

**To use *molluscan shellfish or seaweed* obtained from Long Island Sound or Long Island Sound hatcheries:**

**i)** Only native species allowed.

**ii)** To collect or import, complete an application for a DA/BA Scientific/Resource Assessment License.

**iii)** There is no application fee for this license.

**To use *molluscan shellfish* or *seaweed* imported from outside of Long Island Sound:**

i) Only native species allowed.

ii) Complete an application for a DA/BA Scientific/Resource Assessment License; submit the form along with health certificates for two consecutive years from the source (e.g. hatchery, research facility).

iii) There is no application fee for this license.

**To use *fish, crustaceans* and/or *other aquatic organisms* (other than molluscan shellfish and seaweed) from Long Island Sound:**

i) **To collect:** Complete an application for a DEEP Scientific Collector Permit. There is no fee for this application.

ii) **To import:** Complete the appropriate application for a DEEP Permit to Import Live Fish or Live Fish Eggs OR an application for a DEEP Permit to Import, Possess or Liberate Wild Birds, Mammals, Reptiles, Amphibians and Invertebrates.

iii) There are no application fees for these permits.

**To transport any aquaculture organisms to, or within, the State of Connecticut:**

i) Complete an application for a DA/BA Scientific/Resource Assessment License.

ii) There is no application fee for thus license.

**Instructions for handling aquatic organisms after laboratory/classroom use:**

i) Species that are collected for these uses must be destroyed once the experiment is completed as the state does not allow release to the natural environment.

ii) The procedures for maintenance and quarantine (if necessary) of imported species and treatment of tank water and disposal of animals once the experiment is completed must be explained in detail in the application for a DA/BA Scientific/Resource Assessment License.

## 3. PLANTING AND CULTIVATION

The applicant must next apply for permission to plant and cultivate aquaculture organisms, and, if relevant, apply to use gear and/or facilities. Local, state and federal agencies share a role in reviewing applications for these purposes. The two main regulatory paths for planting and cultivating aquaculture organisms in Connecticut are:

Type 1. Bottom Culture (*molluscan shellfish only*)

Type 2. Aquaculture Gear and/or Facilities Use

The town's designation, or naming of a permitting process, does not influence the state and federal permitting path, as joint agency application are reviewed based on content within their respective agency policies. These types of aquaculture and their respective regulatory requirements are described below.

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

## 3.1. DESCRIPTION OF BOTTOM CULTURE *(molluscan shellfish only)*

This type of aquaculture involves hand, tong or mechanical cultivation and harvest (i.e. use of a shellfish dredge) of shellfish, and may include planting of cultch, transplanting and culling. The raising or harvesting of oysters, clams, mussels and other molluscan shellfish in this manner within the state's public underwater farm lands (designated as such in Superior Court) or commercial shellfish leases and franchises is termed "bottom culture." This activity is considered "agriculture" by the DOA regulation CGS Sec. 1-1(q). These are accepted aquaculture practices that have been conducted for over a century in Long Island Sound, and in many of its tributaries, coves and embayments. An overview of the regulatory process for bottom culture is provided in Fig. 4.

### 3.1.1. Application Process

**Step 1. Application**

Once the applicant has received tentative authorization to use space in town or state waters, they must then complete and submit an application for a DA/BA Shellstock Shipper I License (see 4.1.1). This application simplifies the regulatory process for bottom culture as it encompasses licensing for the use/import of shellfish, planting and cultivating shellfish and/or cultch. License amendments can be established to include such activities such as the transplanting of shellfish from relay areas for depuration or for longer-term planting on designated lots. There is no fee for this application.

While bottom culture is a common and accepted practice, certain restrictions apply:

- Mechanical harvest in federal navigation channels is strictly prohibited, except in certain existing designated shellfish beds in New Haven, Bridgeport and Norwalk. P A reasonable buffer must be maintained to ensure that operation will not interfere with a federal navigation channel, anchorage, or structure such as a levee or breakwater created at public expense, or its use.
- A reasonable buffer must be maintained to ensure that operation will not interfere with a federal navigation channel, anchorage, or structure such as a levee or breakwater created at public expense, or its use.
- Mechanical harvest in eelgrass beds is strictly prohibited.
- Only native species may be cultured.
- If deemed necessary, state and federal officials will conduct an Environmental Impact Assessment.

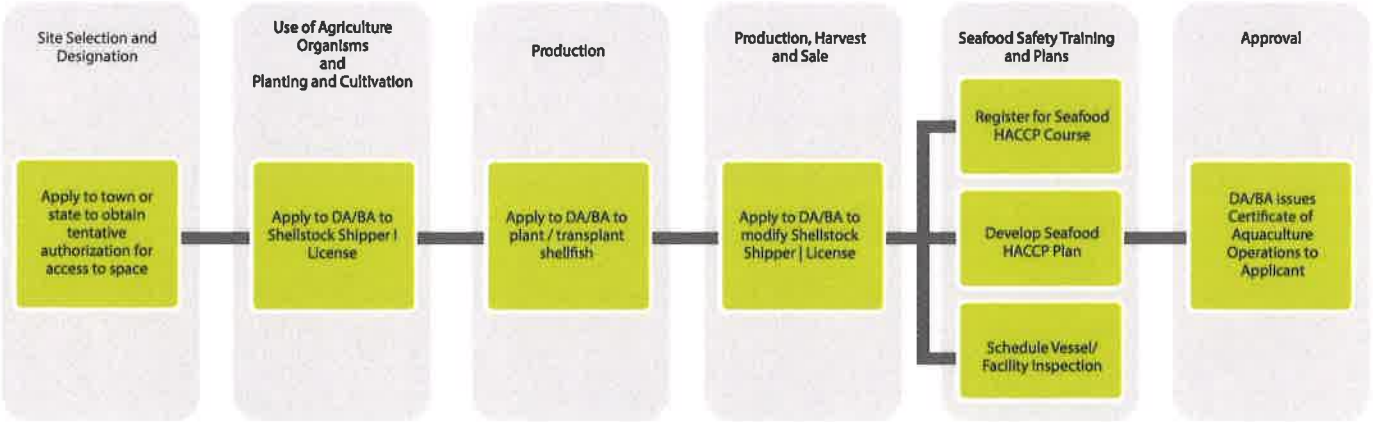



**Figure 4. Overview of Regulatory Process for Bottom Cultivation of Shellfish**

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

- Current state policy allows for native species to be transplanted within Long Island Sound, its tributaries, coves and embayments with the appropriate state-issued license and following the aforementioned policies on use of aquaculture organisms (see section 2.1).
- The placement of cultch may be covered under the DEEP Connecticut General Permit for Coastal Maintenance DEEP-OLISP-GP-2015-02. In order to be eligible for this general permit, the activities authorized by this general permit shall be conducted in accordance with the following conditions:

**(a)** Such placement of cultch shall only be conducted by a licensed shellfish operator in beds or areas designated for shellfishing under section 26-194 or section 26-242 of the General Statutes.

**(b)** Such placement of cultch shall be conducted only in appropriate locations for colonization by oysters, based upon factors of salinity, water quality, water circulation patterns and substrate composition.

