



Know Your Louisiana Oyster



Oyster Background

Oysters are bivalve mollusks with two asymmetric shells attached at a hinge. They capture plankton and other similar sized particles by filter feeding from the water column. This filter feeding capability improves the water quality, benefitting the entire ecosystem. Oysters can survive in nearly freshwater, but optimal growth occurs in brackish water. If the salinity is too low, development is inhibited. If too high, predation and disease can occur.

Larvae produce a shell within the first few days, changing shape and size as they grow. Each larva has a velum, a ciliated lobe protruding from the shell, allowing them to swim and gather food. Later they develop a foot that they use to crawl and find a place to settle. Using a cement gland, oysters spat, or attach themselves, to nearby hard structures. Adults form vast reef communities providing critical estuarine habitat. Because of this, oysters are often used in coastal restoration projects.



Oyster Culture

Diploid Oyster



Triploid Oyster



Louisiana has more than 200 years of history in cultivating the eastern oyster (*Crassostrea virginica*). Original efforts focused on moving oysters from productive reefs east of the Mississippi River and transplanting these seed oysters to leases on the western side. This improved not just growth, but also flavor.

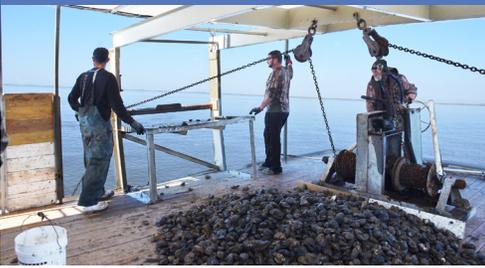
Recent efforts have focused on oyster breeding. Most animals are diploids, meaning they have two sets of chromosomes, but triploid oysters have three sets. The benefit of the triploid oyster is that they are sexually sterile, so they devote energy toward growth, resulting in larger, meatier, faster growing oysters especially during summer months when diploid oysters expend energy on spawning. Triploid food is not rare - seedless watermelon are triploid.

Oyster Harvest

Most Louisiana oysters are harvested from their settling places on substrate in the oyster beds. The Louisiana Department of Wildlife and Fisheries manages the public oyster grounds and monitors the private leases. In partnership with Louisiana Sea Grant, LDWF also operates a hatchery that produces oyster seed for distribution throughout the state.

A new method for rearing oysters has been gaining momentum. Using cages suspended in the water column, oysters can be grown quickly, be sheltered from some predators and increase the total area of production.

Dredging On-bottom Oysters



Off-bottom Oyster Cages



Economic Value

The total economic value for oysters in 2018 was more than

\$180
million

Environmental Threats

Oyster Sweet Spot

Where oysters like to grow in Louisiana
Modified from Melancon et al., 1998

Too fresh for oyster survival

Just right (in most years)

Too salty with predators for survival

Gulf of Mexico (ocean water salinity)

Emerging concerns for the Louisiana oyster include: temperature, sediment and freshwater. Warmer waters can result in both mortality and an increase in disease. Sediment can bury traditional oyster beds or make it harder to filter water. Greater amounts of freshwater change the salinity making it difficult for oysters to thrive in traditional areas. Researchers and managers are studying the impacts of these potential changes.

The sweet spot for oyster salinity is further complicated by wetland erosion bringing in too salty water from the Gulf of Mexico, and large rivers and bayous bringing in too much freshwater. The coastal salinity frequently changes. This makes the stationary oyster a good indicator of estuary survival, not only for itself but for other flora and fauna that also need that “just right” salinity.

Health Considerations

Eating raw or fried oysters is a southern delight and thankfully oysters are highly nutritious! They are low in calories and high in many nutrients needed for overall good health. A 3.5-ounce serving is only about 60 calories and contains protein, iron, vitamins and omega-3 fatty acids.

Despite these benefits, there are some guidelines to follow. Oysters are shellfish, therefore any person with known shellfish allergies should avoid them. Another health risk associated with consumption of raw oysters are food borne pathogens such as Vibrio, noroviruses and Hepatitis A. To avoid these pathogens, consider cooking the oysters. Frying is the most popular technique, but adds calories and fat to our diets that we don't always need. Additional options that are healthful and delicious include broiling; grilling; stuffing and baking; adding them to gumbos, stews and chowders or making an oyster bisque.