



History

From Harvest to Product



In the 1800s, demand for oysters increased due to advancements in hermetically sealed packaging and the growth of the U.S. population.

American patents awarded that improved oyster packaging:

- **1825** tin-plated cans
- **1849** canning machine that increased production from 5-6 to 50-60 cans per hour



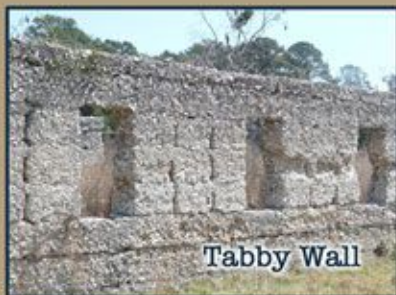
Shucking House

Laying Foundations, Making History

Georgia led the nation in oyster harvest at the turn of the 20th century with nearly 8 million pounds.

In the past, oyster shell was used to make tabby for constructing buildings and roads. This meant that the oyster shell was not returned to oyster reefs, reducing the amount of material for the following year's "spat" survival.

Landings have trended downward for the past 100 years.



Tabby Wall

Historic **Tabby** was constructed from lime, sand and oyster shell.





Importance

Erosion Control & Filtration

Oysters: A Keystone Species

- Oysters are called a **keystone** species because they play a critical role in maintaining the ecosystem.
- Shellfish are efficient filter feeders that help reduce nutrient levels, contaminants and turbidity in the water.
- Oyster reefs help control tidal-creek shoreline erosion by dispersing waves and holding sediments intact.
- Oyster shells are used in alternative erosion-control methods to enhance reef structures, reduce erosion and provide habitat.





Importance

Wildlife Habitat



Oyster reefs provide habitat for fish, crustaceans, invertebrates and birds. These animals use the environments at different lifecycle stages and use the reefs for forage, refuge and reproduction.





Importance

Sustainable Industry

Shellfish aquaculture is an environmentally friendly industry that employs many people. Common shellfish farming operations use "**planted seed**" to replenish harvested stocks. Unlike other farming practices, all shellfish are grown without using chemicals, herbicides, pesticides, fertilizers, antibiotics or feeds.



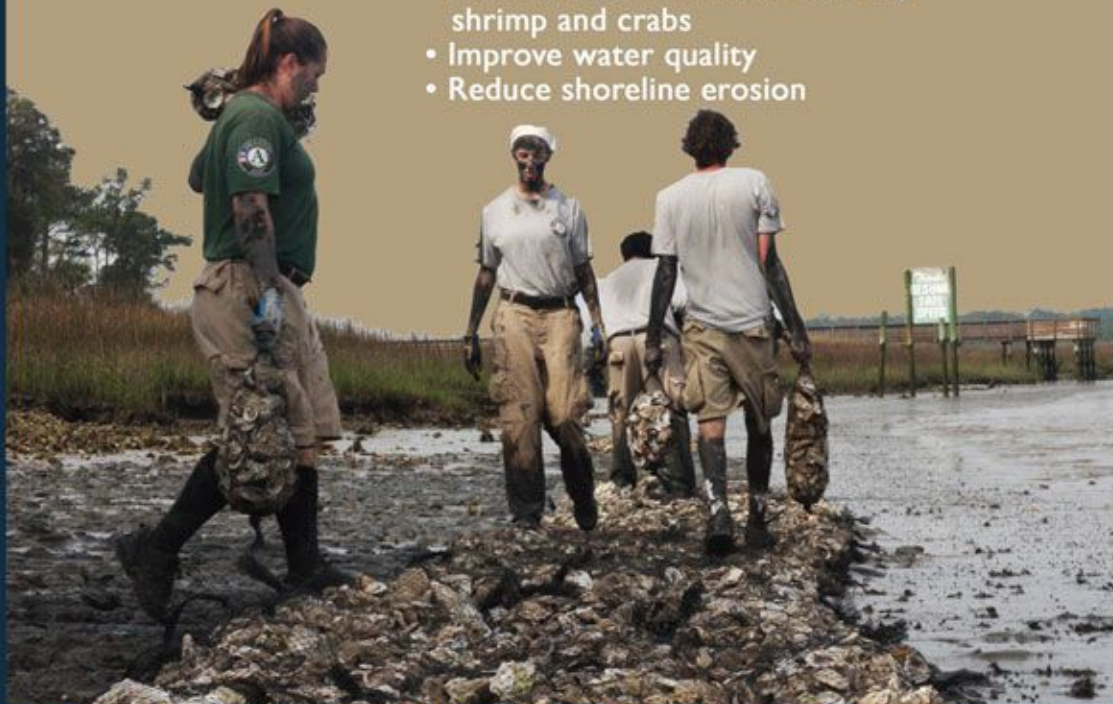


Benefits

Recycle, Growth, Renew

Georgia's Department of Natural Resources manages the state's oyster resources. One management strategy used is "**planting cultch material**" to provide substrate for juvenile oysters known as "**spat.**" By planting cultch, biologists can:

