

Marine Life in Whatcom County

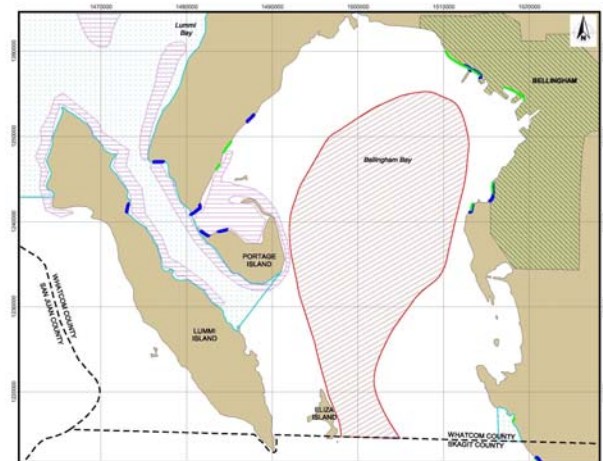
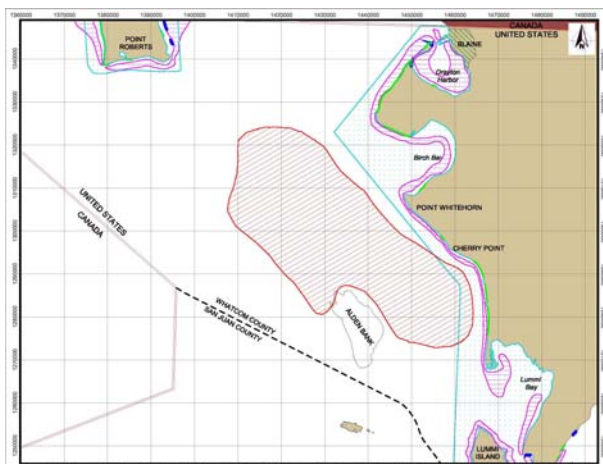
∞ Fish Series ∞

Surf Smelt (*Hypomesus pretiosus*)

Description: Surf smelt are a schooling forage fish that reach up to 9 inches in length. This fish has a green back with a silver or yellow band on its sides. Some other defining characteristics of the surf smelt are their tiny scales and small, rounded adipose fin.



Surf smelt. Photo: Dan Pentilla, WDFW



These Whatcom County maps were created by Anchor environmental using data provided by WDFW. The solid green areas on the shoreline indicate surf smelt spawning beaches.

Distribution: Surf smelt can be found on coasts from Southern California to Alaska and are abundant in shallow nearshore areas of the Northwest Straits and Puget Sound. Major spawning areas of Whatcom County include beaches at Birch Point, Cherry Point and Squalicum Harbor, among others. Newly documented spawning beaches in Whatcom County are being identified through spawning habitat surveys.

Reproduction:

In this region, surf smelt spawn year round on high intertidal beaches of sand and gravel. Under only a few inches of slack water on the high tide, the female surf smelt deposits her eggs, fertilized in unison by a male.

The small, sticky surf smelt eggs adhere to sand grains. Depending on beach temperatures, incubation may take from 2-8 weeks until, at another high tide, the larvae emerge and join the plankton, drifting in nearshore environment.

Although the movements of juveniles and adults are not well known, surf smelt are thought to return as adults in their second year to spawn where they hatched and may return seasonally thereafter for up to five years - if not consumed as prey.



Surf smelt eggs. Photo: Dan Pentilla, WDFW



Marine riparian vegetation provides important shade which protects surf smelt eggs from desiccation (drying out).
Photo: Whatcom County Water Resources

Economic Value: While surf smelt have been gaining attention for their role as food source of other highly valued fish, the surf smelt themselves have supported commercial, sport and tribal subsistence fisheries. The annual commercial catch for Washington State through 1995 was 100,000 tons, with quantities increasing as new markets were developed.

The sport fishery for surf smelt runs from July to January. Unlike other baitfish, surf smelt are popular for human consumption as well as serving as bait for larger fish.

Traditional tribal practices involved catching the fish in smelt nets and drying them for consumption later in the year.

Sources:

WDFW Surf smelt website
<http://www.wa.gov/wdfw/fish/forage/smelt.htm>

WDOE, Puget Sound Shorelines, Surf Smelt website
<http://www.ecy.wa.gov/programs/sea/pugetsound/species/smelt.html>

For More Information:

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

Ecology: Juvenile surf smelt rear in nearshore areas while feeding on plankton. Little is known about the movements of adult surf smelt, until their return to spawning grounds at the age of one or two years.

Surf smelt, like other forage fish, play a critical role in the local marine food web, as their name suggests. These fish are the food source for a variety of other marine species higher in the foodweb, such as salmon, seals, ducks, and wading birds. The condition of forage fish populations are vital to the health of other marine species populations that rely on forage fish for a primary food source.

Current Status

Growing concern over the importance of forage fish to endangered salmon and marine ecosystems has led to increased efforts to document surf smelt spawning habitats, with over 200 miles of Washington's shoreline confirmed so far.

Surf smelt habitat is being inventoried in Whatcom County in 2002-2004 through a joint effort of the Marine Resources Committees and Washington State Department of Fish and Wildlife.

Continued human development on shorelines raises particular concerns as forage fish spawning habitat is altered:

- Removal of shoreline vegetation reduces the shading of the high intertidal zone, causing surf smelt eggs to dry out.
- Construction of bulkheads and other such shoreline armoring can bury spawning habitat and increase erosion at the base of the bulkhead, and prevent the renewal of fine beach sediments key to surf smelt spawning habitat.

The Washington Administrative Code Hydraulic Code Rules now include consideration of surf smelt habitat in the permitting of in-water construction activities. Identified surf smelt spawning sites have been given "no net loss" protection.



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