

## Chapter 6. Commercial Shellfisheries

### Brief Overview of Commercial Shellfisheries

- Shellfish aquaculture is a centuries-old industry in Connecticut.
- Aquaculture is defined by statute as “the controlled cultivation and harvest in the waters and tidal wetlands of the state of aquatic animals and plants, including but not limited to, oysters, clams, mussels and other molluscan shellfish, lobsters and crabs, fish and commercially important seaweed” (CGS §22-11C).
- This sector includes the production of oysters, clams and scallops on leased or deeded grounds.
- Shellfish production is the largest and most prominent segment of the aquaculture industry that also includes seaweed and freshwater finfish farms.
- The shellfish industry is comprised of 39 companies with shellstock shipper harvest licenses. Five new oyster companies have recently been permitted for 2016.
- The industry provides over 300 marine-based jobs.
- Aquaculture revenues are estimated in excess of \$30 million dollars annually.
- The total commercial harvest area includes greater than 79,000 acres in town and state jurisdiction, nearly 20% of the Connecticut portion of Long Island Sound.
  - State leases include 311 areas totaling 27,742 acres averaging \$25.00 per acre, generating \$756,745.25 in annual revenue to the State for 2015.
  - Historical franchise oyster grounds include 675 areas totaling 22,422 acres averaging \$4.00 per acre, generating \$88,767.68 in 2015.
  - Town leases are comprised of 16,310 acres for commercial harvest.
- All shellfish growing areas are classified in accordance with the National Shellfish Sanitation Program Model Ordinance. These classifications, established to minimize health risks, may restrict the taking and use of shellfish from some areas.
- Any shellfish area, regardless of classification, may be temporarily closed when a potential public health threat exists as a result of a storm event, flooding, sewage, chemical, or petroleum discharges, or a hazardous algal bloom.
- Changes in growing area classifications are reported annually and the majority of changes in 2015 were minor and administrative in nature.
- The location of Connecticut’s shellfish farms and harvest locations can be viewed on the [Aquaculture Mapping Atlas](#)<sup>12</sup>.

### Farming practices

- Three distinct types of shellfish farming exist. While these farming practices differ, there are a number of operations that conduct one or more types of farming, cultivate multiple species and utilize different geographic locations.
- The first type, referred to as “traditional oyster bottom cultivation,” employs the Eastern oyster *Crassostrea virginica*. This type of farming practice relies on seed from natural beds or private grounds that is then transplanted to privately leased grounds. It is important to note that these ‘natural beds’ are designated for commercial cultivation, and have been established for this purpose for more than a century. These operations either harvest seed directly or purchase it from “seed oystermen” - individuals licensed to harvest seed from natural beds. Harvest time, equipment, seed quantities and size

restrictions are in place and carefully monitored so that oyster populations, and hence oyster businesses, are sustained. These operations are required to report all transplant and harvest activity that theoretically provides for an adequate accounting of inventory control.

- The second type, referred to as “hatchery-based cultivation” occurs with clams (Northern quahogs *Mercenaria mercenaria*) and oysters. While the shellfish seed is from a hatchery, the nursery and grow out methods employed vary among operations. Hatcheries sell a wide range of seed sizes, typically between 10mm to 25mm, but smaller and larger seed, as well as “eyed larvae” are also produced. Clam seed is broadcast over prepared, cultivated beds and grown for 3 to 5 years before harvest. Oyster seed is set in bags, cages or broadcast to the bottom and ready for harvest between 1½ years and 3 years.
- The third type, referred to as “hydraulic clam cultivation,” is currently the largest segment of the industry in terms of harvest quantity (bushels) and dollar (\$) amount. The key difference with this type of production is that operations rely predominately on natural populations of *M. mercenaria* that serve as the source of larvae that recruit to privately leased grounds. A hydraulic sled dredge (rake) is most commonly used for harvest and is towed behind vessels 35-50 feet in length.

### **Regulatory Requirements**

- The Connecticut Department of Agriculture, Bureau of Aquaculture is the lead regulatory agency for commercial shellfisheries and aquaculture.
- DA/BA manages shellfish grounds in collaboration with shellfish commissions in coastal Connecticut towns.
- Leasing provides individuals a mechanism to obtain underwater lands in town and state waters of Long Island Sound for the purpose of planting, cultivating and harvesting shellfish crops.
- A jurisdiction line divides town and state waters. In town waters, the town shellfish commission provides a lease or license, whereas in state waters, a lease is provided by the DA/BA.
- DA/BA leases shellfish grounds through a competitive bidding process. The lease term is three to ten years in duration, and the lessee is required to make a good faith effort to cultivate and harvest shellfish on the lease.
- In the current state leasing structure, an individual files an application on a particular parcel (a polygon of 50 to 200 acres). DA/BA staff investigates whether the area overlaps with any existing leases, and a file review occurs of the previous comments of the representatives of the lobster industry and the finfish dragging industry in that location in order for the Bureau to determine specific language needed to provide protection. C.G.S 26-204 requires that the rights to plant or cultivate shellfish cannot interfere with an established fishing right. The highest bidder deemed qualified is awarded the lease.
- The town leasing fees vary in each municipality. The applicant identifies the area of interest and the shellfish commission conducts a public hearing before making granting the lease.

- To utilize cultivation gear such as cages, bags and long lines, additional permits are required from state and federal agencies. A pre-application screening process begins with the DA/BA. The application review process is conducted with the Department of Energy and Environmental Protection and the U.S. Army Corps of Engineers (USACE), the latter soliciting comments from all other relevant agencies and organizations.
- To become a commercial shellfish harvester, known as a “certified shellstock shipper”, other regulatory requirements may apply including boat and facility inspections, harvester and shipper licenses, and a state boaters’ license to operate a vessel.
- Commercial shellfish operations are required to have a person on staff trained in seafood sanitation. This is achieved by completed a seafood Hazard Analysis and Critical Control Points (HACCP) program course registered through the Association of Food And Drug Officials, and having a state-approved HACCP plan for the operation in place.