

**Review of the Hatchery Measures
in the Oregon Plan for Salmon
and Watersheds**

**Part I: Consistency of the Oregon Plan with Recommendations
from Recent Scientific Review Panels**

Executive Summary

An excerpt from:

Independent Multidisciplinary Science Team. 1998. Review of the Hatchery Measures in the Oregon Plan for Salmon and Watersheds. Report 1998-1 to the Oregon Plan for Salmon and Watersheds. Governor's Watershed Enhancement Board. Salem, Oregon.

Full report is available at <http://www.fsl.orst.edu/imst>

EXECUTIVE SUMMARY

This is the first report on the Independent Multidisciplinary Science Team's review of the hatchery-related measures in the Oregon Plan for Salmon and Watersheds (Oregon Plan). This first report focuses on the consistency of the Oregon Plan with issues common to the findings of three independent scientific panels regarding hatchery management. The key question addressed by IMST in this report is: Does the Oregon Plan recognize the concerns common to the three science panels, and do the measures in the Oregon Plan adequately address those concerns? Other reports by IMST will address various aspects of hatchery programs and management.

The three scientific panels were:

- **National Fish Hatchery Review Panel.**
- **Up Stream: Salmon and Society in the Pacific Northwest.**
- **Return to the River: Restoration of Salmonid Fishes in the Columbia River Ecosystem.**

The three panels were in agreement on four important issues. The IMST describes these issues, determined the consistency of the Oregon Plan with them, and makes recommendations where improvements are needed.

Issue 1. Hatchery programs have failed to meet their objectives. Most hatcheries were built to mitigate for habitat lost during the development of rivers by replacing native fish with hatchery-produced fish. In spite of some examples of success, they generally have not achieved that goal.

The IMST concludes that the Oregon Plan is not adequately addressing the question of hatchery effectiveness.

Issue 2. Management of hatchery programs has impacted wild stocks. Hatchery management such as broodstock selection, mixed stock fisheries, and interbasin transfers are perceived to be generally detrimental to wild stocks of salmon and has failed to conserve salmon biodiversity. Since these problems are largely related to hatchery management they should be solvable.

The IMST concludes that the Oregon Plan recognizes the issue because it has adopted measures designed to address at least two elements of the issue. However, the Oregon Plan does not include procedures to determine effectiveness, relying on indirect measures such as the ratio of wild to hatchery fish on spawning beds. ODFW's annual report of hatchery operations states that this monitoring strategy "... documents the presence and abundance of hatchery fish but not interactions between hatchery and wild fish." (Oregon Plan for Salmon and Watersheds. Annual Report. 1998. Governor's Natural Resources Office. Salem, OR. (503) 378-3548). The ratio of wild to hatchery fish is one useful measure of the potential for interaction, but it is insufficient as a basis for evaluating the

impact of such interactions, and therefore the degree to which hatchery management actions are addressing the concern in issue 2.

Issue 3. Monitoring of hatchery programs is inadequate. Hatchery programs have not been adequately monitored. This lack of monitoring has made it difficult to determine why hatcheries have failed to meet their objectives, and to identify and correct the genetic and ecological risks that hatcheries pose to wild stocks.

The IMST concludes that the Oregon Plan recognizes the need to monitor the hatchery program. However, the program described in the Oregon Plan is not adequate.

Issue 4. Hatchery programs need fundamental change in order to support recovery of wild stocks. This issue is a logical outcome of the first three. All three panels recognized the need for fundamental change in the hatchery programs. They generally acknowledge that hatchery programs can support the restoration of natural production, but as currently managed they do not.

The IMST concludes that the Oregon Plan recognizes the need for change in the hatchery program, as evidenced by two measures (1) fully implementing ODFW's Wild Fish Management Policy, and (2) reducing the number of hatchery fish released into coastal streams. The IMST's assessment of change in the hatchery program will be hampered until measure II.A.3 has been completed (adoption of objectives and management guidelines – see issue 1).

Other changes may be needed in hatchery management, but these changes will require additional information from research or monitoring. The IMST recommendations are directed at obtaining this information.

Based on our findings, **IMST recommends that:**

- 1. ODFW give measure II.A.3 (development of management objectives for each hatchery program, including genetic guidelines) of the Oregon Plan higher priority and complete the development and adoption of objectives and management guidelines for each coastal coho hatchery as quickly as possible.*
- 2. ODFW establish and implement a specific program to determine if its coastal coho hatcheries are meeting their objectives, and the process by which management will be adapted if they are not.*
- 3. ODFW develop and implement a program of research that determines the effects of wild-hatchery fish interactions.*
- 4. Based on research findings (see recommendation 3), ODFW develop monitoring measures that can be used to judge the operational effectiveness of hatchery management programs with respect to their adverse impact on wild fish stocks.*
- 5. ODFW develop a strategy that will be useful in quantifying and reducing the impact of mixed stock fisheries on the recovery of depressed OCN stocks.*

6. *ODFW determine the impact of hatchery release practices on predation of hatchery and wild fish. This should be coordinated with the ODFW Action Plan to assess avian and pinniped predation*
7. *ODFW use hatcheries as important tools in research that supports monitoring programs.*
8. *ODFW establish explicit coordination between hatchery programs and monitoring programs to help them ensure that they accomplish management and research objectives.*