

**Independent
Multidisciplinary
Science Team
(IMST)**



State of Oregon

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July 12, 2007

The Honorable Ted Kulongoski
Governor of Oregon
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The Honorable Peter Courtney
Oregon Senate President
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The Honorable Jeff Merkley
Oregon House Speaker
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Salem, OR 97301

As Co-Chairs of the Independent Multidisciplinary Science Team (IMST) for the Oregon Plan for Salmon and Watersheds (Oregon Plan), we are pleased to provide you with the enclosed documents containing information about the work of the IMST during the July 1, 2006 – June 30, 2007 fiscal year. As a statutory committee established under ORS 541.409, the IMST provides independent, unbiased review of science issues related to the Oregon Plan to the Oregon Legislature, the Governor, state agencies, and the people of Oregon.

The two enclosed documents are: 1) Accomplishment Summary of the IMST (brochure), and 2) Administrative Report 2007-1, *Evaluation of Responses to IMST Recommendations*. The brochure provides highlights of our Annual Report, which is available on our website at <http://www.fsl.orst.edu/imst/reports.htm>. The full report contains links to the products we developed during the fiscal year, including reports, briefings and presentations. The Administrative Report documents recommendations issued in 2006 and 2007 by the IMST, formal agency or state entity (e.g. Oregon Plan Core Team) responses to the recommendations, and IMST's evaluation of the responses.

During the fiscal year, IMST completed three major technical reviews and produced a synthesis of a technical workshop jointly held with the Oregon Watershed Enhancement Board on restoration effectiveness monitoring. The IMST also developed a draft report on the use of ecological indicators in evaluating restoration effectiveness, which will be completed in July 2007 and submitted to the Oregon Watershed Enhancement Board. The IMST also continued work on evaluating how urban and rural residential

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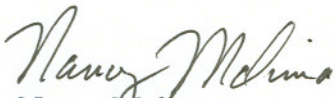
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land uses and management of eastern and central Oregon resources may affect salmonid recovery and watershed functions.

Please feel free to contact us regarding the work or products of the IMST (Nancy Molina at 503-661-6042 or nmolina@comcast.com; Carl Schreck at 541-737-1961 or carl.schreck@oregonstate.edu).

Sincerely,



Nancy Molina
IMST Co-Chair



Carl Schreck
IMST Co-Chair

cc: Mike Carrier, GNRO
Suzanne Knapp, GNRO
Sen. Brad Avakian, Senate Environ. & Nat. Res. Committee
Rep. Jackie Dingfelder, House Energy & Environ. Committee
Rep. Arnie Roblan, House Ag & Nat. Res. Committee
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IMST

Evaluation of Responses to IMST Recommendations

IMST Administrative Report 2007-1

Released July 12, 2007



Independent Multidisciplinary Science Team

Oregon Plan for Salmon and Watersheds

<http://www.fsl.orst.edu/imst>

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Introduction

Oregon Revised Statute (ORS) 541.409, which created the Independent Multidisciplinary Science Team (IMST), specifies that agencies are to respond to the recommendations of the IMST, stating “(3) If the Independent Multidisciplinary Science Team submits suggestions to an agency responsible for implementing a portion of the Oregon Plan [for Salmon and Watersheds], the agency shall respond in writing to the team explaining how the agency intends to implement the suggestion or why the agency does not implement the suggestion. The Team shall include any agency responses in its report to the Joint Legislative Committee on Salmon and Stream Enhancement”.

For this reason, the IMST has explicitly identified its suggestions as recommendations and has directed them to specific agencies or entities. The IMST’s recommendations are included in final Technical Reports, Letter Reports and letters and deal with technical and scientific matters that the Team feels are important for the Oregon Plan. In this report we include responses to letter reports issued in 2006. Seven recommendations were issued in a May 30, 2007 letter report to the Oregon Department of Fish and Wildlife and are repeated here, but responses are not expected until November 30, 2007. As with the previous Administrative Reports, we briefly evaluate each response and indicate if scientific and technical perspectives strongly suggest additional consideration of the recommendation. We understand that there may be matters of policy or other issues that make it impossible or undesirable to implement a specific recommendation of the Team. Our purpose in suggesting reconsideration of some recommendations is not to argue against specific policy or management decisions, but to ensure that the technical and scientifically based consequences of the decisions are clearly understood.

IMST believes that the key characteristics of a good response are:

- It includes a short, clear statement that the agency (or entity) (a) accepts or agrees with the recommendation or (b) that it rejects or disagrees with it. In some cases, an agency (or entity) may be reluctant to agree or accept a recommendation because it sees significant difficulties in implementing it. However IMST believes if the recommendation is sound, then the agency (or entity) should work towards eliminating the impediments to implementation that it sees.
- It provides short, clear descriptions of what the agency (or entity) intends to do to implement recommendations it accepts (including how it might remove impediments) or, as required by ORS 541.409, that it provides specific reasons why it rejects the recommendations. Discussion between agency or legislative staff and Team members at IMST meetings should also help clarify agency (or entity) and IMST perspectives, and most importantly, advance the mission and goals of the Oregon Plan.

