



EMBARGOED:

Not for release until 2 p.m. U.S. ET,

Thursday March 25<sup>th</sup>, 2004

Journalists can obtain early copies by contacting

*Science* at: 202-326-6440 or scipak@aaas.org

## **Policy Review in *Science* Calls for Bush Administration To Protect Wild Salmon**

Authors of the Policy Forum in the March 26<sup>th</sup> issue of the international journal *Science* call for the National Marine Fisheries Service (NMFS) to protect wild salmon stocks whose status under the Endangered Species Act (ESA) is now in jeopardy as a result of legal and political pressures from landowners and timber interests. A substantial fraction of the salmon populations currently listed under the Endangered Species Act in the Northwest are in immediate danger of being delisted – not because they are recovering – but because their status and presence potentially blocks development.

A U.S. District Court decision puts into question the endangered status of all wild Oregon coho salmon: saying that hatchery fish could be included with endangered wild salmon, it thus opens the legal door to delisting the wild populations. As a consequence, there are also petitions to delist 15 evolutionarily significant populations of wild salmon in Oregon, California, Idaho and Washington. Meanwhile, NMFS has been drafting criteria for including or excluding hatchery fish in a population, and has a March 31<sup>st</sup> deadline for their review of eight such salmon populations. Including hatchery fish with endangered wild salmon would create the legal possibility of maintaining a stock solely through hatcheries.

However six of the world's leading ecologists conclude that fish produced in hatcheries cannot be counted on to save wild salmon. The government-appointed team of academic scientists including **Robert Paine of the University of Washington, Ransom Myers of Dalhousie University, Simon Levin of Princeton University, Russell Lande of the University of California at San Diego, Frances James of Florida State University and William Murdoch of the University of California at Santa Barbara** were requested to serve as an external review committee for the recovery efforts for Pacific salmon. Their independent findings were presented to NMFS, but the group was told that their conclusions regarding endangered salmon populations and hatchery fish were inappropriate for their official reports because they went beyond science into policy. The scientists decided to publish in *Science* to make sure the policy implications reached a wide audience because of their concern for the recovery of populations of wild salmon in California, Oregon, Washington and Idaho.

World-renowned ecologist Robert Paine, a coauthor of the report and Chairman of the panel, says, "Pacific salmon are under threat of being eliminated to make way for development. We should not open the legal door to maintaining salmon only in hatcheries. The science is clear and

unambiguous; as they are currently operated, hatcheries and hatchery fish cannot protect wild stocks.”

“One hundred years of hatcheries have not brought back wild Atlantic salmon to Maine. Once we lose the wild populations of salmon and the natural habitats that support them, we will never get them back,” says lead author Ransom Myers, a distinguished fisheries biologist based at Dalhousie University in Canada. “The critical legal issue is what counts as a fish when one is trying to conserve a population. In particular, salmon in hatcheries undergo very rapid genetic and behavioral changes. After very few generations, these hatchery fish find it difficult to survive in the wild.”

The 10 September 2001 District Court judgment, stayed until recently by an appeal, ruled that NMFS’ policy of including hatchery fish with wild fish as evolutionary population units, but excluding them for purposes of ESA listing, was legally unworkable. Since hatchery fish are currently included in many salmon and steelhead populations on the West Coast, the associated wild salmon populations may lose their legal protection. The authors, leaders in their fields of fisheries, ecology, and genetics, strongly recommend that as NMFS deals with the legal fallout from these cases, they stop including hatchery fish in population counts.

“The current political and legal wrangling is a side show to the real issues. We know biologically that hatchery supplements are no substitute for wild fish.” Paine says. “It’s time NMFS protected our national legacy, in a legally-defensible manner. Foot-dragging, and the resultant delays, by NMFS’s policy makers are pushing these cultural icons of the Pacific Northwest toward extinction.”

The legal challenges to NMFS’ policies have come primarily from developers and logging companies in the Northwest, in efforts to cut the environmental regulations protecting salmon watersheds. NMFS did not appeal the District Court ruling, but agreed to review their policies and specifically report on 8 currently listed populations by March 31, 2004. The science for those reviews has been virtually complete for almost a year, but NMFS’ policy-makers have delayed. NMFS is now petitioning to have the deadline extended until June.

“The implication of politically-motivated inaction is inescapable,” says Paine. “The fundamental challenge is for the NMFS policy group to change their definition of what constitutes an evolutionarily significant unit (ESU) by redefining it to exclude hatchery fish.”

### *Hatcheries are not habitat*

The authors warn that without habitat protection, many salmon populations will only exist in hatcheries, where their ability to persist in the wild is rapidly lost. The advisory panel, constituted to advise on recovery of endangered salmon stocks, believes strongly that the long-term goal should be robust populations existing in healthy habitats.

Fish bred and fed in hatcheries are often larger than their wild cousins, grow quickly, and compete with them during early life stages in freshwater and estuaries. On release, hatchery fish can cannibalize their wild cousins and consume the food resources necessary for growth of wild

fish. Hatchery fish have substantially lower ocean survival than wild fish, but those that do survive often interbreed with wild fish and dilute the gene pool with altered behavior related to finding food, avoiding predators and finding their way home to spawn. It is possible that modern conservation hatcheries may temporarily benefit the most severely depleted stocks, although this has not been proven: but the net effect of hatcheries usually is to cause a decline in wild salmon.

The World Conservation Union (IUCN) has also concluded, based on scientific consensus from research on land-dwelling species, that reliance on artificially-raised individuals is imprudent and cannot work in the long term.

*Immediate action required*

Myers states, "I want my grandchildren to experience real wild salmon in their natural habitat, not only in a hatchery or aquarium. It is our responsibility, as citizens, to prevent the on-going disappearance of wild salmon."

###

*Contact info for authors:*

Ransom A. Myers  
Killam Chair in Ocean Studies  
Dept. of Biology  
Dalhousie University  
Halifax, Nova Scotia, B3H 3J5  
Canada  
Phone: 902-494-1755/902-492-1403  
Fax: 902-494-3736  
Ransom.Myers@Dal.Ca

Robert T. Paine  
Department of Biology  
University of Washington  
Seattle, WA 98195  
U.S.A.  
Phone: 206-543-1649  
painert@u.washington.edu