**(c)** Such placement of cultch shall not be conducted in areas of tidal wetlands or submerged aquatic vegetation beds.

**(d)** Prior to the commencement of such placement of cultch, such licensed shellfish operator obtains all required authorizations from the Department of Agriculture Bureau of Aquaculture and Laboratory and the local shellfish commission, as applicable.

**(e)** Prior to the commencement of such placement of cultch, such licensed shellfish operator obtains permission in writing from the owner or lessee of such shellfish bed or area.

**(f)** Such placement of cultch shall be conducted in such a manner that it does not exceed a layer of cultch on the seafloor greater than 12" in depth.

**(g)** Such placement of cultch shall be conducted such that the placement does not exceed 1,500 bushels per acre of seafloor.

Local, state and federal regulatory agencies may add other conditions to the proposed project and/or require the physical extent of eelgrass beds to be located/marked on an annual basis prior to harvest. Vessel monitoring, facilitated by DA/BA, was recently initiated and will be a tool to improve monitoring, compliance and enforcement.

**Step 2. Town Review** (if applicable)
For shellfish projects in town waters (except in Bridgeport, Milford, West Haven, New Haven, Westport and Branford Initiative Area) the applicant must return to the town with the relevant state and federal authorizations, as applicable. Typically, the town will commence its final review of the application from applicant for a suitable place to plant and cultivate shellfish and enter into agreement with applicant for an agreed-upon duration. The town may choose to place additional requirements on the applicant as a result of the state/federal process.

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

**Step 3. Certificate for Aquaculture Operations**

The end result of the permitting process is a DA/BA Certificate for Aquaculture Operations (CAO).

The certificate will describe the permitted aquaculture organisms, type and quantity of gear on a particular shellfish lot and the referenced USACE permit number. This certificate is issued once all other local, state and federal authorizations have been issued to the applicant, and copies of such documents have been forwarded by the applicant to DA/BA. Then, and only then, may aquaculture production commence.

**Step 4. Seafood Sanitation Training and Plan**

In order to harvest and sell product for public consumption, the applicant must take seafood sanitation training and develop a sanitation plan for their operation, purchase shellfish shipper tags, and undergo inspection of vessels and facilities (see section 5).

## 3.2. DESCRIPTION OF AQUACULTURE GEAR AND/OR FACILITIES USE

This type of aquaculture refers to the propagation of molluscan shellfish and/or seaweed using aquaculture gear (e.g. bags, cages, long lines, predator nets, upwellers) and/or land-based facilities (e.g. hatcheries, research laboratories). Any proposed activities involving aquaculture gear or facilities, commercial or otherwise, are subject to this regulatory process described here. An overview of the regulatory process for the use of aquaculture gear and/or facilities is provided in Fig. 5. A detailed step-by-step overview of the application and review process is provided in Fig. 6.

The application and resulting review process are in place to ensure that aquaculture activity is compatible to the extent possible with existing human uses of Long Island Sound and that the final configuration will have minimal adverse impacts to navigation, protected marine species and essential fish habitat. The review process involves an assessment of the potential for impacts

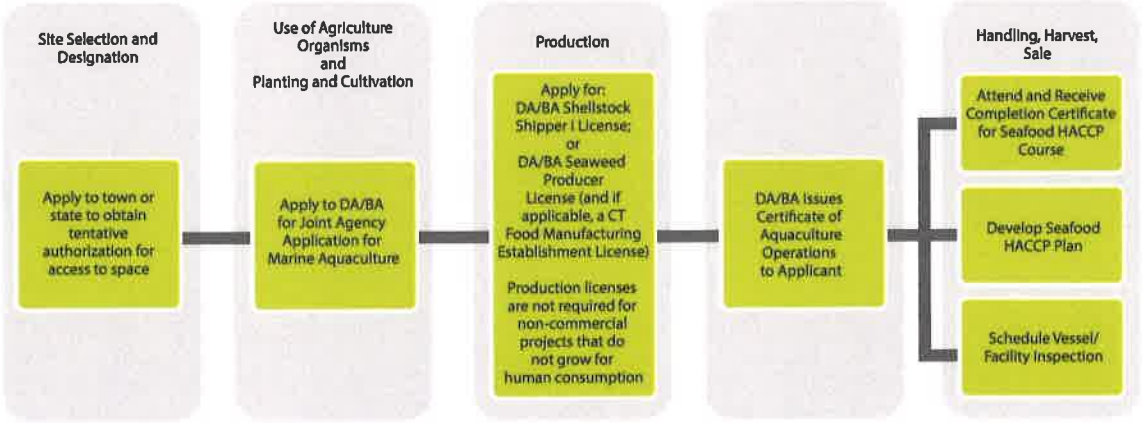
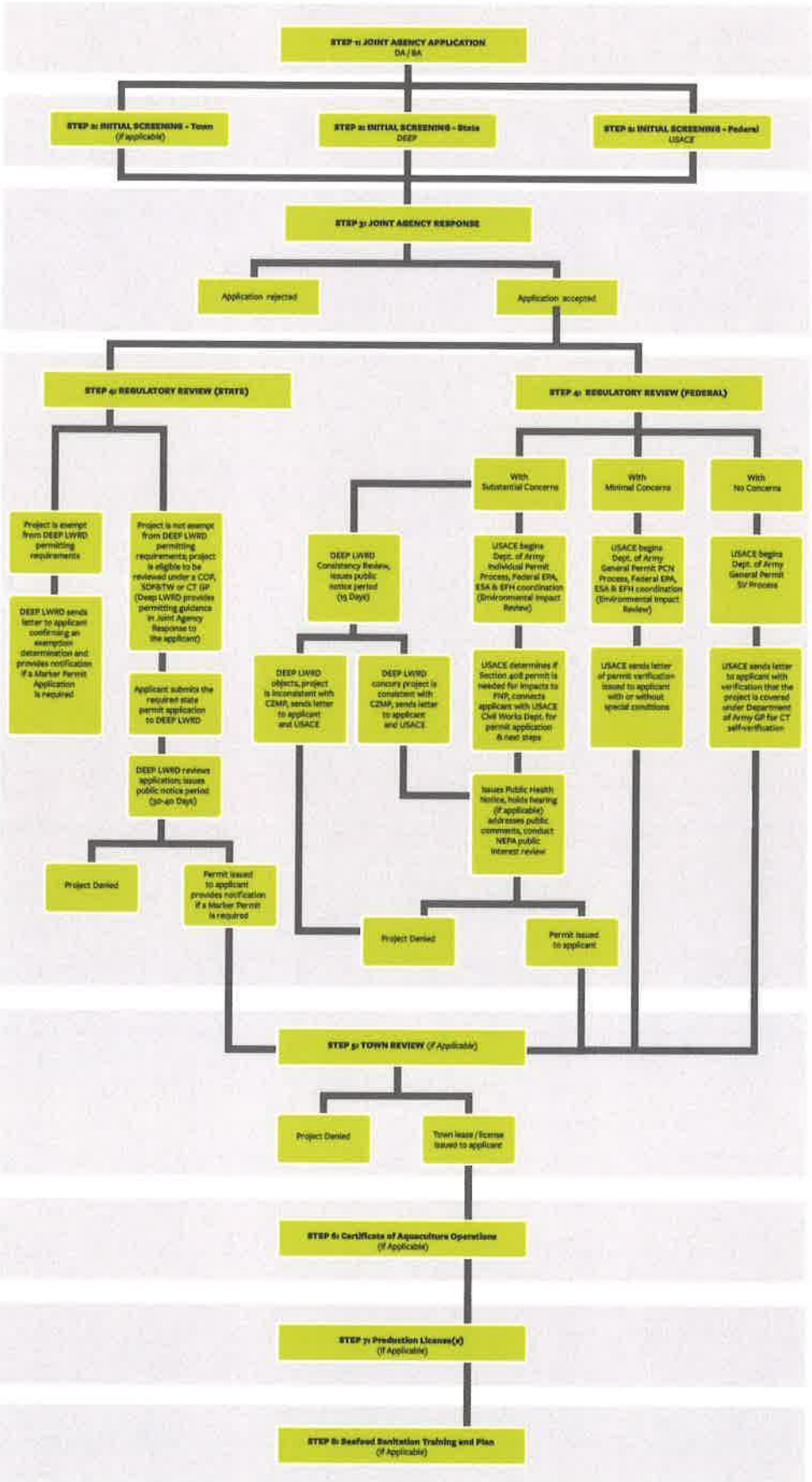



