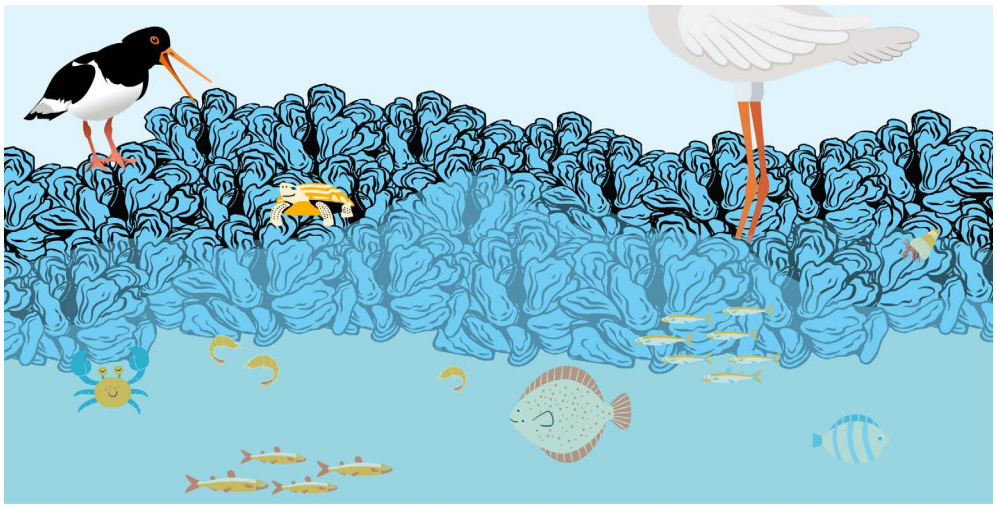
Sea Science

A Series by SCDNR Marine Resources Division

Oysters



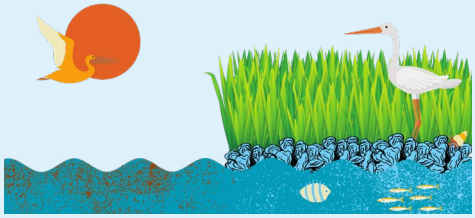
The eastern oyster, *Crassostrea virginica*, is the star of many restaurants and backyard roasts along the East Coast. Its popularity dates back to the earliest civilizations on these lands. Archaeologists have discovered massive mounds of discarded shells that date back thousands of years dotting the coast from South Carolina to Florida. Four thousand years later, oysters continue to be a vital part of South Carolina's economy, culture and ecosystem.

Oysters are bivalves like clams, mussels and scallops. Bivalves have two separate shells connected at a hinge, which are opened and closed by muscles. When submerged, oysters open their shells to allow water, dissolved oxygen and microscopic organisms called plankton to flow over their gills. Microscopic hair-like structures called cilia grab food and bring it to the oyster's mouth. Oysters filter water constantly while submerged and a single adult oyster can filter 50 gallons of water a day. In this way, oysters improve water quality in our tidal creeks and estuaries.

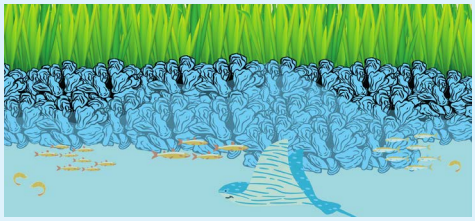
Oysters in South Carolina are most commonly found along the edges of the salt marsh, growing in intertidal zones where water levels change multiple times a day as the tides rise and fall. Although oysters have gills and need to be submerged underwater to breathe, they can survive for long periods during low tide by trapping water inside their shells. Intertidal oysters are tolerant to changes in air and water temperatures. This specialized adaptation allows oysters to inhabit the intertidal zone where they are less at risk from predators and disease. The congregation of thousands of oysters made up of several generations of individuals is called an oyster reef.

Benefits of Oyster Reefs:

Improve water quality

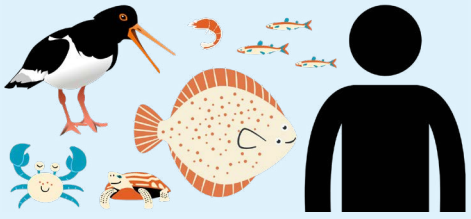


Shelter fish



Prevent erosion

Provide food for many animals



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The Life Cycle of an Oyster

Oysters reproduce by releasing eggs and sperm into the water in a process called spawning. Larvae are formed when sperm meet eggs in the water column. Spawning in South Carolina typically begins in April, when seawater temperatures begin to increase in the spring, and continues until October.

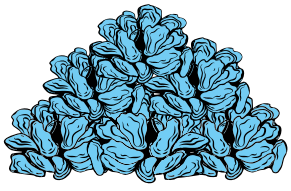
After about two weeks of swimming and feeding in the water column, oyster larvae settle on a hard surface and begin growing into small oysters called spat. Although larvae can settle on any hard surface, they prefer to attach to other oysters. If oyster larvae cannot find a suitable hard surface for attachment, they will die. SCDNR recycles oyster shells from restaurants and backyard roasts to provide surfaces for new larvae to attach to and encourage healthy oyster growth in our marshes.

Harvesting of wild oysters is closed during the summer months (typically June-September) so that oysters can successfully reproduce. During harvest season, anyone with a saltwater fishing license can harvest oysters greater than three inches in size from designated grounds. Oyster harvesting is done by hand at low tide when oysters are exposed and easily accessible. Harvesters are encouraged to break clusters apart while harvesting in order to leave small oysters and shells behind to aid in the recovery of the reef. Hand tools such as pry bars and screwdrivers are often used to break up oyster clusters.

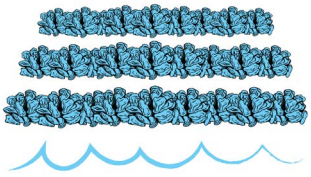
If you eat oysters at home, please keep the oyster shells separate from the trash. Oyster shells can be dropped off at locations across the state so that they can safely be returned to the marsh. Volunteers are welcome to assist the SCDNR South Carolina Oyster Recycling and Enhancement (SCORE) Program year-round by removing trash from recycled shells, bagging oyster shells, or placing shell bags on the shore to build new reefs.

The Oyster Shell Recycling Process

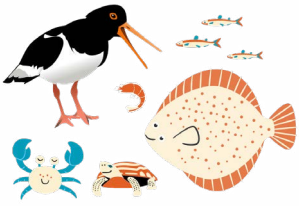
Collect



Quarantine



Plant



Grow