

PUGET SOUND VITAL SIGNS

INDICATOR BIOMASS OF SPAWNING PACIFIC HERRING

The biomass of spawning Pacific Herring indicator is the estimated annual tonnage (four-year average) of herring that have reproduced in Puget Sound. Estimates are based on surveys of the density and extent of eggs deposited by herring on marine vegetation. Herring, along with a few other small schooling fish species, play a unique role in the food web: they are an essential source of food for larger fish, seabirds, and marine mammals.

Indicator
Progress



Target Status



Target

No targets are currently set for this indicator.

Data Source

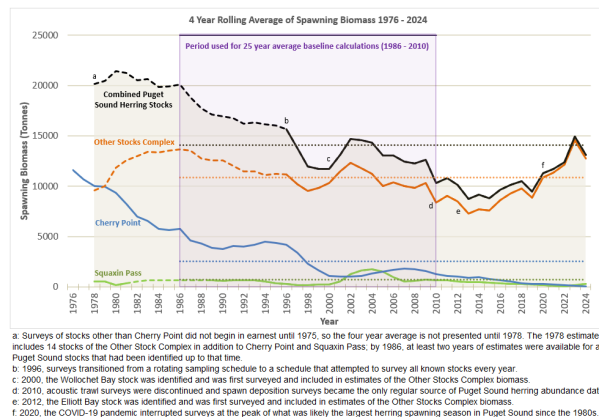
Washington State Department of Fish and Wildlife, Marine Fish Unit (Forage Fish)

Indicator Lead

Phillip Dionne
Phillip.Dionne@dfw.wa.gov
Washington Department of Fish and Wildlife

Last Updated

04/15/2025



Four-year average spawning biomass estimates for three genetic stock groups and the combined total are shown with dashed and solid lines; dashed lines represent periods of incomplete data; each color corresponds to a different stock group, and black is the combined total of all stocks. The 25-year mean (1986-2010) for each stock is referenced as a baseline and is shown with horizontal dotted lines of corresponding colors.

Key Vital Sign Indicator Results

- We estimate 11,404 metric tons of total herring spawning biomass for the southern Salish Sea in 2024. This is a decrease of about 36% from the estimated spawning biomass in 2023, but 2023 was also the second highest estimated spawning biomass since 1990 (see the "Datasets" section below to download a table of annual biomass estimates).
- In 2024, the 4-year average spawning biomass for the Other Stocks Complex declined by almost 2,000 metric tons to about 12,700 metric tons. This is still a relatively high average compared to the last two decades as the result of the high spawning biomass in 2023, and the about average spawning biomass in 2021, 2022, and 2024. (The Other Stocks Complex consists of all Puget Sound herring stocks other than Cherry Point and Squaxin Pass.) In contrast, the 4-year averages of the genetically distinct Cherry Point and Squaxin Pass stocks remain well below their baselines. **Therefore, our conclusion about progress of Pacific Herring stocks in Puget Sound remains as "Mixed Results."**
- No spawning was observed for the Cherry Point herring stock in 2024. This is the second time in as many years that we did not find evidence of spawning by the Cherry Point herring stock.
- The estimated spawning biomass in Quilcene Bay was below 1,000 metric tons for the first time in over two decades, and below 100 metric tons in Port Gamble for the first time since we began monitoring it in 1976.
- No new record high spawning estimates were observed in 2024 season, but the Port Orchard/Port Madison, Purdy Lagoon, and Semiahmoo Bay spawning areas all remained above 1,000 metric tons each.
- During the 2024 season with the reduced spawning activity, we also observed few shifts or expansions in spawning distribution.

CONTRIBUTING PARTNERS



Washington
Department of
**FISH &
WILDLIFE**

TO LEARN MORE ABOUT THE VITAL SIGNS VISIT: vitalsigns.pugetsoundinfo.wa.gov OR CONTACT: vitalsigns@psp.wa.gov