**Figure 5: Overview of Regulatory Process for Use of Aquaculture Gear and Facilities.**

**Figure 6: Detailed Application and Review Process for Use of Aquaculture Gear and Facilities**



to existing uses including established rights to fishing (as identified in CGS Sec. 26-204), wetlands, fish and wildlife, marine mammals, Endangered Species Act-listed species, water quality, navigation, etc., as identified within 33 CFR 320-334. As previously mentioned (see section 2.1), policies are in place that restrict non-native species and that require a license, and impose restrictions, for use and transport of native species.

If the proposed project will result in unacceptable adverse effects to navigable waters or aquatic resources, permit authorization will be denied by local, state and/or federal officials. Authorization from one agency does not indicate full authorization of the project. Authorization by federal, state and town officials (if applicable) is required prior to the applicant conducting aquaculture activities in the State of Connecticut.

## 3.2.1. Application and Review Process

**Step 1. Application**

Once the applicant has received tentative authorization to use space in town or state waters, they must then complete the Joint Agency Application for Marine Aquaculture. This application process incorporates both the use of aquaculture organisms and the associated aquaculture gear and facilities. The application must be completed and submitted to DA/BA. There is no fee associated with this application. The DA/BA reviews the application to ensure that it is complete. Incomplete applications are returned to the applicant.

**Step 2. Initial Screening**

The DA/BA forwards a copy of the application to DEEP Land and Water Resources Division (DEEP LWRD) and USACE. If the project is proposed in town waters, the application is also sent to the local shellfish commission, harbor management commissions and/or the harbor master. If the project is proposed in the Branford Initiative Area, DA/BA will solicit comments from the Thimble Island Association secretary and the Thimble Island Ferry District. Comments received with regard to aquaculture applications are then forwarded to DEEP LWRD and USACE.

**Town Screening**

Connecticut's municipal shellfish commissions are responsible for managing shellfish resources, shellfisheries and aquaculture in waters lying north of the State Jurisdiction Line, or "town waters." Each commission is required to develop a comprehensive management plan that includes a process for leasing commercial shellfish grounds and providing local review of applications for placement of aquaculture structures in town waters. In addition, local harbor management commissions/harbor masters review activities such as aquaculture that may occur in or near areas under their jurisdiction.

Although these local decision-makers do not have legal authority to permit the use of aquaculture gear, these commissions play a role in the review process for potential social and use conflicts, as well as potential effects on protected habitats and/or species caused by aquaculture activity. If projects are located in municipal waters, the local shellfish commission is asked to provide preliminary comments on the proposed project using the Joint Agency Memorandum Form provided by DA/BA. DA/BA enters any comments into the joint agency response (see step 3).

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

**State Screening**

The State of CT has been regulating all in-water structures , obstructions and encroachments since 1939. DEEP LWRD regulates all activities conducted in tidal wetlands and in tidal, coastal or navigable waters in CT under the Structures, Dredging & Fill Act (CGS sections 22a-359 through 22a-363f, inclusive) and the Tidal Wetlands Act (CGS sections 22a-28 through 22a-35, inclusive. The major regulatory objective is to avoid or minimize navigational conflicts, private encroachments into the state's public trust , and adverse impacts on coastal resources and uses, consistent with Connecticut's Coastal Management Act (CGS sections 22a-90 through 22a-112, inclusive)

**Aquaculture Exemption Determination Review**

DEEP, LWRD is responsible for the implementation, oversight and enforcement of the state's Coastal Management Program, and as such, is responsible for the review of aquaculture applications to determine whether a project meets the exemptions for aquaculture-related activities as identified in CGS section 22-11h(c). DEEP LWRD conducts an Aquaculture Exemption Determination Review and identifies whether the project meets the criteria that would exempt the project from LWRD permitting requirements pursuant to CGS sections 22a-359 through 22a -363f (see step 4a). If aquaculture structures are proposed within a leased or designated shellfish area, do not interfere with navigation in customary boating or shipping lanes and channels and do not have negative impacts to State Listed Species or finfish resources, permits from LWRD are not typically required. The LWRD receives comments from DEEP Fisheries, Boating and Water Permitting and Enforcement Division Bureau of Materials Management and Compliance Assurance (WPED). DEEP LWRD provides a determination and permitting guidance if necessary in the joint agency response (see step 3), as well as in a letter directly to the applicant if the project is found to be exempt.

DEEP also has regulatory authority of marine aquaculture discharges, water diversions and discharge/intake structures in the coastal zone. These activities require consistency review with the state's Coastal Management Program, which is administered by LWRD. These activities are regulated cooperatively at the state and federal level by DEEP and the USACE.

The DEEP Fisheries Division (DEEP Fisheries) is responsible for regulating recreational and commercial fisheries in Connecticut's marine waters, with the goal of maintaining sustainable fisheries and fish populations. The Marine Fisheries Division reviews applications for aquaculture activity for effects on fish and fish habitat, as well as effects on the commercial and recreational fisheries under the division's jurisdiction. Comments on the application, including recommendations to avoid or minimize adverse effects on resources and fisheries, are sent to the DEEP LWRD for inclusion in a joint agency response (see step 3).

The DEEP Navigation Safety/Boating Access Unit (DEEP Boating) is responsible for planning, developing and implementing the Navigation Safety Program, which includes appropriate marking of aquaculture structures. DEEP

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

Boating reviews all aquaculture proposals for navigation, safety and boating access, and sends comments to the DEEP LWRD for inclusion in a joint agency response (see step 3).

