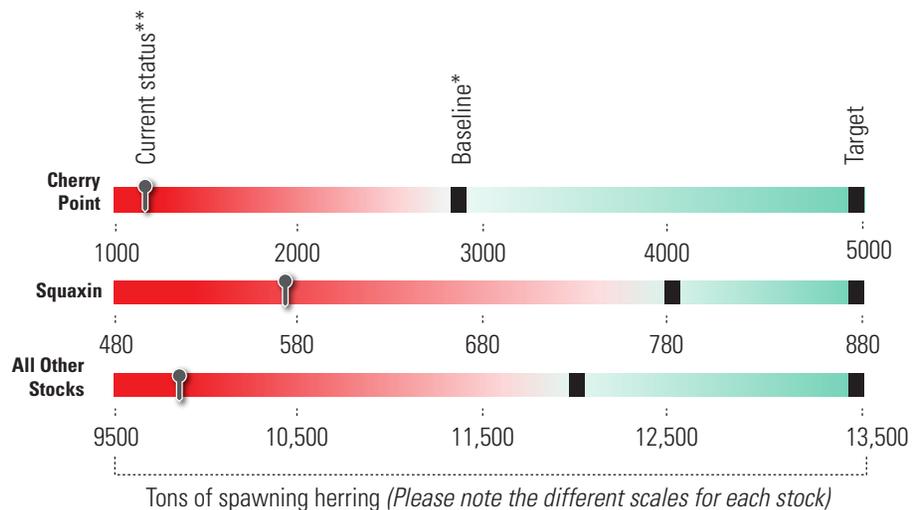


Pacific Herring

Biomass of spawning Pacific herring

Progress Toward the 2020 Target

Increase the overall amount of spawning herring throughout Puget Sound to 19,380 tons. For each stock, the targets are: Cherry Point: 5000 tons; Squaxin Pass: 880 tons; All other stocks: 13,500 tons.



* The baseline is the 25-year mean from 1986 to 2010.

** The status is herring spawning stock size averaged over 2011 and 2012.



SPECIES AND FOOD WEB
90
VITAL SIGNS

Is There Progress Toward the 2020 Target?

No progress has been made toward the 2020 target values for individual Pacific herring stocks or groups of stocks. Instead, the current spawning biomass of each of the three main Puget Sound stocks remains below their individual 25-year mean baseline references and their 2020 target values.

The Cherry Point herring stock in North Puget Sound, once the largest stock in the Sound, has declined by 90 percent since the earliest sampling date in 1973 and shows little sign of recovery. Spawning biomass was lower in 2012 compared

to 2011 and still much lower than historical levels. The Cherry Point stock is far from reaching the 2020 target value.

The Squaxin Pass and other Puget Sound stocks do not exhibit the same, long-term decline seen in the Cherry Point stock. In fact, spawning biomass of the Squaxin Pass stock, and of all other stocks combined, shows broad year-to-year fluctuations and has in some years approached or even exceeded their target values. However, these stocks are currently at population levels well below their

Spawning Biomass of Pacific Herring Stocks in Puget Sound 1973-2012

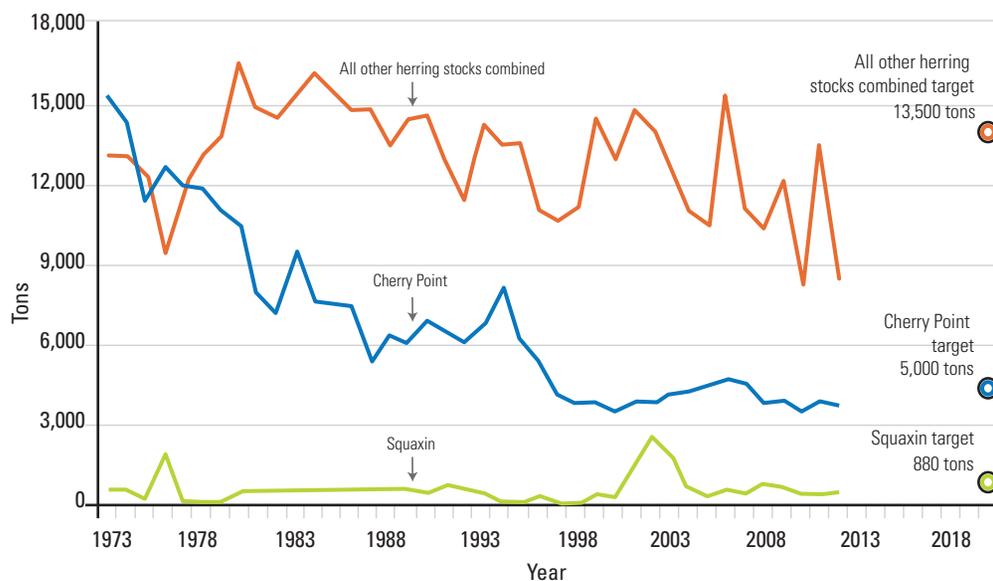


Figure 3.10. Annual estimates of Puget Sound herring spawning biomass, by genetic grouping with associated targets.

Source: Washington Department of Fish and Wildlife, Fish Program

target values. In 2012, spawning biomass of the Squaxin stock was about the same as in 2011. However, the cumulative spawning biomass for all other stocks combined declined sharply in 2012 and was very close to estimated spawning biomass abundance in 2010, which was the lowest level on record.

Noteworthy is a newly documented spawning ground in Seattle's Elliott Bay, which has received significant spawning activity in 2012 and 2013. Both the location and late spawning timing (early May) are unusual for this area. Scientists from various organizations are coordinating their efforts to understand whether the spawning herring in Elliott Bay are genetically distinct from other stocks and whether habitat — underwater vegetation such as eelgrass, kelp, and other algae — is limiting spawning activity throughout Puget Sound.

Owing simply to natural fluctuations in abundance, the Squaxin and other Puget Sound stocks in Central and South Puget Sound may reach their respective target values again over the next eight years. However, there is no evidence to suggest that herring spawning biomass at Cherry Point will increase in the near future and reach its target value by 2020, or that the biomass of all other stocks will be sustained at or above their target values.

Indicator Lead:

Kurt Stick, Washington Department of Fish and Wildlife

For more in-depth information, please see:

www.psp.wa.gov/vitalsigns/pacific_herring.php