

Marine Life in Whatcom County

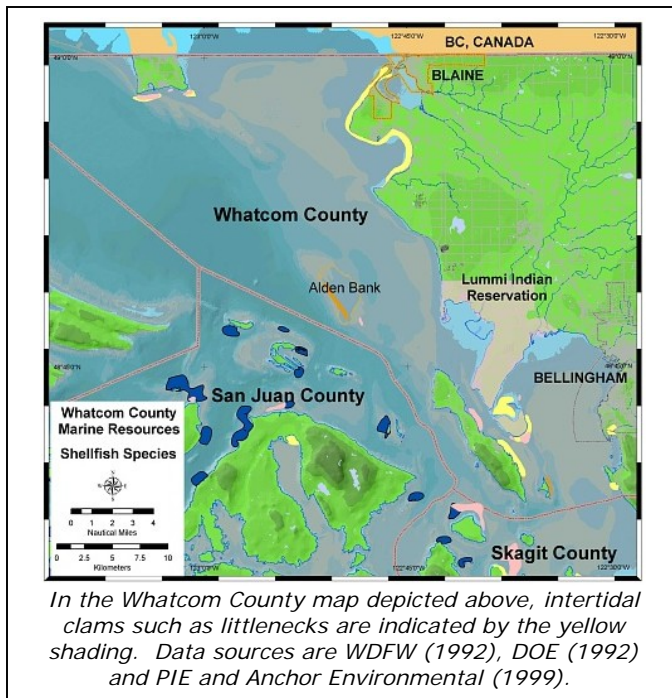
∞ Shellfish Series ∞

Pacific Littleneck Clam (*Protothaca staminea*) Manila Clam (*Venerupis philippinarum*)

Description: Collectively called "littlenecks" or "steamers", the native Pacific littleneck clam and introduced manila clam, or Japanese littleneck, both have circular rings and radiating ridges that criss-cross on the shell. Reaching 3", these hard-shell clams are buff to gray outside, sometimes mottled with color patterns resembling southwest pottery. Manilas have an oblong shape with some purple coloration on the inside of the shell. The native littlenecks have a rounder shape with chalky-white inside the shell.



Pacific littleneck, left, and Manila littleneck, right. Note the slightly more defined ridges radiating from the bulging umbo at the top of the Pacific littleneck. The native littleneck also has a ridge by the umbo, versus the manila that has a depression.



Distribution: Pacific littlenecks range from Baja California to Alaska's Aleutian Islands, primarily abundant in estuaries north of Oregon. Manilas originate from Asian Pacific coasts and are now in many bays of North America since accidental introduction with Pacific oysters. Both are found buried at depths of 1-6 inches in mixed substrates of gravel, sand and mud. Generally, native littlenecks are concentrated in the mid-intertidal reaches while manilas thrive above the mid-tide level. In some areas, these zones will overlap. The MRC is currently conducting surveys of clams in Whatcom County to help more fully describe where littlenecks and other species are found. Birch Bay State Park is one of the most popular areas to look for littleneck clams in Whatcom County.

Life cycle: Triggered by the warming waters of spring, the sedentary adult clams release spawn into the water column from April to September. Once the eggs are fertilized, embryos develop into larvae that drift with water currents and feed on phytoplankton. After 3-4 weeks of growth the larvae develop a foot and eye-spot, settle to the bottom, attach to a suitable substrate, metamorphose into a juvenile clam, and burrow into the substrate. After 2 years the clams are about one inch in diameter and sexually mature. These clams require over 3 years of growth to reach 1½", the legal harvest size.



These clammers will backfill their holes replacing undersized clams, preventing smothering of clams under piles, and preventing trip hazards for others.

Ecology: As the estuary tides flood their burrows, the sedentary clams extend their necks to siphon passing water, filter-feeding on plankton and suspended detritus (bits of decaying organic matter). Predators of the littlenecks - crabs, octopi, snails, diving ducks - meet the challenge of finding the clams, digging them from the gravely mud and breaking or grinding through the shell. Often, gulls can be seen dropping and breaking clams on rocks or other hard surfaces.

Economic Value: An estimated seven million pounds of clams are produced commercially in Washington State annually, the majority being farmed manila clams. Steamers also attract tourists and recreational diggers, who at low tide, flock to public beaches to dig or rake their dinner. In 2000, an estimated 22,350 lbs. of littlenecks were collected at Birch Bay State Park alone.

Littlenecks and other clams remain an important food and economic resource for tribal groups of the Northwest. A creation story tells of how Raven first discovered humans in a clam and set them free.

Sources:

Kozloff, Eugene. *Seashore Life of the Northern Pacific Coast*. 1983

Washington Department of Fish & Wildlife
<http://www.wdfw.wa.gov/fish/shelfish/beachreg/1clam.htm>
<http://www.wdfw.wa.gov/fish/harvest/2000sport.htm>

Pacific States Marine Fisheries commission
http://www.psmfc.org/habitat/edu_pacclam_fact.html

Pacific Coast Shellfish Growers Association
<http://www.pcsqa.org/>

For More Information:

Whatcom County
 Marine Resources Committee
 (360) 676-6876
<http://whatcom-mrc.wsu.edu/MRC/index.htm>

Current Status

The populations of littleneck clams remain stable. However, due to the clam's sedentary nature, the population at any given location is particularly vulnerable to human disturbance and pollution.

- Siltation caused by upland development, logging or marine dredging activities can smother clams.
- Copper released by anti-fouling boat paint is particularly harmful to Pacific littlenecks.
- Repeated digging may effect clam survival, reducing the numbers and age or size.
- Harvesting too many clams or clams below the legal size can reduce the number of reproductively viable clams. For the latest regulations visit the WDFW website at: <http://wdfw.wa.gov/fish/shelfish/beachreg/>.

Furthermore, as filter-feeders, clams absorb toxins and pollutants, which build up in their body tissues. Consumers of the clams - people, sea ducks, etc. - may be affected by the higher concentrations of biotoxins or heavy metals.

Marine Biotoxin Hotline

People digging clams for consumption must be aware of beach closures due to paralytic shellfish poisoning (PSP) and domoic acid poison (DAP) - two deadly toxins produced when certain algae reach abundant levels. PSP is also commonly referred to as Red Tide. Clamming beaches may also be closed for elevated levels of fecal coliform bacteria - bacterial pollution indicating possible human sources of disease-causing organisms. More information on shellfish closure zones can be obtained from the Washington Department of Health at 1-800-562-5632 or www.doh.wa.gov/ehp/sf/biotoxin.htm.



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