

For More Information

Contact the Clallam County Environmental Health Division at (360) 417-2258 or the Planning Division at (360) 417-2277; or the Washington Department of Fish & Wildlife at (360) 902-2200.

Before gathering shellfish, always check with the Marine Biotoxin (Red Tide) Hotline at 1-800-562-5632.

To locate publicly owned beaches, call (360) 902-1234. "Your Public Beaches, Strait of Juan de Fuca," is available for a small fee from the State of Washington Department of Natural Resources, Photo & Map Sales, P.O. Box 47031, Olympia, WA 98504-7031.

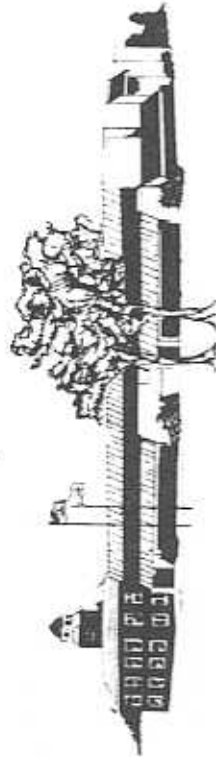
To receive a copy of "Salmon, Shellfish, Bottomfish, Sportfishing Guide," call (360) 902-2200.

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CLALLAM COUNTY

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CLALLAM COUNTY
ENVIRONMENTAL HEALTH DIVISION

**RECREATIONAL
SHELLFISH
HARVEST**



MARINE TOXINS & POLLUTION

PARALYTIC SHELLFISH POISONING (PSP)

PSP is a serious, sometimes deadly illness. It is caused by eating molluscan shellfish that have consumed large amounts of a toxin-producing algae called *Alexandrium catenella*. The nerve toxin becomes concentrated in the soft tissue of the shellfish and can reach dangerously high levels in a short period of time. Although the toxin does not harm the shellfish, it is activated by the digestive process of humans and can cause illness.

All shellfish commonly collected and eaten in Washington can accumulate PSP. Different shellfish take in and expel the toxin at different rates. For example, mussels tend to take up and lose the toxin rapidly, while butter clams and scallops tend to take in and retain toxin for extended periods of time. This is why some beaches may be closed to butter clam and scallop harvesting while other species are still considered safe to eat.

PSP causes muscles to stop working. The first symptom is a tingling sensation, usually on the lips and tongue progressing to fingers and toes, loss of arm and leg control, and difficulty in breathing. If enough toxin is consumed, death can result from lung failure. Symptoms may occur minutes to hours after consumption.

The toxin acts rapidly and there is no antidote. Immediate treatment is essential; induce vomiting and seek medical attention. **The best way to prevent PSP is to call the Marine Biotoxin Hotline BEFORE you harvest EVERY TIME. Also look for signs posted at recreational shellfish sites listed in this brochure!** The State Dept. of Health and Clallam County, with the help of volunteers, test shellfish for PSP on a regular basis. Advisory signs are posted when toxin levels are too high. **Note: Cooking will not destroy PSP toxin.**

DOMOIC ACID POISONING (DAP)

Domoic Acid is a toxin produced by some algae. When shellfish consume the algae, the shellfish can concentrate the domoic acid in their tissues, making them poisonous for human consumption. Although this has not been a problem along the Strait of Juan de Fuca or in the bays, it has caused problems in Razor clams harvested along ocean beaches. **The best way to prevent DAP is to call the Hotline BEFORE you harvest.**

POLLUTION

BACTERIA & VIRUSES

Shellfish are filter feeders, using their gills to filter food particles from the

water. Shellfish living in areas contaminated by human or animal waste ingest harmful bacteria and viruses. Diseases can be transmitted to people who consume contaminated shellfish. This is why certain beaches that are near contamination sources are unsafe for harvesting shellfish.

...Do not harvest shellfish from closed areas...

To reduce the risk associated with bacterial and viral contamination, do not eat raw shellfish. Cook shellfish thoroughly to reach an internal temperature of 140 degrees F. **Note: Heat will not destroy PSP toxin.**

Illnesses associated with pollution sources are:

Bacterial: *Gastroenteritis*: diarrhea, abdominal cramps, nausea and vomiting within 14–28 hours.

Viral: *Hepatitis*: fever, nausea, abdominal cramps and jaundice within 10–30 days.

