Life History of the Pacific Razor Clam

Razor clams are found in stable, sandy, surf-swept beaches of the open coast and some coastal bays. Populations are found in the sub-tidal and inter-tidal areas of the ocean. Only the inter-tidal populations are available to diggers. Although capable of vertical movement through the sand, they are incapable of horizontal movements. Razor clams have the ability of digging up to a foot in a minute and have been recorded at depths more than four feet. Clams are not always found at the surface. They spend part of their time too deep in the sand to be disturbed by diggers or the surf.

A razor clam reaches maturity in its second year of life. Males and females primarily spawn in the spring and summer when the water temperature rises to about 55 degrees Fahrenheit. Spawning can occur year round. Eggs and sperm are released into the water where fertilization occurs. A female, depending on age and size, will produce from 6-10 million microscopic eggs per spawn. The fertilized eggs develop into free-swimming larvae which, depending upon water temperature; develop into juvenile clams in 5-16 weeks. As the larvae begin to resemble adults, shells develop and they settle to the bottom where they dig into the sand.

Inshore ocean currents, water temperature, and climatic conditions all have a strong influence on the number of larvae reaching the beach and their survival. Approximately 95 percent of the set (juveniles reaching the beach) die of natural causes before reaching maturity. Juveniles are usually found in the first few inches of the sand and as they grow will dig deeper into the sand. Growth is slow during the fall and winter but is incredibly rapid during the spring and summer when water warms and food supply (plankton) increases. A harvestable size of 3 ½ inches is obtained in the first year of the clam and about 4 ½ inches by the second year. Growth slows after the second year as energy is used for reproduction rather than accelerated growth.

Several beaches along the Oregon coast have razor clams, though the abundances are much more sporadic than the Clatsop Beaches. Due to the instability of the beaches, the populations may be short-lived. Areas south of the Clatsop Beaches that can produce clams are Indian Beach (Cannon Beach); Cannon Beach; Short Sands (north of Manzanita); Cape Mears Beach (Tillamook); Agate Beach (north of Newport); North Beach and South Beach (Newport); Waldport Beach; North Umpqua Spit (Winchester Bay); Bastendorff Beach and North Spit (Coos Bay); Whiskey Run (Bandon); and Meyers Creek Beach (Gold Beach).

The 18 mile stretch of Clatsop beach produce more than 90 percent of Oregon's harvested razor clams and associated effort. The commercial fishery, on average accounts for only 15 percent of the total harvest of which 80 percent is sold for human consumption. The recent commercial average ranges from 4,000 clams harvested to 450,000 clams harvested. The recreational take, which accounts for over 85% of the total harvest, can range from highs of over 2 million clams harvested to lows of less than 100,000 clams harvested. The recreational harvest estimates include clams not legally retained, also known as wastage. Wastage occurs when diggers return small or damaged clams back to the sand. Upwards of 80 percent of wasted clams die because they are broken, have their necks cut off, or are improperly placed back into the sand. Small clams are vulnerable to handling, pressure caused from digging and washing out from wave action. The law requires that diggers keep the first 15 clams dug regardless of size or condition. If everyone followed the rules, less clams would be wasted and more would be available for the frying pan.

For more information about razor clams and other shellfish visit the Oregon Department of Fish and Wildlife Marine Resource Program Shellfish Web site;
http://www.dfw.state.or.us/MRP/shellfish/razorclams/index.asp

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