



Forage Fish Overview



Forage fish are small schooling fish found in the Salish Sea. They are extremely important links in their marine ecological food web and are indicators of health and productivity of marine ecosystems. Forage fish and their eggs are key food source for birds, seals, fish (including salmon), and other animals. There are three types of forage fish in Salish Sea: pacific herring, sand lance, and surf smelt. All three types of forage fish spawn along the coast of Snohomish County.

Pacific Herring



21 Puget Sound Populations



Spawn on Marine Vegetation



Cherry Point and Elliot Bay Populations are Declining



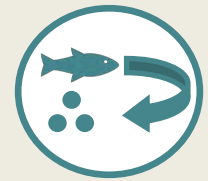
Sand Lance



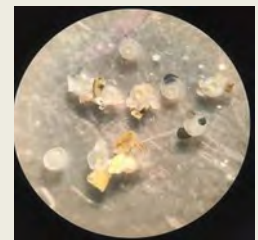
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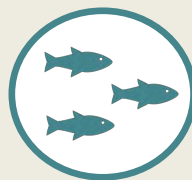
Spawn on Fine Sand



Repeat Spawners



Surf Smelt



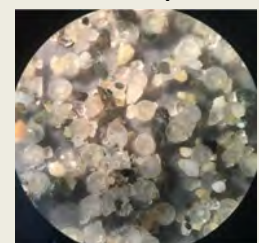
Only One Stock



Spawn on Sand



Populations are either Summer or Winter Spawners



Fun Fact: The name forage fish comes from the fact that these fish are food for larger predators like orcas and salmon

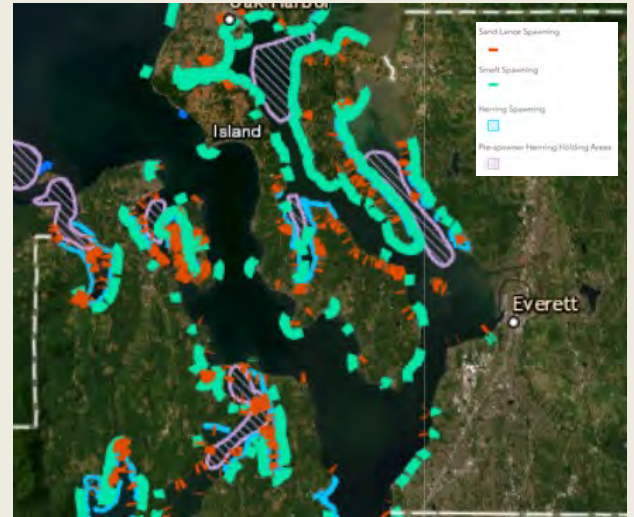




Forage Fish Overview



Throughout Washington Marine Resource Committees (MRCs) assist County governments in prioritizing and addressing marine issues. The Snohomish MRC works with the Department of Fish and Wildlife to complete monthly forage fish surveys for the forage fish that spawn in beach sand, Sand Lance and Surf Smelt. These surveys help managers and citizens know how local populations of sand lance and surf smelt are changing over time.



General Spawning Times Across Puget Sound

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
Pacific herring												
Sand lance												
Surf smelt												

The Forage Fish Spawning Survey Process : Volunteers take 4 evenly spaced samples along a transect line. These samples are analyzed for grain size and for egg presence. To find eggs in the sample, volunteers use sieves and a man-made vortex which extracts the lightest material that can be sent to a lab and viewed under a microscope to find eggs.