The DEEP Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division (WPED) regulates diversions and discharges to waters of the state, including all surface waters, ground waters and publicly owned treatment works (POTW) (i.e., sewage treatment plants). DEEP issues discharge permits in three major categories. This includes discharges from aquaculture facilities (i.e., hatcheries) (see step 4). WPED provides regulatory direction for applicants to the LWRD for inclusion in a joint agency response (see step 3)

DEEP LWRD conducts an Aquaculture Exemption Determination Review and identifies if the project is exempt from DEEP permitting requirements per CGS 22a-359 to 22a -363f, or if the project is not exempt from DEEP LWRD permitting authority and will require a DEEP LWRD permit (see step 4a). If the proposed project is within a designated shellfish lease, franchise or designated shellfish area, and does not pose significant impacts to navigation, permits from this division are not typically required. The DEEP LWRD receives comments from DEEP Fisheries, Boating and WPED. DEEP LWRD provides its determination and next steps in a joint agency response (see step 3), as well as in a letter directly to the applicant.

**Federal Screening**

In Connecticut, the USACE reviews and authorizes aquaculture activities it regulates under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act, and several other federal laws (see section 6). Upon receipt of the application, the USACE determines the type of permit review (see step 4b), the need for Individual Endangered Species coordination with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS), and/or the need for Expanded Essential Fish Habitat Coordination with NMFS (aka Environmental Impact Review). Regardless of the type of permit application, the USACE conducts an evaluation of the probable project impact, including environmental impacts and user-related conflicts. The agency provides its determination and next steps (if any) in a joint agency response (see step 3), as well as in a letter directly to the applicant. Agency comments will also provide an estimated timeframe for the federal review and determines any additional information needed from applicant.

### Step 3. Joint Agency Response

The review of the Joint Agency Application for Marine Aquaculture will result in a joint agency response, issued by DA/BA, which will notify the applicant as to any additional information necessary for the review, any suggested changes to the proposed project, or to inform the applicant as to the next steps in the process. Because these types of applications typically involve the long-term placement of structures in the coastal zone, they may require one or more state and federal permits and involve public notice and hearings.

### Step 4. Regulatory Review

**State Regulatory Review (DEEP LWRD)**

If the proposed aquaculture project has the potential to interfere with navigation in

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

customary boating or shipping lanes and channels, and/or will not be located within a leased or designated shellfish area, the activity will not be exempt from LWRD permitting requirements and require a Structures, Dredging & Fill and Tidal Wetlands Permit or a Certificate of Permission. Aquaculture related activities such as the placement of cultch or research experiments may be eligible for a General Permit for Coastal Maintenance and Minor Coastal Structures.

DEEP Boating may also require regulatory markers for the project if it poses any hazard to safe navigation. In the case of land-based facilities, if water is diverted to or discharged from the site, it may require state and federal diversion/discharge permits or an exemption. A description of these permits is provided in the following sections.

The agency may issue a Public Notice describing the proposed work followed by a public comment period of 30-40 days. The agency may also hold a Public Hearing if it determines that one is needed.

***DEEP Certificate of Permission***

Minor activities related to previously authorized work may be eligible for a Certificate of Permission (COP) in accordance with CGS Sections 22a-361 through 22a-363c. Generally, the installation of a floating upweller or other aquaculture equipment to an existing, permitted structure such as a dock is a COP eligible activity. A decision on a COP is made within 45 days if the application is found to be complete, or within 90 days if the application requires additional information to complete the review process.

***DEEP General Permits***

The placement of cultch is eligible for coverage under the DEEP General Permit for Coastal Maintenance DEEP-OLISP-GP-2015-02. If all general permit conditions and criteria are complied with, such activity does not require an application to be submitted to DEEP. Consultation with DEEP LWRD staff is strongly recommended.

The installation and maintenance of aquaculture related scientific/ experimental structures may be eligible for coverage under the DEEP General Permit for Minor Coastal Structures DEEP-OLISP-GP-2015-01 for experimental acticities or the placement, removal and replacement of scientific monitoring devices. If all general permit conditions and criteria are complied with, such activity does not require an application to be submitted to DEEP. Consultation with DEEP LWRD staff is strongly recommended.

***DEEP Structures, Dredging, Fill and Tidal Wetlands Permit***

Activities that are not eligible for authorization under a DEEP General Permit or Certificate of Permission will require a Structures, Dredging & Fill and Tidal Wetlands permit pursuant to Sections 22a-361 and 22a-32 of the Connecticut General Statutes. These activities typically include long-line proposals, the installation of a new discharge/intake pipe for a hatchery on the upland and

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

other work for which a detailed review of potential environmental, public trust and navigational impacts is needed. A 30/40 day notice period for public comment is required for all Structures, Dredging & Fill and Tidal Wetland applications and applications may take up to nine months for a decision depending on the complexity of the project and completeness of application materials submitted.

***DEEP Permit for Marker Buoys***

The DEEP Navigation Safety/Boating Access Unit determines if the proposed aquaculture activity will be located in a customary boating or shipping lane or channel, and then assesses if the proposed project has the potential to interfere with navigation or the public's use of the waters. If the project may interfere, the agency will require the applicant to obtain a DEEP Regulatory Marker Permit. DEEP Navigation Safety/Boating Access Unit (DEEP Boating) provides its determination and next steps (if any) in the joint agency response, as well as a letter directly to the applicant.

***DEEP Water Diversion/Discharge Permit/Exemption***

CGS section 22-11h (b) states, "Aquaculture operations that withdraw less than two hundred fifty thousand gallons per day of water, where such water is not approved for human consumption, and where water so withdrawn is returned to the same source from which it was withdrawn, shall be deemed not to be a diversion as defined in CGS section 22a-367 and shall be exempt from the water diversion permitting requirements of chapter 446i." All proposed discharges from aquaculture operations are coordinated with DEEP Water Permitting and Enforcement Division Bureau of Materials Management and Compliance Assurance for consistency with Connecticut's Water Quality Standards.

The Surface Water Discharge Permit Program, also known as the National Pollutant Discharge Elimination System (NPDES) under federal law, regulates discharges into surface waters (either directly or through municipal storm sewer drainage systems, or through other drainage systems such as wetlands or swales).

The Ground Water Discharge Permit Program regulates discharges to groundwater from any source, including but not limited to large septic systems, agricultural waste management systems and all waste landfills.

The Pre-treatment Permit Program regulates discharges to a POTW, through municipal sanitary sewer drainage systems, or through combined storm and sanitary sewer systems. All wastewaters (excluding domestic sewage) that are hauled directly to a POTW will require either a pre-treatment permit or will be regulated under the POTW permit. Domestic sewage hauled directly to a POTW is regulated by the Connecticut Department of Public Health.

If the proposed project will discharge water, substances or materials into the waters of the state, the applicant will be required to obtain a permit prior to commencing the discharge. Waters of the state include all surface and ground waters, sanitary and storm sewers.

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

**Federal Regulatory Review**

The federal regulatory review occurs at the same time as the state regulatory review and is coordinated with DEEP LWRD as necessary.

