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Hatchery fish hurt wild salmon stocks

Easiest, quickest way to increase returning salmon is to limit fishing

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WASHINGTON (AP) — Saving wild salmon in the Pacific Northwest will require a variety of costly measures, from cutbacks in ocean fishing to prohibitions on logging and livestock grazing near inland mountain streams, the National Research Council says.

Pacific Northwest salmon are dying partly because the government spends too much time raising hatchery fish and not enough time protecting native spawning grounds of wild salmon, the council said in a new report last week.

In fact, an overabundance of hatchery fish, once thought to be the key to survival, has helped push many of the naturally spawning salmon close to extinction, the report said.

"Hatcheries unintentionally have contributed to the over-harvesting of wild stocks, ecological changes in the salmon environment and reduction of overall genetic diversity," said the research arm of the National Academy of Sciences.

"The long-term survival of salmon depends crucially on a diverse and rich store of genetic variation ... We have already lost a substantial portion of the genetic diversity that existed in these salmon species 150 years ago."

Will Stelle, Northwest regional director of the National Marine Fisheries Service, said the report "pretty much confirms we are on the right track."

"Hatcheries may well be part of the problem, not part of the solution," he said.

The report, three years in the making, says not enough attention has been paid to the unique biological traits that allow the wild fish to swim to sea then return to their home stream, sometimes 1,000 miles from the ocean.

"Some of our current policies are based on deep ignorance ... For many years people did not recognize the potential for hatchery fish to affect wild fish and did not believe that there was any limit to the ocean's capacity to provide food for growing salmon," the 388-page report said.

"In many cases, populations that are not smaller than they used to be are now composed largely or entirely of hatchery fish."

The study is titled "Upstream: Salmon and Society in the Pacific Northwest." It warns that the salmon are so bad off — now extinct across 40 percent of their historic breeding range in Oregon, Washington, Idaho and Montana — that potentially hundreds of varieties eventually will be added to the U.S. list of endangered species.

Snake River sockeye salmon and Sacramento River winter chinook already are declared endangered. Two seasonal runs of Snake River chinook are threatened and the National Marine Fisheries Service is considering listing various varieties of coho, steelhead and sea-run cutthroat trout.

Ironically, the hatcheries were constructed mostly over the past half century to make up for spawning habitat lost to construction of hydropower dams — the major culprits pushing the salmon toward extinction.

The dams hamper upstream travel of adult salmon and slow river flows that once helped flush young fish to the ocean in a matter of days. Now the trip takes weeks, subjecting the juveniles to more predators and stranding them short of the ocean's salt waters at the time their gills adapt away from freshwater.

The findings are sure to spur debate over the need to protect individual endangered species because it highlights the importance of individual subspecies and seasonal fish runs.

"It isn't enough to focus only on the abundance of salmon . . . There is a great deal of environmental variation among the various streams and lakes where salmon spawn and in the rivers through which they migrate."

Stelle said the council "confirms that in fact distinct population segments are essential for conserving salmon overall."

The earlier apparent effectiveness of hatcheries might have resulted from favorable ocean and climatic conditions, which more recently have taken a turn for the worse, said the report committee, chaired by John J. Magnuson, professor of zoology at the University of Wisconsin-Madison.

The easiest, quickest way to increase the number of salmon returning to spawn is to strictly limit fishing for salmon, especially in the ocean, the council said.

That will disrupt fisheries, industry and communities, but it is necessary for restoring production, the report said.

The report supports the practice

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Hatchery—

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of barging young salmon around dams — a technique opposed by environmentalists who say it spreads disease and disorients the fish.

"Transportation of fish downstream is the most biologically effective and cost-effective way to help them get past the dams, based on present information," the report said.

It also questions the environmentalists' preferred approach: lowering reservoir levels behind dams — at an expense to electricity production, shipping and irrigation farming — to return the rivers to a more natural state with faster water flows.

"Even if flow changes could be helpful in a rehabilitation effort, they are likely to be insufficient without changes in other human interventions in the salmon life cycle and habitat," the report said.

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