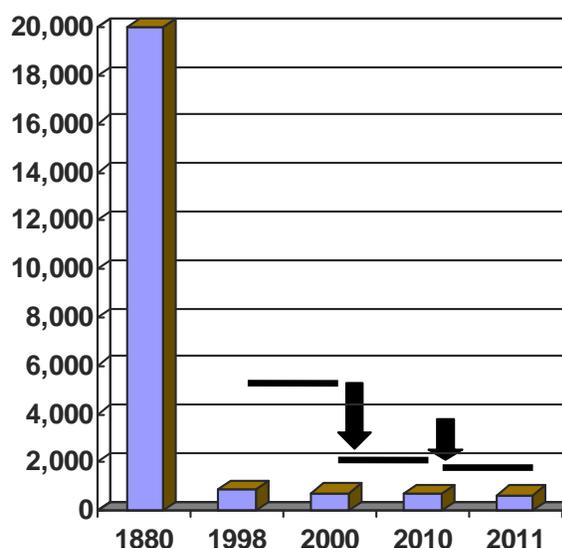


SANDY RIVER HATCHERY PROBLEMS AND SOLUTIONS

1. Runs of wild, native spring chinook, winter steelhead, and coho in the Sandy River basin have declined by 95% from their historical levels in the 1880s. Chum salmon are nearly extinct.
2. All salmon and steelhead in the Sandy River basin are protected under the Endangered Species Act because they are threatened with extinction.

Sandy River Steelhead Decline

- **20,000: Historic Wild Run Size**
- **883: 1998 Actual Wild Run Size**
- **4,900: ODFW 1998 Wild Spawner Goal**
- **741: 2000 Actual Wild Run Size**
- **1,730: ODFW 2001 Wild Spawner Goal**
- **1,519: ODFW 2010 Wild Spawner Goal**
- **674: Current Wild Run Size**



3. Over the last 30 years peer-reviewed science has proved that hatchery fish reduce the reproductive fitness of wild fish, compete with wild fish for spawning and rearing habitat, and act as predators and predator attraction that threatens the survival of wild fish.
4. The Oregon Department of Fish & Wildlife (ODFW) releases over a million hatchery salmon and steelhead into the Sandy River each year. This release and other hatchery operations that directly and indirectly harm threatened salmon and steelhead violate the Endangered Species Act and other federal laws and are inconsistent with Oregon's Native Fish Conservation Policy.
5. Management decisions in the Sandy River basin that have relied on the promise that the Sandy River Hatchery would recover imperiled fish species have failed. Wild salmon

and steelhead runs remain threatened with extinction. The management plans developed by the National Marine Fisheries Service (NMFS) and the state of Oregon have contributed to wild salmon and steelhead decline in the Sandy River basin.

6. The reaction of ODFW to the continuing decline of wild fish populations in the Sandy River basin over the last 15 years has been to continually lower the “recovery goals” instead of acknowledging and addressing the impacts of the Sandy Hatchery on the wild fish population.

7. Two dams have been removed from the Sandy River basin in the last five years, and \$100 million is being invested to restore wild, native salmon and steelhead, yet the habitat is filled with hatchery-origin fish—wasting the investment in habitat restoration for recovery of wild fish.

8. Dramatically reducing or eliminating the Sandy Hatchery’s threat to wild salmon and steelhead, and the associated harvest impacts from fisheries targeted on hatchery origin fish, is the solution to the recovery of wild fish in the Sandy River basin.

9. Specific scientific studies in which ODFW has participated provide consistent and disturbing conclusions regarding the impact of hatchery programs on wild native salmon and steelhead. A sample of these studies:

Araki et al. 2008:

- Genetic effects of breeding in hatcheries makes fish 40% less likely to reproduce in the natural environment. Even a few generations of domestication may have negative effects on natural reproduction in the wild. Salmon and steelhead are very susceptible to this loss of fitness from captive breeding.
- “The general finding of low relative fitness of hatchery fish combined with studies that have found broad scale negative associations between the presence of hatchery fish and wild population performance, should give fisheries managers pause as they consider whether to include hatchery production in their conservation toolbox.”

Buhle et al. 2009:

- Negative effects from hatcheries were two of the four critical factors influencing wild salmon productivity in this study, including a demonstrated decrease in wild salmon productivity as hatchery juveniles increased in the system.
- Wild populations of coho improved when fewer hatchery fish were present: “Productivity, expressed as the per capita growth rate in the absence of harvest, improved with reductions in the density of hatchery origin fish spawning in the wild and the numbers of hatchery smolts released into rivers.”

- “The strongest negative effects of hatcheries were associated with hatchery-reared adults breeding in the wild, precisely the pathway that might be expected to contribute most to population rebuilding.”

NMFS 2010:

- In the supplemental consultation on the Columbia River dam system, NMFS cited preliminary population abundance data from Chilcote and Goodson and the finding “that population productivity was inversely related to the average proportion of hatchery fish in the naturally-spawning population.”
- “The magnitude of this effect was substantial. For example, a population comprised entirely of hatchery fish would have *one tenth* the intrinsic productivity of one comprised entirely of wild fish.”

Chilcote et al. 2011:

- The published conclusions from the data NMFS cited in the supplemental consultation document: “We found a negative relationship between the reproductive performance in natural populations of steelhead, coho, and Chinook salmon and the proportion of hatchery fish in the spawning population.”
- “The effect of hatchery fish was the same among all three species. Further, the impact of hatchery fish from ‘wild type’ hatchery broodstocks was no less adverse than hatchery fish from traditional, domesticated broodstocks.”
- “In most cases, *measures that minimize the interactions between wild and hatchery fish will be the best long-term conservation strategy for wild populations.*”

9. NMFS funds the operation of the Sandy Hatchery each year out of congressional Mitchell Act appropriations. NMFS’s funding of the Sandy Hatchery violates the Endangered Species Act because NMFS has not completed a Biological Opinion to determine whether the Sandy Hatchery’s operations will jeopardize the existence or impair the recovery of salmon and steelhead or result in harm to designated critical habitat for these fish in the Sandy River basin.

10. NMFS also has not complied with the National Environmental Policy Act (NEPA), having performed no NEPA review for the Sandy Hatchery’s recent operations.

11. ODFW’s operations at the Sandy Hatchery violate the Endangered Species Act because the hatchery directly harms natural fish, which are removed from the wild for use as breeding stock or trapped and diverted in sorting operations. These operations are currently used to keep undesirable hatchery fish from “straying” into the wild fish sanctuary in the upper Sandy River basin.

12. The Sandy Hatchery operations also violate the Endangered Species Act by indirectly harming wild salmon and steelhead in the Sandy River basin. Release of a million hatchery fish each year in a system where only a few thousand wild steelhead and salmon remain depresses the wild fish population. The scientific consensus is that hatchery fish compete with wild populations for food, spread disease and genetic deficiencies to wild stocks, and reduce the vigor of the wild population by interbreeding with them. Hatchery fish now account for up to 100% of the salmon and steelhead populations in parts of the Sandy River basin: in these streams, domesticated fish have driven out their wild cousins.

13. ODFW has violated the Endangered Species Act by not obtaining any federal permission to engage in this unlawful “take” of wild salmon and steelhead.

References:

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