**Department of Army General Permit**

In Connecticut many aquaculture activities may be eligible for review under the Department of the Army General Permit for the State of Connecticut, known as the Connecticut (CT) General Permit[1]. This type of permit authorizes activity-specific categories of work which are similar in nature and will result in no more than minimal individual and cumulative adverse environmental impacts. There are two categories of General Permit; self-verification (SV) and preconstruction notification (PCN). A SV is administrative only and does not require interagency coordination, where the PCN does require coordination with other federal resource and/or regulatory agencies. If the project is eligible for SV, the applicant will receive a letter of verification directly from the USACE, usually within 10-days of DA/BA conveyance of the Joint Aquaculture Application. If the project is to be reviewed as a PCN, the USACE will determine if the application is complete. If it is complete, USACE will commence federal agency coordination and consultations as discussed below. However, it is important to note that the USACE retains discretionary authority to require a Standard (Individual) Permit (see next section) for any regulated work based on concerns for the aquatic environment or for any other factor of the public interest, even if the project meets the eligibility criteria under the permit. The USACE policies for the evaluation of permit applications can be found in 33 Code of Federal Regulations Chapter II, Parts 320 through 334.

If the application is potentially eligible under the PCN category of the Department of Army CT General Permit, the USACE will conduct an expedited review of the application and coordinate the review of the project with the state and relevant federal resource agencies, as is required. If concerns regarding Endangered Species or Essential Fish Habitat are present, the USACE will conduct Individual Endangered Species coordination with USFWS or NMFS, and/or Expanded Essential Fish Habitat Coordination with NMFS (see "Federal Coordination Process" below). The project may also be coordinated with the U.S. Environmental Protection Agency and the State Historic Preservation Commission, depending upon the aquatic resource areas that are present at the site. In some cases, additional information may be necessary to complete these consultations.

If the USACE concludes that the aquaculture gear in waters of the United States is eligible for coverage under the Department of Army CT General Permit as a PCN, the applicant will receive a letter of verification of coverage under the CT General Permit directly from the USACE. The USACE will add special conditions to the verification when such conditions are necessary to

1 The General Permit in Connecticut is reassessed as required by regulation every five years. The process involves issuance of a public notice to obtain comments on the draft permit, and the permit is subject to National Environmental Policy Act (NEPA) analysis which includes a public interest review, completion of an environmental assessment, including evaluation of cumulative impacts, and a statement of findings.

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

satisfy legal requirements or to otherwise address issues of the public interest. The USACE verification letter will also identify an expiration date for the initial (first) installation of the authorized gear. In the case of seasonal gear, once initially installed, it can be returned to the water annually without further authorizations, provided it is adequately marked and maintained in good condition in accordance with Coast Guard requirements. Further, the number of initial authorized gear units (bags, cages, longlines) permitted cannot be exceeded and must remain inside the approved gear perimeter. If eelgrass has colonized the gear area, modifications to the project are required (see "Key Considerations and Restrictions" on page 6). A copy of the USACE verification letter, when issued, is forwarded to the DA/BA and the DEEP LWRD. If the project is permitted within town waters, the local shellfish commission, harbor management commission and/or harbor master will also receive a copy of the approval letter.

***Department of Army Individual Permit***

For those activities in which the federal or state regulatory agencies or environmental resource agencies identify concerns for greater than minimal impacts, either individually or cumulatively to aquatic resources or navigable waters, a Department of Army Individual Permit will be required.

Individual Permit applications submitted to the USACE are subject to a Public Notice of the proposed work followed by a comment period of between 15 and 30 days. The USACE functions as an impartial party (neither a project proponent or opponent) and uses the Public Notice to alert interested public agencies, private individuals and abutters of the agency's receipt of the application, and to solicit comments and information, which it will use to evaluate the probable impact of the activity on the public interest. If the USACE receives comments on the notice, it may forward these comments to the applicant for response and/or resolution. The USACE may also hold a public hearing if it determines that one is needed. During review of the application the USACE is required to: 1) conduct an evaluation of reasonable and practicable alternatives under NEPA if there are unresolved conflicts or concerns, 2) complete an environmental assessment; and, 3) complete a statement of findings for all jurisdictional activities that are not subject to exclusion, which includes a determination as to whether a project will have a significant impact on the quality of the human environment that may warrant completion of an Environmental Impact Statement.

The environmental assessment will include an evaluation of the proposed activity to determine probable individual and cumulative impacts, on factors of interest to the public. During this analysis, expected benefits of allowing the activity are balanced against foreseeable detriments. Evaluation factors may include conservation, economics, aesthetics, cultural values, food and fiber production, navigation, recreation, water quality, safety, needs and welfare of the people. The specific weight of each factor is determined by its importance and relevance to the particular proposal. How important a factor is and how much consideration it deserves will vary with every project. Full

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

consideration and appropriate weight are given to all substantive comments including those of federal, state and local agencies, and other experts on matters within their expertise. Regulation requires that the USACE consider the relative extent of the public and private need for the proposed project, the practicality of using reasonable alternative locations and methods to accomplish the objective of the proposed project and the extent and permanence that the proposed activity is likely to have on the public and private uses to which the area is suited. This process culminates in a decision to issue, or deny, an application as well as identification of any conditions that may be needed to protect the public trust or the aquatic environment.

The USACE review of an Individual Permit application can take anywhere from four months to two years depending on the completeness and timeliness of the application materials submitted, complexity of the project, and is contingent upon state permit coastal zone management timeframes.

**State Coordination Process**

If USACE is reviewing an aquaculture project under the IP, LWRD must conduct a standard consistency determination. When an aquaculture project is reviewed by the USACE as an individual Permit, LWRD must conduct a standard consistency determination pursuant to section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended, and Subpart C of 15 Code of Federal Regulations ('CFR'), Part 930. Federal consistency is the CZMA requirement that federal actions , in this case a federal permit decision, must be consistent with a State's federally-approved Coastal Zone Management Plan. The USACE will send DEEP LWRD a letter requesting a federal consistency concurrence or objection for a proposed aquaculture project and a certificate of consistency statement signed by the applicant. The LWRD consistency process on IP applications must include a 15-day public notice period and by federal law such a review must be completed within six months from the date that the certificate of consistency statement was received. Concurrence is presumed if no response is given by the State within six months(unless an extended review timeframe has been agreed to by the applicant, USACE and DEEP.

**Federal Coordination Process**

The USACE is required by federal regulation to coordinate the activities it reviews with the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service Greater Atlantic Regional Fisheries Office, herein referred to as NMFS, in several different ways. The NMFS manages fishing in federal waters under the Magnuson-Stevens Fishery Conservation and Management Act. This law includes Essential Fish Habitat (EFH) provisions that require the Corps to consult with NMFS if the proposed federal action of issuing a permit for commercial aquaculture has the potential to adversely affect the habitat of wild fish stocks managed by NMFS. Essential fish habitat is the habitat necessary for managed fish to complete their life cycle, so it includes habitats in nearshore areas where most U.S. aquaculture production currently takes place. In Connecticut, the USACE has a Programmatic

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

Agreement (PA) with NMFS to expedite EFH consultation for projects that are anticipated to have minimal adverse impacts on the habitat, either individually or cumulatively. The process involves inclusion of programmatic conservation recommendations to minimize the potential for adverse effect to EFH.