CHEMICAL

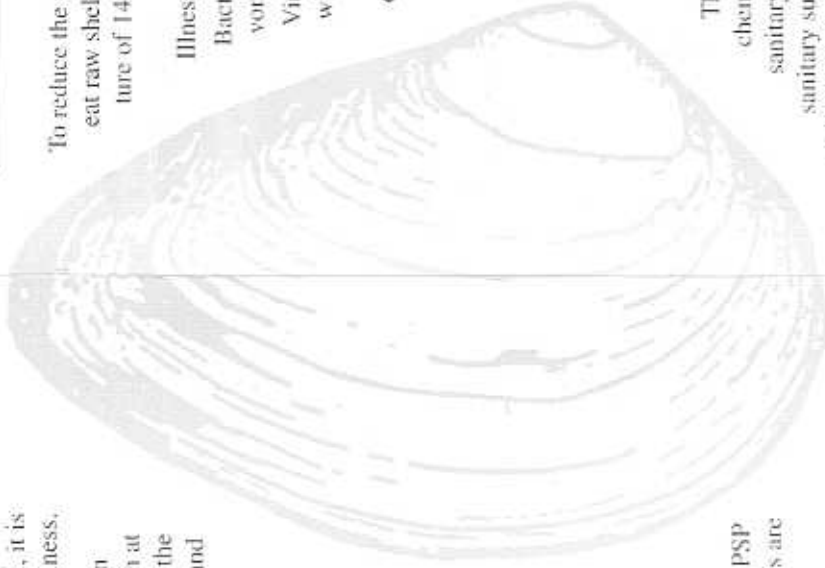
Chemical pollution is also of concern. Chemicals dumped in the water can accumulate in fish and shellfish making them unsafe for human consumption.

Symptoms from chemical ingestion vary with the different chemicals, ie: oil, Mercury, etc. Consult your physician and/or Clallam County Environmental Health for more information.

The waters of Clallam County are not routinely tested for chemicals. The Washington State Department of Health conducts sanitary surveys of our shellfish areas every three years. During these sanitary surveys, pollution sources are identified. It is important that the public help to identify and prevent pollution sources. Please refer to the back of this brochure for more information.

Efforts to maintain safe shellfishing waters

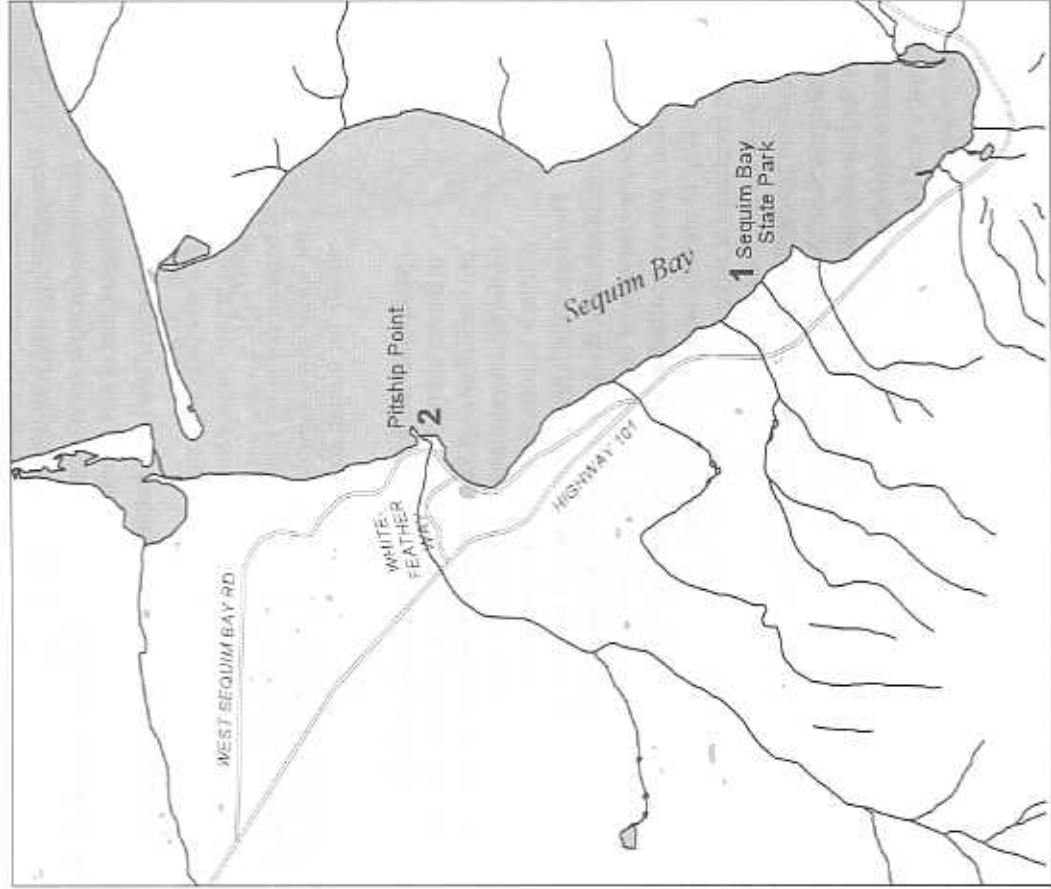
Washington State Department of Health, tribal agencies, volunteer organizations like the Baywatchers, Washington State Parks and Recreation, Department of Natural Resources, Washington Department of Fish and Wildlife, the shellfish industry and Clallam County are all working together to ensure safe shellfish harvesting areas. Water and shellfish tissue sampling, sanitary surveys, pollution identification and remediation, and education are just some of the activities taking place. If you would like more information on these or other programs or would like to get involved please refer to the back of this brochure.



