

Surf Smelt Eggs Discovered at Willows Beach: An Exciting Find for Forage Fish Conservation

January 31, 2025 – An exciting discovery has been made at Willows Beach, marking a big milestone for local forage fish conservation. [Peninsula Streams and Shorelines \(PSS\)](#), a non-profit dedicated to restoring and protecting local watersheds, has been running a volunteer-led community science program since 2018 to monitor where and when surf smelt and Pacific sand lance spawn along the beaches from Sidney to Sooke. On January 11, 2025, this effort paid off with the first-ever detection of surf smelt eggs at Willows Beach, an exciting breakthrough that underscores the importance of long-term monitoring and shoreline stewardship.

Forage fish are the foundation of a healthy marine ecosystem, serving as a crucial food source for salmon, seabirds, and marine mammals. They provide the vital link between the ocean's lower and upper food chain, sustaining species that coastal communities and fisheries rely on. Surf smelt and Pacific sand lance—two key species—spawn directly in the intertidal zones of sand-gravel beaches, their 1 mm eggs incubating within the sand for weeks until hatching. However, these delicate habitats are increasingly threatened by shoreline development, pollution, and the cumulative effects of climate change. By gathering long-term spawning data, scientists and conservationists can pinpoint critical habitats, inform restoration and beach nourishment efforts, and advocate for coastal policies that protect these vital spawning grounds.

Volunteer Tony Otten joined the PSS forage fish monitoring effort in 2023, stepping up as a team lead to coordinate the year-round sampling of beaches in the Oak Bay area alongside a volunteer team. Despite years of occasional sampling at Willows Beach since 2019, no eggs had ever been detected—until now. This discovery reinforces the importance of ongoing monitoring, the call for public awareness of the sensitive spawning habitats that exist on our beaches, and the need to protect and restore these crucial beaches before they become unsuitable for spawning.

Surveying for forage fish eggs is like reverse gold mining—a large sample of sand from the upper intertidal zone of a beach is passed through a series of sieves before entering a water vortex, where lighter material like eggs and the finest sediment float to the middle and get captured on a screen. This condensed sample is then carefully analyzed under the microscope in search of forage fish eggs by trained PSS volunteer microscopists. The data collected from these surveys is publicly available on the [Pacific Salmon Foundation's Marine Data Centre](#), and is currently being used by environmental managers across sectors. This work is funded by municipalities like Oak Bay, as well as the Pacific Salmon Foundation and TD Friends of the Environment.

PSS invites community members to join the forage fish monitoring program, learn about their beaches, and take action to safeguard the 35+ critical spawning beaches identified to date. To learn more, visit [peninsulastreams.ca](#). Homeowners can also check out the [Green Shores Program](#) and the [Resilient Coasts for Salmon Program](#) to learn more about how they can minimize the environmental impacts of their shoreline properties.

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Figure 1: Surf Smelt Eggs from Willows Beach

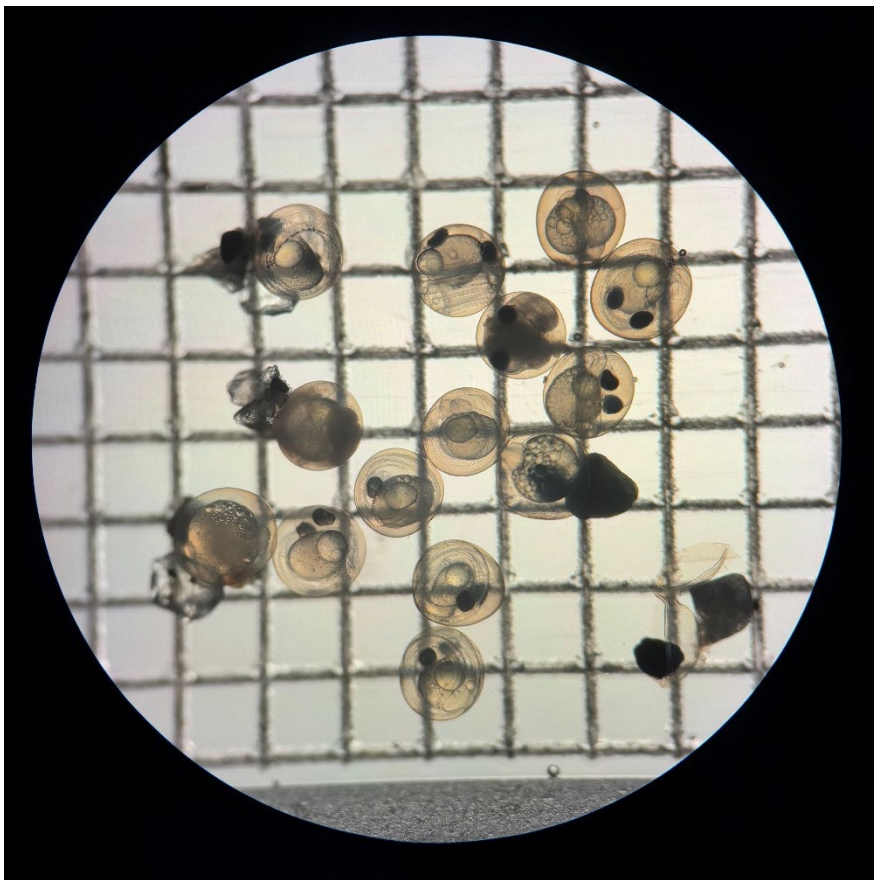
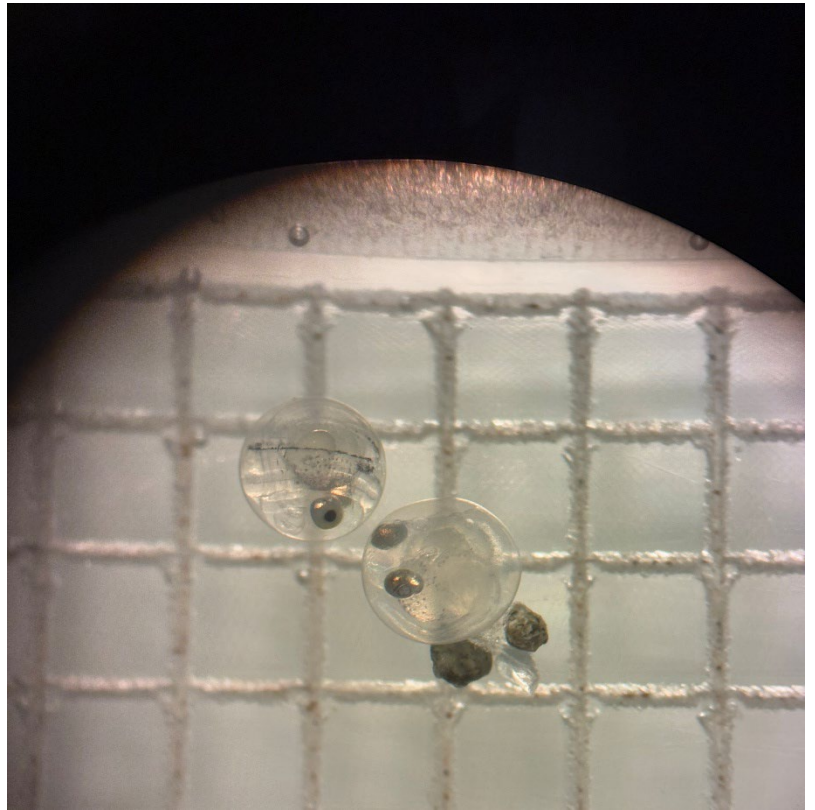


Figure 2: Surf Smelt Eggs from Willows Beach