

# Critical Spawning Habitat for Surf Smelt, Sand Lance, and Rock Sole in Puget Sound, Washington



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE  
SURF SMELT, SANDLANCE, ROCKSOLE  
AND HERRING INFORMATION FOR T24R02E

Map Scale - 1 : 63360 Date: February 22, 2000  
Coordinate System - State Plane South Zone 5626 (NAD27)  
Cartography by WDFW Habitat Program GIS

- |                             |                         |
|-----------------------------|-------------------------|
| <b>MARINE RESOURCE DATA</b> | <b>OTHER SYMBOLLOGY</b> |
| Surf Smelt Spawning Area    | Township Lines          |
| Sandlance Spawning Area     | Section Lines           |
| Rocksole Spawning Area      | Rivers and Streams      |
| Herring Spawning Area       |                         |
| Herring Holding Area        |                         |

**PLEASE NOTE**  
The spawning information for surf smelt and schools are offset from the shoreline for display purposes only. The typical depths of herring spawning are +3 feet to -10 feet MLLW.

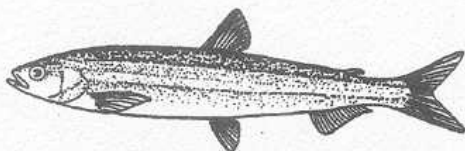


**DISCLAIMER**  
This map only includes information that Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of resources.

Much of this information is based on field surveys by WDFW biologists, however some portions come from other organizations or individuals. This information has been generalized for the release to the general public. To ensure appropriate use or for more specific information, users are encouraged to consult with WDFW biologists.

**MAIN DATA SOURCES**  
Marine Resource Data: WDFW Fish Program, Marine Resources Division.  
1:100,000 quadrangle maps: US Geological Survey.

## Surf smelt



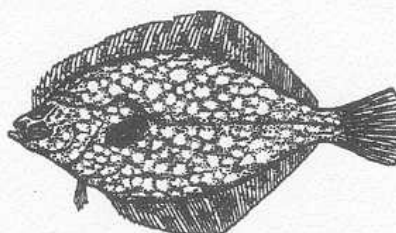
Surf smelt are common resident fish in many areas of Puget Sound. They appear to be relatively short-lived fish with most spawning populations comprised of one- and two-year old fish. Spawning occurs at high tides on mixed-sand and gravel substrates in the upper intertidal zone generally higher than +7 feet in tidal elevation. Smelt spawning occurs nearly year round. Smelt eggs incubate for two to six weeks.

## Sand lance



Virtually nothing is known of the life history of adult sand lance in Puget Sound. Sand lance spawning habits appear to be quite similar to those of the surf smelt. Sand lance spawning is confined to the upper intertidal zone, generally higher than +5 feet in tidal elevation. Sand lance spawning season lasts from November to February. The incubation period for the eggs is about 30 days.

## Rock sole



In Puget Sound, rock sole spawn between February and mid-April. Eggs are yellowish, demersal and adhesive with a diameter of less than 1 mm. Hatching occurs in 9 to 18 days depending on water temperatures. Adult rock sole are commonly found in depths between 20 and 30 fathoms. There is an onshore movement during the summer.