WHERE TO GO?

Most of Clallam County tidelands are privately owned. However, there are four publicly owned tidelands with recreational shellfish harvesting resources accessible by land.

- 1. Sequim Bay State Park**
 4,919 feet of shoreline managed by the Washington State Parks and Recreation Commission.
 (360) 683-4235.
Location: 4.4 miles east of Sequim Avenue on Highway 101.
- 2. Pitship Point/John Wayne Marina**
 500 feet of public access tidelands managed by the Port of Port Angeles.
 Harbormaster: (360) 683-9898.
Location: 2.6 miles east of Sequim Avenue on Highway 101, then north on Whitefeather Way.



3. Dungeness National Wildlife Refuge

Managed by the U.S. Fish and Wildlife Service (360) 683-5847.

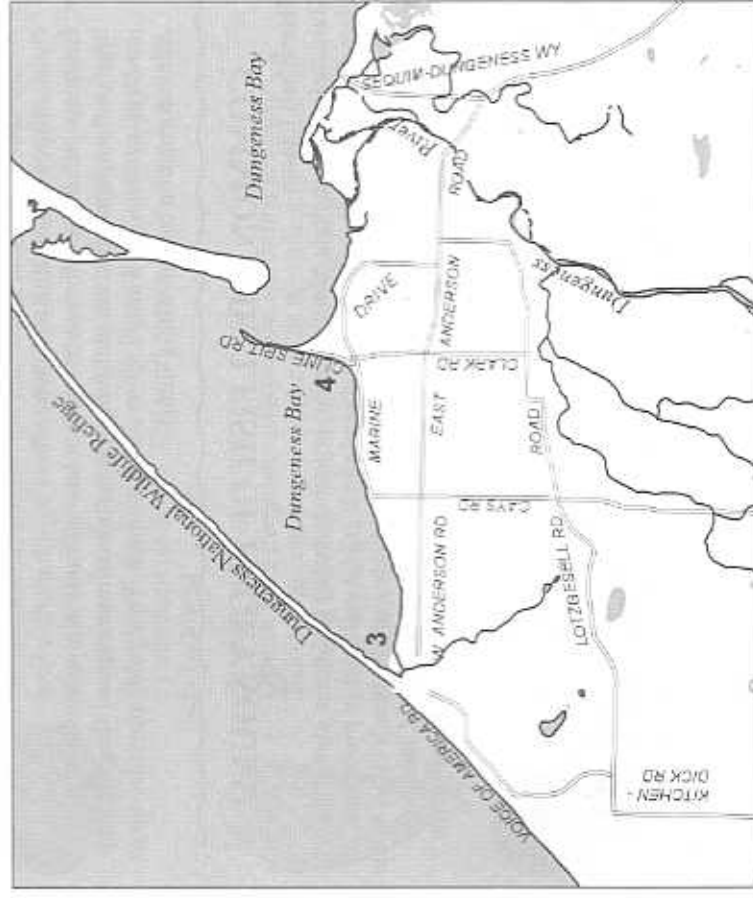
Location: 4.5 miles west of Sequim Ave. on Hwy. 101, then north on Kitchen-Dick Road, east on Lotzgesell Road to Refuge signs. Pedestrian access through Dungeness Bay Recreational Area.

4. Cline Spit County Park

237 feet of public access tidelands managed by Clallam County Parks and Recreation.
 (360) 417-2291

Location: North on Sequim Avenue, then follow to East Anderson Road and Marine Drive, follow Marine Drive to Cline Spit Road.

