

## THE ELUSIVE BAY SCALLOP

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Bay scallops (*Argopecten irradians*) occur throughout Florida's Gulf Coast and up to West Palm Beach on the Atlantic Coast. Bay scallops are known as bi-valves, meaning two valves (shells). Scallops open their valves when feeding or breathing and close it when predators approach. Bay scallops feed by filtering particles from the water. It accomplishes this by funneling water across two pathways called siphons. One pathway takes the water in where the particles are skimmed off and then the second pathway expels the remaining filtered water. A single adult scallop can pump as much as 15.5 quarts of water per hour.

An adult bay scallop can reach sizes up to three inches. In the water, they are recognized by their many tiny blue eyes that line the rim of each shell. These eyes detect movement. When threatened, a scallop swims away by quickly closing its shell, expelling the water inside which propels the scallop through the water.

Bay scallops live the majority of their lives in shallow water seagrass meadows. They prefer higher salinity waters (over 20 parts per thousand) and require good water quality conditions. There was a time when bay scallop populations in southwest Florida were healthy enough to support recreational harvest. Today, recreational harvest of bay scallops is only allowed in state waters north of the Pasco-Hernando county line to the west bank of Mexico Beach Canal from July 1<sup>st</sup> through September 10<sup>th</sup>.

In the last couple of years, we have experienced what appears to be a resurgence of bay scallops in southwest Florida. It is important to note that although we have them this year, we may not next year. Bay scallops live a very short life, only 12-18 months. Each fall adult bay scallops reproduce, sending millions on tiny eggs into the water column. Although a bay scallop can produce both eggs and sperm, it cannot do it at the same time - So, each egg relies on other scal-

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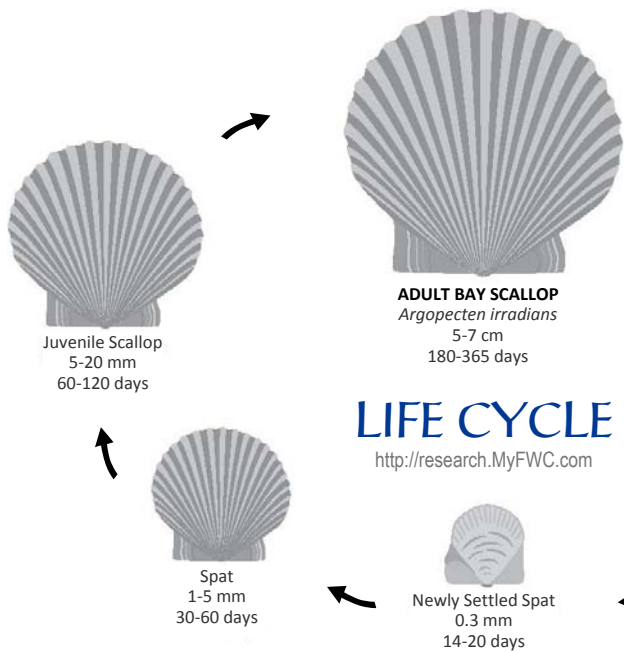
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lops for fertilization. Fertilized eggs become floating larvae within 36 hours. The free-floating eggs and larvae can travel considerable distances away from their source. After another two weeks they become tiny spat and settle out on seagrass blades. From here, they develop their shell and eventually drop to the sea floor. From the time spawned until adulthood, bay scallops are preyed upon. Only one out of the millions of eggs released will ever reach adulthood.

In order to deem an area recovered for recreational harvesting, several large interconnected local populations (a meta population) must reach sustainable levels. This is to ensure sufficient scallop populations are nearby to replenish an area when it collapses for whatever reason.



The free-floating larval phase described above connects local scallop populations and is the critical link in maintaining the larger meta population. If a local population becomes disconnected from the link, it will eventually become extinct unless the link is reestablished.

A perfect example of this is Pine Island Sound. Several years ago, researchers attempted to restore scallop populations in Pine Island Sound. The restoration appeared to be highly successful with scallop recruits at higher levels than anywhere else in the state. But then something happened. Many theories exist, could have been freshwater releases, red tide, illegal harvest - it doesn't really matter. The numbers plummeted and there were no other healthy scallop populations nearby.

Today bay scallops are slowly coming back to Pine Island Sound, but until bay scallop populations in this area are linked to other healthy bay scallop populations at a larger meta population level, a single bad event could again wipe out our gains in this area.

**HOW ARE SCALLOPS MONITORED?** The Florida Fish and Wildlife Conservation Commission have an ongoing monitoring program to evaluate bay scallop populations. Bay scallop recruitment is monitored monthly by deploying collection traps, allowing bay scallop spat to settle and then collecting the traps and counting the spat. Adult populations are monitored by snorkeling a defined area and counting scallops found. 2009 survey results for the big bend areas open to recreational harvesting indicate abundances will be lower than they were last year. Surveys in other areas are ongoing at this time.

Source: FWCC-FWRI Sea Stats – Bay Scallops.

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