The USACE also coordinates with the NMFS if an aquaculture activity has the potential to adversely affect Endangered Species Act-listed species and/or designated critical habitat for a listed species under its purview. The NMFS possesses responsibility for protection of marine resources such as whales, sea turtles and sturgeon, all of which can be found in Long Island Sound. Completing this consultation requires analysis of the activity's effects on the species and its critical habitat based on the best available science, and through the development of appropriate terms and conditions to avoid, minimize or compensate for the adverse impacts. In Connecticut the USACE also has a PA with NMFS to expedite ESA consultations for projects that may affect but are not likely to adversely affect or otherwise jeopardize the existence of resources listed under ESA. If an activity does not meet the criteria for consideration under either of the PAs identified above, individual consultation (either abbreviated or expanded) is required. This type of consultation may require the applicant to provide additional project-related information and/or complete an assessment of project impact on ESA-listed species or EFH. More information about the Section 7 consultation process or the content of an EFH biological assessment can be found on the NMFS website. The agency also has review authority under the U.S. Fish and Wildlife Act as it possesses particular expertise and responsibility for conservation of fish and wildlife resources.

The USFWS, like the NMFS, has authority under Section 7 of the ESA and the USACE is required to consult with the agency if an aquaculture activity has the potential to adversely affect an ESA-listed species and/or the designated critical habitat for an ESA-listed species, that is under USFWS ESA purview. In the case of Connecticut aquaculture, the USFWS is most likely to be consulted to determine if an aquaculture activity will have an adverse effect to ESA-listed birds such as the piping plover, roseate tern or red knot, or their habitat. The agency also has review authority under the U.S. Fish and Wildlife Act as it possesses particular expertise and responsibility for conservation of fish and wildlife resources.

In addition, all applications are sent to the Connecticut State Historic Preservation Office for review and comment pursuant to the National Historic Preservation Act of 1966. In rare cases, the applicant may be required to contract for an archeological reconnaissance survey in order to document the presence or absence of significant archeological sites. If the proposed operation would damage a significant historical or archeological resource, the USACE may require modification of the proposal, or deny authorization for the proposed activity.

Other agencies at the local, state and federal level may play a role in reviewing aquaculture applications. These may include, but are not limited to the following agencies:

## THE REGULATORY PROCESS

STEP 1.
Site selection and designation

STEP 2.
Use of aquaculture organisms

**STEP 3.**
**Planting and cultivation**

STEP 4.
Production

STEP 5.
Handling, harvest and sale

- Connecticut Department of Public Health
- Connecticut Department of Consumer Protection
- Connecticut State Historic Preservation Office
- U.S. Food and Drug Administration
- U.S. Coast Guard
- Bureau of Ocean Energy Management
- Northeast Fishery Management Council
- Atlantic States Marine Fisheries Commission

Further, the USACE shares Clean Water Act Section 404 authority with the U.S. Environmental Protection Agency (EPA), though the roles and responsibilities of the two federal agencies differ in scope. Simply put, in the case of aquaculture, the USACE administers the day-to-day regulatory program implementation including evaluation of applications and decisions as to whether to issue an authorization for a particular activity and compliance with the NEPA. The EPA is responsible for development of the environmental criteria to which aquaculture projects with discharges into waters or wetlands must be evaluated. These criteria are most commonly referred to as the Clean Water Act (CWA) 404(b)(1) Guidelines. The Section 404(b)(1) Guidelines are mandatory criteria. However, evaluation of compliance with the 404(b)(1) Guidelines is not required for Section 10 activities (dredging and/or placement of structures in Section 10 waters). EPA also reviews and comments on applications that are submitted to the USACE and provides recommendations, as needed, to ensure that impacts of authorized activities are avoided, minimized and mitigated to the greatest extent practicable. The US EPA possesses veto authority to prohibit, deny or restrict the use of any defined area as a disposal site under Section 404(c) of the CWA.

If applicable, USACE may issue a public notice and may hold a public hearing. The agency will consider the public comments and either approve and issue authorizations for the project, suggest modifications to the project or deny the project.

**Step 5. Town Regulatory Review (if applicable)**

Written authorization from all agencies (CT DA/BA, CT DEEP and USACE) as well as local officials (if applicable) is required before aquaculture activities can commence or gear can be placed in the water. Even if projects are authorized by state and federal officials, town officials may deny a project with cause.

In the case where the town has only made a tentative determination of site suitability, the applicant must apply for and receive state and federal authorizations before proceeding with the local regulatory review process for a site to conduct aquaculture activity.

For shellfish projects in town waters (except in Bridgeport, Milford, West

Haven, New Haven, Westport and Branford Initiative Area) the applicant must return to the town with the relevant state and federal authorizations. Typically, the town will commence its final review of the application from applicant for a suitable place to plant and cultivate shellfish and enter into an agreement with the applicant for an agreed-upon duration. The town may choose to place additional requirements on the applicant as a result of the state/federal process.

**Step 6. Certificate of Aquaculture Operations**

The end result of the permitting process is a DA/BA Certificate for Aquaculture Operations.

The certificate will describe the permitted aquaculture organisms, type and quantity of gear on a particular shellfish lot and the referenced USACE permit number. This certificate is issued once all other local, state and federal authorizations have been issued to the applicant, and copies of such documents have been forwarded by the applicant to DA/BA. Then, and only then, may aquaculture production commence.

**Step 7. Production Licenses**

The applicant must complete the relevant DA/BA production license application which encompasses the licensing for handling, harvest and sale of aquaculture products (see section 4.1.1).

**Step 8. Seafood Sanitation Training and Plan**

In order to harvest and sell product for public consumption, the applicant must take seafood sanitation training and develop a sanitation plan for their operation, purchase shellfish shipper tags, and undergo inspection of vessels and facilities (see section 5).

# 4. PRODUCTION

Only licensed commercial operations may cultivate, harvest and sell aquaculture product to the public. In order to do so, one or more state licenses may be required. In addition, license holders must obtain seafood safety training and develop a Hazard Analysis and Critical Control Points (HACCP) Plan for their operation (see Section 5).

## 4.1. SHELLFISH PRODUCTION LICENSE AND ASSOCIATED REQUIREMENTS

### 4.1.1. Shellstock Shipper I License: Combined Harvest and Relay Activities

The DA/BA Shellstock Shipper I License is for harvest and relay activities, and allows the licensee to grow, harvest, buy, or repack and sell shellstock and be listed on the Interstate Certified Shellfish Shippers List (ICSSL). Shellstock shippers *are not* authorized to shuck shellfish nor to repack shucked shellfish under this license.

**Step 1. Application**
The applicant must complete an application for a DA/BA Shellstock Shipper 1 License. This license can only be applied for once all relevant local, state and federal authorizations for aquaculture operations or facilities have been received as these authorization numbers must be entered on the license application form.

A dealer seeking certification as a Shellstock Shipper must abide by conditions and standards in accordance with the National Shellfish Sanitation Program Model Ordinance (NSSP-MO) and the United States Food and Drug Administration (USFDA) Code of Federal Regulations (CFR) Title 21 and conform to all regulatory and statutory requirements pertinent to this operation as per Connecticut General Statute Sec. 26-192, Sec. 26-241 and Chapters 491 and 492.

