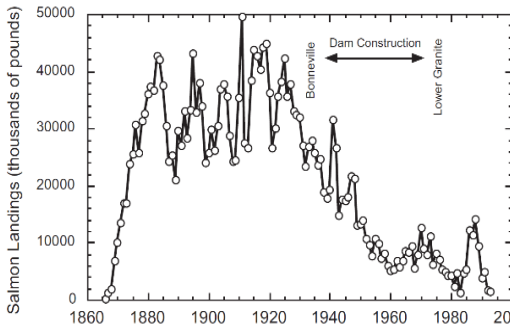
Updated Jan. 2024

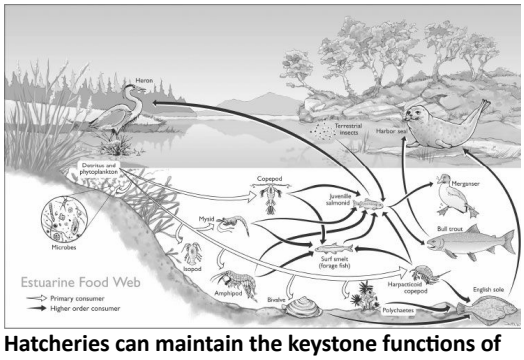
Native Fish Resiliency Project

The purpose of this document is to highlight key facts[1] necessary for policy makers to understand how fisheries management decisions affect salmon conservation and Oregon's economy so that we may optimize the quality of our hatchery programs.



Hatcheries can help compensate for more than 40% of salmon spawning habitat that has been lost.

1. Broodstock: Adult fish taken from returning hatchery fish (catch supplementation hatcheries) or from wild fish (conservation hatcheries) for the purpose of propagation.
2. "Native fish" means indigenous to Oregon, not introduced. This includes both naturally produced and hatchery produced fish.
3. Properly managed hatcheries utilize both Hatchery Origin (HO) and Natural Origin (NO) broodstock to produce the highest quality progeny.
4. "Naturally" spawned fish can be the product of hatchery fish pairing in the wild. All salmonids of the genus *Oncorhynchus* are "native" to Oregon regardless of where they were spawned.
5. Salmon hatcheries were only built after wild runs were in serious decline. Current landings are 2-4% of historical landings. Salmon hatcheries were originally built to supplement fisheries, not to replace or protect wild salmon.
6. Naturally spawned fish hatch only about 5% of total eggs. HO hatch about 95% of eggs so hatcheries can compensate for the 40% loss of spawning habitat caused by poor land use practices and the loss of juvenile rearing habitat caused by dredging and draining of estuaries and wetlands. Hatcheries cannot make up for other drivers of wild salmon decline (e.g., dams, water extraction, deforestation, etc.).
7. The 2001 Oregon State Court case brought to define the difference between NO and HO Coho salmon was ruled as "arbitrary and capricious". This case was again brought forth by Trout Unlimited in 2007 and was again denied. There are no legally or biologically recognized characteristics distinguishing HO and NO salmon.
8. The difference between the HO & NO fish debate has been ongoing. The difference is defined by policy language, but cannot be defined by scientific examination when produced by a properly managed hatchery program.
9. Limits to the number of hatchery fish allowed to reproduce in the wild are regulated by ODFW, not nature, and are set arbitrarily because any actual risk is unknown.
10. HO salmonids are capable of creating successful wild-spawning populations. A large percentage of Oregon's wild spawning salmon originated from HO fish. HO salmon from the PNW have been used to establish naturally spawning and ecologically durable populations in New Zealand, the US Great Lakes, Chile and Argentina, among other places.
11. Oregon's Native Fish Conservation Policy is just one of many examples of a stand-alone paper that has no statutory basis.



Hatcheries can maintain the keystone functions of salmon in aquatic ecosystems.