- Restore oyster populations
- Provide essential habitat for fish, shrimp and crabs
- Improve water quality
- Reduce shoreline erosion





Threats

A Resource at Risk

There has been an 85% loss of oyster reefs worldwide since 1900. This is due to a variety of threats:

- Drought can cause elevated salinity levels and reduced dissolved oxygen levels in the estuary.
- During high-saline periods, oysters become susceptible to diseases and parasites.
- Pollution can have a very negative impact on oyster-reef health.
- Oysters are subject to natural predators like boring sponges, whelks, oyster drills, crabs, rays and finfish.
- Habitat destruction in the form of erosion and sedimentation can also be a factor.





Oyster Seeding

A Growing Industry

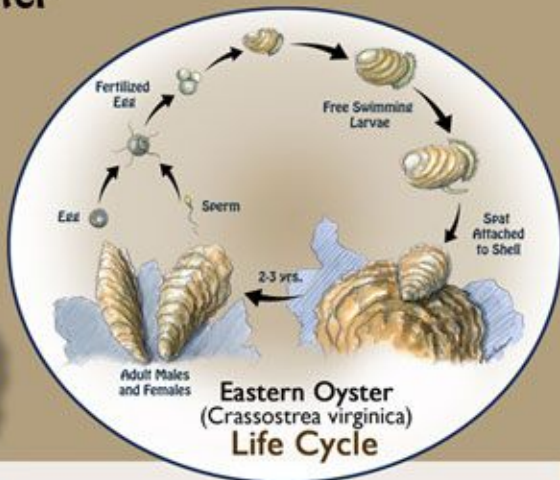
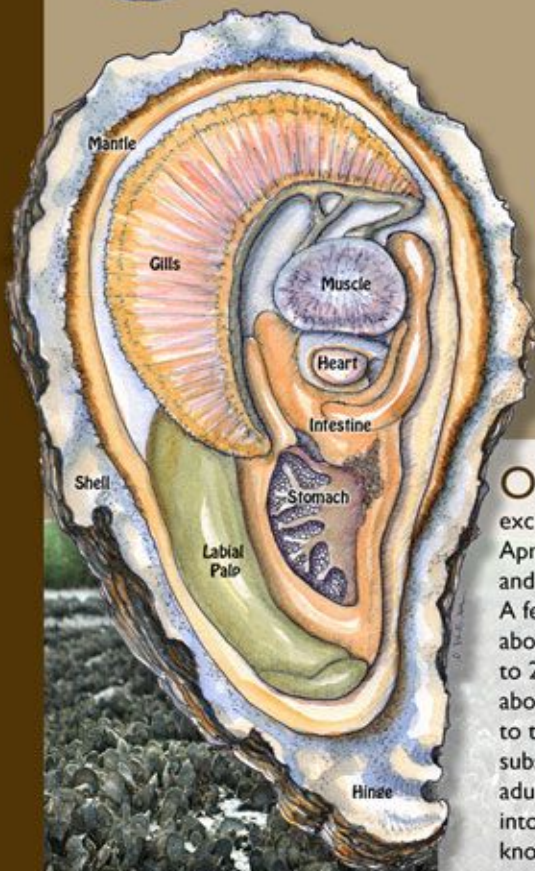
Unlike many other coastal states, during the April-to-September spawning season, Georgia's waters contain an over abundance of oyster larvae, or "spat." Because of their density, oysters in Georgia grow in clusters rather than singly. This means natural oyster reefs are made up of multiple layers of oysters. Due to the high demand for single oysters, specialized materials have been developed to collect spat as single oysters to be used in a variety of aquaculture grow-out techniques.





The Lifecycle

Georgia Oyster



Oysters begin reproduction when water temperatures exceed 68° F. In Georgia, this generally occurs from April to September. Oysters are broadcast spawners and they release eggs and sperm into the water column. A fertilized egg develops into a free-swimming larva in about 6 hours. A fully shelled larva is formed within 12 to 24 hours. The larva remains free swimming for about three weeks. It then develops a foot and settles to the bottom of the water column, where it seeks hard substrate. When it locates a suitable surface (ideally an adult oyster shell), the larva cements itself and changes into the adult form. This newly attached oyster is known as a "spat."