**Sequim Avenue is also referred to as Sequim-Dungeness Way.



Look for posted warnings of unsafe harvesting conditions!

REQUIREMENTS & RECOMMENDATIONS FOR RECREATIONAL SHELLFISH HARVEST

- A license is required and must be displayed on the outside of clothing. Most sporting stores have licenses available for purchase.
- Clams must be dug by **hand or hand-operated** fork, pick or shovel.
- Each digger must use a separate container for the shellfish. Digging equipment may be shared.
- Backfill all holes!** Backfilling will reduce clam mortality and injury to other diggers and wildlife.
- Never attempt to extract a clam by its neck. The neck will break off leaving the clam to die.
- Always call the **Marine Biotoxin Hotline BEFORE** clamming.
1-800-562-5632
- All oysters must be shucked on the beach, and the shells left at the same tidal height as the oysters were found.
- Avoid digging in eelgrass beds. This will disturb the growth of juvenile clams, crabs, salmon fry, herring and many others.
- Every species has a different per person harvest limit. Know the harvesting limit of the species you are gathering. Pick up a current copy of the *Washington Dept. of Fish and Wildlife Sport Fishing Guide*. This guide provides up to date information on harvesting limits.

COMMON SHELLFISH OF PUGET SOUND

Hardshell Clams

Hardshell clams include Manila, native littleneck, butter and horse clams. These clams are found on beaches having mixed sand, gravel and mud in protected bays. The smaller clam species are usually found higher on the beach close to the surface while the larger clams are buried deeply on lower beaches. Clams are often harvested by using shovels or long-tined rakes. Rakes are more effective and the least damaging to clams and beaches.

Littlenecks and Manilas

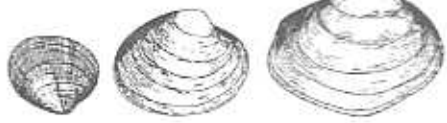
Manila and native Littleneck clams are very similar in appearance and can reach three or four inches in length. The shells of both species have concentric rings and radiating ridges. Manila clams have oblong shells with a faint, variable geometric pattern outside and a purple stain inside. The native littleneck clam has a round, chalky-white shell.

Butter

Butter clams grow to be six inches long and have chalky-white shells with only the concentric rings.

Horse

Horse clams can reach eight inches in shell length. The shell is chalky-white with yellow-brown patches of skin-like perostracum and is flared around the neck. The neck, which cannot be withdrawn into the shell, is tipped with a leather-like flap.



Softshell clams

Softshell clams can become six inches long. They have chalky-white shells which are rounded at the foot and pointed at the neck. These tasty clams are usually buried 8 to 14 inches in mud and sand bottoms near the mouths of rivers. Softshell clams are harvested with long-tined rakes.

Cockles

Cockles are easily recognized by their light brown color and their prominent, evenly spaced ridges which fan out from the hinge area to the shell margin. Cockles are found near the surface of sand-gravel beaches throughout the Puget Sound. You can gather them by hand or with a garden rake.



Scallops

Three species of scallops are found in local waters—the small pink, which grows to around 2.5 inches, the large weathervane scallop which may reach nine inches, and the heavy-shelled rock scallop which can also reach nine inches. The latter is often covered by tubeworms, barnacles, and other organisms. Scallops are found subtidally throughout the Puget Sound, and the Strait of Juan de Fuca. They are usually taken by commercial divers. The sport harvest of scallops is usually not allowed.

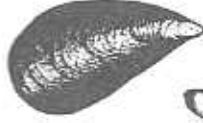


Oysters

Oysters have irregular, chalky-white shells that are often distorted to conform to the shape of the object to which the oyster is attached. Oysters are often found in groups attached to one another or a common object such as a rock or shell. Most recreational oyster harvest occurs in Hood Canal. All oysters in Clallam County are farmed, and most are privately owned by commercial operations. Spawning during the summer reduces the quality of the oysters for eating.

Mussels

Mussels have oblong, blue-black shells and are usually found in dense mats attached to solid objects by their many strong fibers called byssal threads. The blue bay mussel of Puget Sound grows to about three inches while the California mussel, which is found on the open coast, can grow to over six inches. It is illegal to harvest mussels from Salt Creek Park.



Geoducks

The geoduck is the world's largest burrowing clam and can weigh as much as ten pounds. The geoduck's large neck lacks the leather-like flap of the horse clam. Geoducks live buried two to three feet deep in the sand or mud. They are rare on intertidal beaches but can be dug on extremely low tides.

