

Chinook salmon are a cultural icon of the Pacific Northwest and are listed as “Threatened” under the federal Endangered Species Act; currently they are about one-third as abundant as they were in the early 1900s. Returning Chinook are highly prized by anglers and commercial fisherman; are guaranteed to be available to Indian Tribes by treaties signed with the federal government; and are a favorite food of orca whales. Throughout their lifecycle, Chinook salmon depend on a wide variety of freshwater, estuary, nearshore and marine habitats.

This Vital Sign tells us about the health of salmon populations, particularly Puget Sound Chinook populations, and whether efforts to improve salmon habitat and coordinated management of harvest and hatcheries are having the desired effect of improving salmon populations. Salmon are keystone species – species that exert a disproportionate influence on their ecosystems – which means that when their habitats and food webs decrease, the ecosystem itself is at risk. Record population growth in the Puget Sound is a result of the surging economy. This growth comes with stressors to the ecosystem that are negatively impacting the species that depend on it. Currently, the factors that are stressing the ecosystem, whether from growth and development or climate change, are outpacing recovery efforts.

Although the indicator focuses on Chinook salmon populations specifically, it is intended to serve as an indicator of the health of all salmon and steelhead species in Puget Sound.

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VITAL SIGN ► INDICATOR

PROGRESS STATUS

Chinook Salmon

Chinook salmon population abundance



Key Messages

- Three of the 21 Chinook salmon populations, for which there are data, are larger than around the time when they were listed in 1999, while one population has decreased and 17 remain unchanged between the 5 year period after listing in 1999 and the most recent 5 year period (2013-2017). See the [Chinook salmon population abundance](#) indicator for more information.
- Both listed and non-listed salmonids play a **critical role** in supporting Tribal treaty rights in Puget Sound, as well as commercial and recreational harvest. It is important to work towards healthy populations of all salmonids and not just focus on Chinook requirements.
- **Habitat loss** is still outpacing habitat gain ([NWIFC 2016 State of our Redds](#)). In many river systems, floodplain and estuary rearing habitat remain a fraction of what existed historically.
- Addressing **emerging challenges** requires the addition of new resources – more funding from new sources and human capacity with expertise in these emerging disciplines. The cumulative effects of emerging challenges, such as the climate change, newly identified toxins from stormwater runoff (see the [Toxics in Fish](#) Vital Sign) and the decreases in early marine survival occurring in Puget Sound salmonids, must be addressed in addition to the traditional recovery efforts of habitat restoration and protection, hatchery, harvest management and hydro considerations.
- Recent monitoring studies confirm individual restoration and protection **projects are effective**: they



Chinook salmon redds. Photo WDFW

improve fish habitat; fish quickly colonize newly restored habitat where young salmon rear, feed and rest; and they improve water quality. Larger- scale and more restoration, when coupled with effective protection strategies, improves ecosystems and the long term outlook for salmonids. Also, it takes a long time to affect a population. Even then, populations are difficult to count, and vary naturally, so consistent tracking over a very long term (decades) is necessary.

- Factors over which we have little control, such as changing ocean conditions and climate change put more pressure on factors we can control. Understanding the relationships between global factors and local factors enables us to determine which local factors we can address directly and what actions we can take to **increase salmon and ecosystem resilience**. For example, nearshore habitat restoration promotes healthy forage fish and invertebrate populations which, in turn, provide more prey for bigger fish, marine birds, and marine mammals. A healthy marine food web also provides critical support for endangered Southern Resident Killer Whales which are at risk of extinction (see the [Orcas Vital Sign](#)).

Strategies, Actions, And Effectiveness

- Accelerating progress toward the Chinook Vital Sign is a [priority focus area](#) for the Partnership's 2018 Action Agenda (*scroll to the bottom of the page to view and download activities in the 2018 Action Agenda*).
- [Chinook Implementation Strategy](#)
- What's working to restore Puget Sound? [Answers from effectiveness evaluations](#)

Background Documents

- [Leadership Council resolution adopting indicators and ecosystem recovery targets](#)
- [Chinook Salmon Target Briefsheet](#)

Other Resources

- [State of our Watersheds Report by the Northwest Indian Fisheries Commission](#)
- [Articles related to salmon in the Encyclopedia of Puget Sound](#)
- [State of Salmon](#)

Contributing Partners



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