[1] Technical references are available upon request from OregonAnglersAlliance@outlook.com

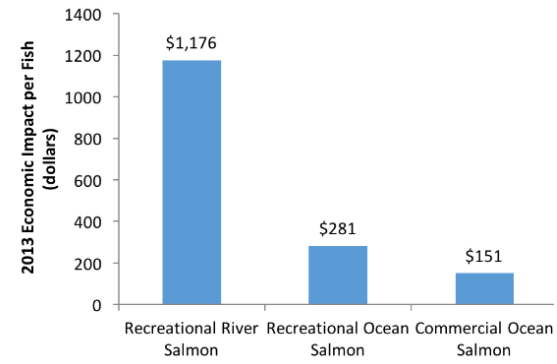
12. ESA protection is problematic. To date, 43 salmonid populations have been listed under the ESA. Despite this protection for over 5 decades, not a single listed population has recovered.
13. The majority of existing salmon runs are the result of a mixture of hatchery and wild pairings. Over 40,000 hatchery origin naturally spawned coho salmon (*Oncorhynchus kisutch*) swam through the fish ladder at Willamette Falls in 2023.
14. Much salmon habitat restoration is new and experimental. Positive impacts have generally not been demonstrated in the field. NOAA estimates that potential positive outcomes will take between 50 and 80 years to materialize.

Removal of logs to reduce flood damage and improve access has irreversibly damaged salmon spawning habitat.

15. There is a strong preservationist community that believes that man is not capable, nor intended to be an integral part of our ecosystem. The belief is that no management is the best management strategy. Starting with Atlantic salmon in Europe, "wild fish" advocates have been arguing against hatcheries for nearly 300 years on spiritual, or ideological grounds. Only in the last 60 years have some of these advocates turned to science in an attempt to prove their prior-held beliefs.
16. Although population genetics theory predicts that interbreeding between HO and NO fish could reduce fitness of NO populations, this has not been demonstrated in the field despite some 40 years of research. New biological research strongly suggests that traditional population genetics theory is only part of the answer to why salmon seem to be more resilient than predicted.
17. We have a rich history of restoring species to self-sustainable populations through captive breeding programs. The black footed ferret, the North American red wolf, wild turkeys, pheasants, red-legged partridge, California condor, et al. Fish are no different! Reduced down to a single sockeye salmon, Lonesome Larry, in 1992, NOAA, "through advanced hatchery techniques" rebuilt the run, retaining~95% of species genetic variability, and boosting juvenile survival by about 2,000%. This run is now self-sustaining.

Economic Impacts

18. Oregon hatchery operations expenditures over 2021-2023 were about 35M$ per annum. Angler expenditures on gear and fishing trips alone approach $400M, a great return on investment.
19. Oregon Sport fishing licenses bring in about $28,000,000 annually. Federal monies for listed species research and monitoring, along with habitat restoration dollars, bring in enough additional revenue to pose the question whether fish abundance is even a priority. Is there any motivation to restore salmon abundance when so much funding is available for fish scarcity?



Improving recreational fishing is a good investment.

20. Hatcheries produce 70% of captured salmon. Without hatcheries, there would be no catch. There are many examples of our fisheries management plans that only allow angling opportunity on less than 10% of the overall available habitat with ongoing efforts to further restrict harvest and hatchery programs. We continue to lose opportunity.
21. In the 1970's Oregon issued about 4,000 commercial salmon fishing permits. We are down to less than 300 (not counting the 2023 full closure). Taxpayers paid $51 million to commercial fishermen not to fish in order to protect runs in California.
22. Salmon are necessary to maintain the health of aquatic ecosystems. Without salmon to bring nutrients from the ocean, many species of animals and plants suffer.

Conclusions:

23. There are no clear and consistent biologically significant differences demonstrated between wild spawned and hatchery spawned salmon. Wild native salmon can be the product of hatchery salmon pairing in the wild.
24. Salmon hatcheries have not failed. They supplement our ecosystems, our harvest fisheries and the communities that depend on them.
25. Modern, properly managed hatcheries have not been demonstrated to negatively impact wild salmon.
26. Hatcheries are not a cure-all, but can greatly compensate for lack of spawning and rearing habitat.

The vast majority of salmon caught in the PNW come from hatcheries.

27. There are no examples of removing a hatchery presence that have resulted in higher salmon densities. There are many examples of removing a hatchery presence from a population that have simply resulted in lower salmon densities. Adding a hatchery presence to the right population can and will increase fish densities.
28. Some of the public is wondering; is the inability to maintain funding for Oregon's hatchery infrastructure the final push to eliminate many of Oregon's hatchery programs?

The above information is result of a large collaborative group including science experts, sport and commercial fishers, tribal partners, seafood processors, law and policy makers, and a host of natural resource advocates.

Thank you!

www.oregonanglersalliance.org