

Episode 1: Shellfish Aquaculture- The Basics

In this episode, we explore what it means to be a shellfish farmer in the United States, including covering what shellfish aquaculture is, who does it, where it occurs, who regulates it, and where the farmed shellfish go.

Shellfish Aquaculture- What is it?

Shellfish aquaculture is the farming of oysters, clams, mussels and similar species. People have been growing shellfish since the time of the Ancient Romans and has continued throughout history. Mussel farming, for example, was invented in the 13th century and the farming techniques remained largely unchanged until the 1960s. In the U.S., Taylor Shellfish Farms has been growing oysters in the Pacific Northwest since 1890, and have since expanded to also grow geoducks and mussels.

Like traditional livestock farming, a shellfish farmer works a farm – caring for shellfish until they are a marketable size. According to NOAA Fisheries, in 2016, U.S. shellfish farmers produced an estimated \$340 million worth of shellfish.

Who does it?

Shellfish aquaculture involves a range of people – current or former commercial fishermen looking to diversify, foodies wanting to reconnect with the source of their food or grow the most delicious oyster, or individuals wanting to contribute to sustainable seafood supply or help improve the quality and productivity of our coastal waters. Although there are a few large operations in the United States, like Taylor Shellfish, most are smaller family farms, like Cape May Salt Oyster Company in New Jersey.

How are shellfish raised?

There are a variety of shellfish farming techniques, often depending on the species and the geographic location of the farm. Shellfish can be grown directly on the beach, placed in protective netting or grow bags on the water bottom, or suspended above the sediment on longlines or from rafts.

Unlike cows, pigs, and chickens that need to be fed, shellfish take the nutrients they need directly from the water column. The shellfish start off as tiny larvae collected from the wild or, most commonly, grown in a hatchery. After a couple of weeks, the larvae will transform into tiny, juvenile clams, oysters, or mussels – known as seed. Farmers purchase seed oysters from hatcheries and moved them to their farms where they stay until they reach market size.

Where does it happen?

Most shellfish aquaculture typically takes place in sheltered estuaries and bays, or close to shore. Innovations in gear and techniques, however, are enabling farmers to move further from shore

into the open ocean. Catalina Sea Ranch, for example, is growing mussels six miles offshore California in federal waters.

Shellfish aquaculture predominantly takes place on public lands. Shellfish farmers often need to lease submerged lands beneath navigable or tidally influenced waters from the state. Since shellfish farms are located on public land, their leases and permits may be subject to certain conditions to protect public rights.

Although less common, submerged lands can also be owned by private individuals if the submerged lands were transferred to private ownership prior to statehood under international treaties. Depending on the geographic location, there may also be tribal interests to consider.

Who regulates?

Shellfish aquaculture is overseen by federal and state agencies, and in some cases local governments. Permits may have to be obtained by the U.S. Army Corps of Engineers, the U.S. EPA, and state environmental agencies, while leases are needed from state agencies to use public lands for aquaculture. However, some states, like Massachusetts, have delegated authority for aquaculture leasing to local governments.

Where do the shellfish go?

Marketability is always a factor when it comes to selling farmed shellfish. The marketability of shellfish depends on many factors, including aesthetic impact, grade, and salinity (which affects taste). Growers may also use other tactics, such as unique naming strategies like Murder Point Oysters, to entice buyers.

Shellfish can also be sold in a variety of ways. Oysters can be sold whole, on the half-shell (inspiring our podcast name!), or shucked. Further, they can be sold live, frozen, or preserved, such as by being canned. Other species can be marketed in much the same ways as oysters—live, frozen, or preserved.

Listen to the full episode for more details on the who, what, where, why, and how of shellfish aquaculture!

Keywords: shellfish, aquaculture, farm, oyster, clam, mussel, permit, lease

Resources:

- NOAA Aquaculture: <https://www.fisheries.noaa.gov/topic/aquaculture>
- Taylor Shellfish Farms: <https://www.taylorshellfishfarms.com/>
- Catalina Sea Ranch: <https://catalinasearanch.com/>
- Cape May Salt Oyster Company: <http://www.capemaysalts.com/>
- Murder Point Oysters: <https://www.murderpointoysters.com/>