The DA/BA or DEEP Division of Law Enforcement (DLE) may inspect shellfish beds and areas where shellfish are grown or harvested, all boats, tools and appliances used in the production and preparation of shellfish and all wharves and buildings where shellfish are stored, transferred, opened, packed or prepared for sale or shipment.

Shellfish harvested under this license shall be subject to embargo, disposal or return to growing area under supervision if found to be contaminated, significantly time/temperature abused or otherwise non-compliant with requirements of this license.

**Step 2. Seafood Sanitation Training and Plan**
In order to harvest and sell product for public consumption, the applicant must take seafood sanitation training and develop a sanitation plan for their operation, purchase shellfish shipper tags, and undergo inspection of vessels and facilities (see section 5).

## 4.2. SEAWEED PRODUCTION LICENSES AND ASSOCIATED REQUIREMENTS

### 4.2.1. Raw Agricultural Seaweed Commodity

Raw Agricultural Seaweed Commodity, or fresh seaweed, is an approved species, in its raw, whole and unprocessed form, sold by the agricultural unit (not by weight or volume) (ex. sold by the blade) and in an unsealed bag or box. The intended use of raw seaweed is to be eaten as is or cooked or processed by the end-user.

In Connecticut, a local seaweed seed source, defined as originating from a Connecticut hatchery and utilizing spawning stock harvested from the waters of Long Island Sound, must be utilized.

**Step 1. Application**
In order to offer a Raw Agriculture Seaweed Commodity for sale in Connecticut, a producer must complete an application for a DA/BA Aquaculture Seaweed Producer License

**Step 2. Seafood Sanitation Training and Plan**
In order to harvest and sell product for public consumption, the applicant must take seafood sanitation training and develop a sanitation plan for their operation, purchase tags, and undergo inspection of vessels and facilities (see section 5).

Tag/Label information required:

- Company Name
- Business Address
- License #
- Harvest Date
- Harvest Area
- Quantity/Unit

## 4.2.2. Processed Seaweed Commodity

Processed Seaweed Commodity is defined as seaweed that is an approved species in a processed form (cut, blanched, cooked, dried, frozen), may be sold packaged in a sealed bag, and may be sold by weight or volume (ex. by the ounce). In consideration of the regulatory structure in Connecticut, raw seaweed that has been packaged in any way other than what is allowed for a Raw Agricultural Commodity is considered to be a processed seaweed commodity and is subject to additional Connecticut Department of Consumer Protection (DCP) licensing.

Local seaweed seed, defined as originating from a Connecticut hatchery and from reproductive tissue harvested from the waters of Long Island Sound, must be utilized.

Processed seaweed must meet all requirements of a raw agricultural seaweed commodity in addition to the requirements below.

There may be additional analytical testing required by the regulatory agencies depending on the type of processing that the seaweed will be subject to.

**Step 1. Seaweed Producer License**
Each operation that intends to produce seaweed to be sold as a Processed Seaweed Commodity must apply for a DA/BA Seaweed Producer License.

**Step 2. Food Manufacturing Establishment License**
The operation must also complete an application for a DCP Food Manufacturing Establishment License. The requirements associated with this license can be found online.

**Step 3. Seafood Sanitation Training and Plan**
In order to harvest and sell product for public consumption, the applicant must take seafood sanitation training and develop a sanitation plan for their operation, purchase tags and undergo inspection of vessels and facilities (see section 5).

**Food Labeling:**
Under Connecticut law, packaged food sold in the state must be labeled in accordance with the Federal Food Drug and Cosmetic Act, the Federal Fair Packaging and Labeling Act, and the Uniform Packaging and Labeling Regulation as adopted by the National Conference of Weights and Measures. Food labeling shall include but not be limited to the following items:

- common name of the product;
- list of ingredients in order of predominance;
- net weight or volume; and,
- name and address or phone number of the producer or distributor.

Labeling can be submitted to the Department of Consumer Protection for review for compliance with these laws:

Food Label Review
Department of Consumer Protection
Division of Food & Standards
450 Columbus Boulevard, Suite 901
Hartford, CT 06106

# 5. HANDLING, HARVEST AND SALE

## 5.1. SAFE SEAFOOD HARVEST

The DA/BA is responsible for classifying aquaculture growing waters, monitoring water quality, identifying sources of water pollution, seeking corrective actions, ensuring aquaculture producers have received the appropriate seafood sanitation training and developed a sanitation plan (see section 5.2). Further, the agency is responsible for inspecting all aquaculture vessels and facilities (see section 5.3).

The DA/BA must conform to the U.S. Food and Drug Administration Interstate Shellfish Sanitation Conference (ISSC) mandates of the National Shellfish Sanitation Program Model Ordinance (NSSP-MO) in order to assure safe shellfishing areas for commercial and recreational harvesting, protection of public health, and to maintain its interstate standing and comply with Connecticut General Statutes Section 26-192. The NSSP-MO describes the minimum requirements for classification of shellfish harvest areas, proper harvesting, handling, labeling, storing, transporting of shellfish and associated record keeping.

In addition, DA/BA is working with the state and federal government to develop and implement standards for safe seaweed harvest and processing.

The DA/BA performs coastal sanitary surveys along Connecticut's 250-mile shoreline and monitors harvest areas in Long Island Sound for the protection of public health. Seawater, shellfish and seaweed samples are collected at monitoring locations along the coastline and tested for fecal coliform bacteria. Fecal coliforms are an indicator group of bacteria that, when found at certain levels, suggest bacterial or viral contamination of the waters. Shoreline surveys are conducted to assess and correct sources of pollution.

The DA/BA examines plankton tows and shellfish meats as necessary to evaluate the potential for marine biotoxins that can be formed by certain types of phytoplankton.

## 5.2. TRAINING AND PLANS

Safe seafood handling training is a required part of the regulatory process for aquaculture operations in Connecticut. All shellfish and seaweed producers must take Hazard Analysis and Critical Control Point (HACCP) training and develop a HACCP plan and sanitation program conforming to the FDA Seafood Regulations for all wholesale products.

The training program is offered 2-3 times annually by Connecticut Sea Grant, in conjunction with DA/BA, and includes a review of:

- specific sanitation measures that must be undertaken and monitored regularly;

- a Hazard Analysis and Critical Control Points plan that identifies and controls potential food safety hazards related to species and processing methods.

To fulfill the training requirement, individuals can either take the three-day in-person course, Basic Seafood HACCP Course, or the online Segment One Course plus the one-day in-person Segment Two HACCP course.

The FDA recommends using the Association of Food and Drug Officials (AFDO)/Seafood HACCP Alliance training materials together with the FDA Fish and Fishery Products Hazards and Controls Guidance in the development of HACCP plans (FDA Guidance, 2011, 4th edition, page 19). In addition, HACCP course instructors recommend that the National Shellfish Sanitation Program (NSSP) Model Ordinance be used as a guidance document.

## 5.3. INSPECTION

The DA/BA is responsible for the inspection and licensing of aquaculture operations including shellfish dealers involved in handling such as harvesting, shucking, depuration, repacking and reshipping of fresh and frozen oysters, clams, mussels and whole or roe-on scallops and seaweed producers engaged in the production of seaweed for use as a raw agricultural commodity.

