



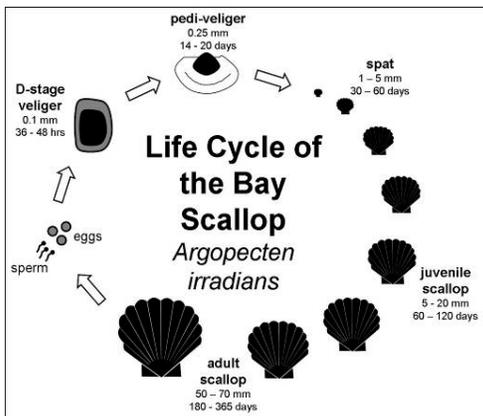
BAY SCALLOPS

Argopecten irradians

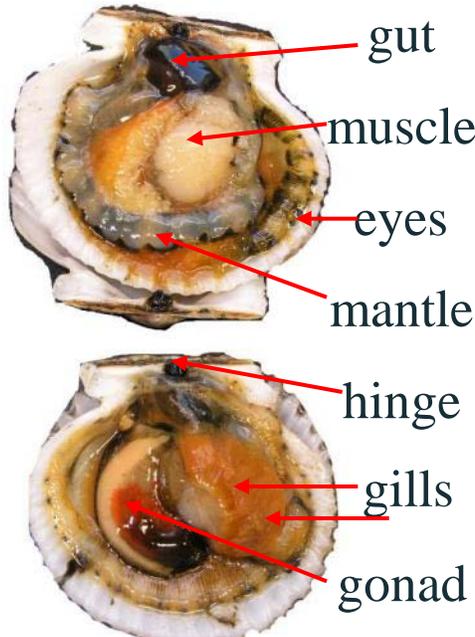
The bay scallop is a member of the shellfish family known as bivalves, named for its two valves, or shells. Its upper shell is a dark mottled color, occasionally bright yellow or orange, and its lower shell is typically white.

LIFE HISTORY

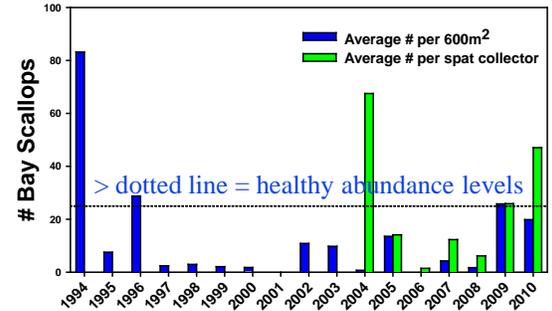
When triggered by falling water temperatures adult scallops release eggs and sperm into the water. After 24 hours the first larval shell forms called a D-shaped veliger, and lasts for 2-3 days. The next stage is the pedi-veliger, during which the larva grows a foot that it uses to find a place to settle. Once they are ready to settle, these small scallops, or spat, attach to seagrass blades using sticky byssal threads. They remain high in the grass beds, protected from predators for several weeks, and when they are big enough (5-10 mm) they drop off onto the seafloor. Bay scallops in Florida generally live 12 months and reach a size of 5-7 cm (~3 inches). These scallops spawn only once in their lifetime.



Scallops open their shells to breathe and feed. Both occur when oxygen and food particles are extracted from water passing over their delicate gills. The large white adductor muscle pulls the two shells shut when predators are detected by the tiny blue eyes arrayed along the outer rim of the mantle. The mantle, similar to our skin, is the tissue that builds the shell. When threatened, the scallop can jump backwards by clapping the two shells together and expelling water forward. During routine swimming, water is ejected backward (towards the hinge) so that the eyes look forward. Some predators include rays, fishes, crustaceans, starfish and snails.



Each summer FWRI scientists monitor adult bay scallop populations using a 300 meter transect (left). Juvenile scallop populations are monitored year-round using citrus bags stuffed with plastic mesh called spat collectors (right).



WATER QUALITY INDICATORS

Bay scallops are very sensitive to sudden changes in temperature and salinity. They are also very vulnerable to changes in water quality. Water made cloudy by floating particles and sediments can clog the scallop's gills. The scallop can only close its shells for a short period of time. Therefore, scallops are very susceptible to harmful algal blooms (HABs) such as red tide.

caged scallops



bay scallop spat



other scallop spat

RESTORATION EFFORTS

Bay scallops were once plentiful throughout waters along Florida's west coast and some scientists believe poor water quality is responsible for declining populations. Currently scientists from FWRI, NOAA, SABRMA, and FGCC collaborating and applying several restoration techniques in St. Andrew Bay including larval releases, juvenile releases, and deploying scallops in cages hung off docks.



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