All shellfish processing and handling operations are inspected at least twice per year by DA/BA as required by the U.S. Food and Drug Administration (US FDA). Seaweed operations are inspected once a year as they produce a seasonal crop.

During these inspections aquaculture sites, harvesting boats, vehicles, facilities, equipment, product handling procedures and record keeping are checked for compliance. Operational licenses are reviewed and appropriate corrective actions are taken.

***Once the aquaculture producer has completed the required seafood sanitation training, developed a sanitation (HACCP) plan, and undergone inspection of facilities and vessels, their products may be offered for sale.***

# 6. GOVERNANCE OF AQUACULTURE IN CONNECTICUT

Marine aquaculture in Connecticut is governed by the Connecticut General Statutes, federal law and local ordinances. According to the CGS, the DOA shall have exclusive authority for granting or denying aquaculture permits, except for matters specifically concerning water discharges from such aquaculture operations into the waters of the state, which shall require approval by the DEEP as provided in section 22a-430. Individual structures used for aquaculture as defined in section 22-11c, including, but not limited to, racks, cages or bags, as well as buoys marking such structures, which do not otherwise require a permit under federal USACE regulations and do not interfere with navigation in designated or customary boating or shipping lanes and channels, shall be placed in leased or designated shellfish areas and shall be exempt from the requirements of sections 22a-359 to 22a-363f, inclusive. Aquaculture and other pertinent statutes and regulations are contained in the following chapters:

***State Statutes***

- Chapter 422 Department of Agriculture (§22-11c to 22-11j)

- Chapter 440 Wetlands and Watercourses (§22a-28 to §22a-35)
- Chapter 441k Pesticide Control (§22a-47a)
- Chapter 444 Coastal Management (§22a-90 to §22a-112)
- Chapter 446i Water Resources and Invasive Plants (§22a-359 to §22a-363f)
- Chapter 446k Water Pollution Control (§22a-416 to §22a-430)
- Chapter 490 Fisheries and Game (§26-55; §26-57; §26-157a)
- Chapter 491 State Shellfisheries (§26-187 to §26-237c)
- Chapter 492 Local Shellfisheries (§26-238 to §26-294)
- Chapter 802b Decendents' Estates (§45a-322 to §45a-323)

**Regulations of Connecticut State Agencies:**

- The Coastal Management Program also regulates work in tidal, coastal and navigable waters and tidal wetlands under the CCMA (Section 22a-90 through 22a-112 of the Connecticut General Statutes), the Structures, Dredging and Fill statutes (Section 22a-359 through 22a-363f) and the Tidal Wetlands Act (Section 22a-28 through 22a-35).
- Water discharge requirements are governed by the requirements of Sections 22a-430-3 and 4 of the Regulations of Connecticut State Agencies

***Federal Regulations***

- U.S. Rivers and Harbors Act (Sections 10 & 14; 33 U.S.C. Section 407 and Section 408)
- Department of Defense, Corps of Engineers, Department of the Army Regulatory Program of the Corps of Engineers (33 C.F.R. 320-334)
- U.S. Clean Water Act (Sections 401 & 404: 33 U.S.C., Sec. 1314)
- National Environmental Policy Act (42 U.S.C. 4321 *et.seq.*)
- U.S. Coastal Zone Management Act (16 U.S.C. 1456 c)
- Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA)
- U.S. Fish and Wildlife Coordination Act (16 U.S.C.)
- Marine Mammal Protection Act (Section 302; 16 U.S.C.)
- Endangered Species Act (Section 7; (16 U.S.C. 1531 *et.seq.*)
- Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat provisions; Section 305; 16 U.S.C. 1801 *et.seq.*)
- National Historic Preservation Act (Section 106; 16 U.S.C. 470)

## APPENDIX I

# Contact Information for Permitting Agencies and Extension Services

## PERMITTING AGENCIES

**David Carey**
Connecticut Department of Agriculture, Bureau of Aquaculture
State Aquaculture Coordinator
P.O. Box 97, Milford, CT 06460
(203) 874-0696 / fax (203) 783-9976
Email: david.carey@ct.gov

**Shannon Kelly**
Connecticut Department of Agriculture, Bureau of Aquaculture
P.O. Box 97, Milford, CT 06460
(203) 874-0696 / fax (203) 783-9976
Email: shannon.kelly@ct.gov

**Cori M. Rose**
US Army Corps of Engineers, Regulatory Division
696 Virginia Road, Concord, MA 01742
(978) 318-8306 / fax (978) 318-8303
Email: cori.m.rose@usace.army.mil

**Krista Romero**
Connecticut Department of Energy & Environmental Protection
Land & Water Resources Division
79 Elm Street, Hartford, CT 06106-5127
(860) 424-3399
Email: krista.romero@ct.gov

**R. Michael Payton**
Connecticut Department of Energy & Environmental Protection
Navigation Safety/Boating Access Unit
P.O. Box 280, Old Lyme, CT 06371
(860) 434-8638 / fax (860) 434-3501
Email: mike.payton@ct.gov

**Donald Gonyea**
Connecticut Department of Energy & Environmental Protection
Water Permitting and Enforcement Division
79 Elm Street, Hartford, CT 06106-5127
(860) 424-3827 / fax (860) 424-4074
Email: donald.gonyea@ct.gov

**Shellfish Commissions**
http://aquaculture.uconn.edu/commercial

**Harbor Management Commissions/Harbor Masters**
https://www.ctharbormanagement.org/member.html

## APPENDIX II

# LICENSES AND PERMITS ASSOCIATED WITH AQUACULTURE

| Agency | Application | Fee |
|---|---|---|
| **Joint** | Joint Agency Application for Marine Aquaculture | none |
| **DA/BA** | Shellstock Shipper I License: Combined Harvest and Relay Activities | none |
| **DA/BA** | Seaweed Producer License | none |
| **DA/BA** | Scientific/Resource Assessment License | none |
| **DA/BA** | Shellfish Lease Application | none |
| **DA/BA** | Seaweed Area License Application | none |
| **DA/BA** | Branford Initiative Area License Application | none |
| **DEEP** | Application for Authorization to Place Regulatory Markers | none |
| **DEEP** | Certificate of Permission (COP) Application | $375 |
| **DEEP** | Structures, Dredging and Fill & Tidal Wetlands Permit | $660 (min) |
| **DEEP** | General Permit for Minor Coastal Structures/Coastal Maintenance | none |
| **DEEP** | Request for Authorization under the General Permit for Diversion of Water for Consumptive Use | varies |
| **DEEP** | Coastal Management Consistency Review Form for Federal Activities | none |
| **DEEP** | Application for a Scientific Collector Permit | none |
| **DEEP** | Application for a Permit to Import Live Fish or Live Fish Eggs | none |
| **DEEP** | Application for a Permit to Import, Possess, or Liberate Wild Birds, Mammals, Reptiles, Amphibians and Invertebrates. | none |
| **DEEP** | Request for Natural Diversity Data Base (NDDB) State Listed Species Review Form | none |
| **USACE** | ENGR 4345 Application Form | none |
| **USACE** | Coastal Zone Management Consistency Statement | none |
| **USACE** | Permit Fee (only applies to issuance of Individual Permit) | $100 |