Once formal responses are received, the IMST reviews the scientific adequacy of each response and determines if further action or consideration by the agency (or entity) is warranted. In the material that follows we (a) state the recommendation of the IMST, (b) summarize the agency response to it, and (c) give our evaluation of the response. We conclude by indicating whether or not additional consideration of the recommendation is warranted. Each response was assigned to one of four general categories: adequate, intermediate, inadequate or indeterminate.

- **Adequate** means that the IMST supports the decision of the agency
- **Intermediate** means that the IMST does not fully support the agency decision because the decision will decrease the likelihood of accomplishing the goals of the Oregon Plan in a timely manner, but not doom it to failure. IMST notes its concerns but stops short of suggesting that the recommendation be reconsidered.
- **Inadequate** means that the IMST feels the decision by the agency will seriously detract from achieving the goals of the Oregon Plan, and the IMST strongly suggests that the decision be reconsidered.
- **Indeterminate** means that IMST cannot tell what the agency decided to do with the recommendation, or lacks sufficient information to fully evaluate the response.

The material is organized by the letter from which the recommendation came. The responses to recommendations were reviewed and evaluated at a public IMST meeting shortly after receipt of the responses.

Earlier Administrative Reports on responses to recommendations can be accessed at www.fsl.orst.edu/imst/reports/evaluation.html.

**Oregon Department of Agriculture's
*Agricultural Water Quality Program Monitoring Guidebook: Policies, Priorities, and
Methods***

(ODA March 1, 2006 draft)

A technical review requested by the Oregon Department of Agriculture. The June 21, 2006 letter report was addressed to Dr. Ken Diebel, ODA.

Recommendation 1. The IMST recommends that the Oregon Department of Agriculture's Agricultural Water Quality Program Monitoring Guidebook be revised to address the shortcomings identified in this review.

ODA Response: ODA agreed with the recommendation and several of the suggestions made by the IMST in its review. ODA intends to split the draft guidebook into three separate documents as suggested by the IMST but will distribute the topics within the documents slightly different. The first document will be titled *The ODA Agricultural Water Quality Program* and will include implementation of plans and rules under the program including outreach, monitoring, technical assistance, compliance investigations, and legal requirements under administration rules and the TMDLs (total maximum daily loads). The second document will be titled *The Oregon Department of Agriculture's Water Quality Monitoring Strategy* and will include detailed information about ODA's monitoring questions and focus on landscape conditions, different types of monitoring, and how the program will operate and be coordinated with other agencies. The third document will be titled *The ODA Technical Guidebook* and will contain detailed monitoring protocols and methodology.

IMST Conclusion: Adequate. The IMST encourages ODA to continue and expand these efforts to restructure the document and to better document its monitoring program.

***State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionary
Significant Unit***

(September 20 and October 6, 2006 drafts)

An independent technical review by the IMST. The December 11, 2006 letter report was addressed to Mr. Michael Carrier, Governor's Natural Resource Office, and Mr. Virgil Moore, Director, Oregon Department of Fish and Wildlife.

Recommendation 1. The IMST recommends that ODFW ensure that the adaptive management component of the *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionary Significant Unit* be developed consistent with current science literature on adaptive management. In particular, we recommend incorporating:

- **action plans for responding to departures from predicted trends in measurable criteria (and thus, conditions of the Coho ESU), both positive and negative; and**
- **a monitoring and analysis framework that is sufficiently robust to detect changes in those measurable criteria early enough for the State to respond if necessary.**

ODFW Response: ODFW agreed with the principles outlined in this recommendation and noted that the agency does not have statutory authority to implement many of the actions that might be needed to address short-comings in the implementation or effectiveness of the Conservation Plan. The Oregon Plan Core Team, chaired by the Governor's Natural Resources Office, is ultimately accountable for implementation of the Oregon Plan and the Conservation Plan for the Oregon Coast Coho ESU. ODFW noted that successful implementation of the Conservation Plan depends on achieving a productive balance where state and federal governments provide science analysis, policy guidance, and technical expertise that strengthens the existing community-based cooperative conservation work in non-regulatory settings. The State of Oregon has not committed to specific action in order to retain a full range of management options for more flexibility in addressing the unpredictability of future outcomes. ODFW indicated that *Chapter 8: Research, Monitoring, and Evaluation of the Plan* in the final Conservation Plan outline the programs that support evaluation of measurable criteria. Additionally, answers to questions regarding the capacity to detect change in relationship to the measurable criteria are found throughout the final Conservation Plan including Appendix 2.

IMST Conclusions:

- Indeterminate. Please provide examples of what adaptive management actions ODFW could take and when they would be taken.
- Adequate. The monitoring component response could be augmented by including confidence intervals and effective future statistical power.

Recommendation 2. The IMST recommends that the Oregon Plan Core Team assess the degree to which individual agency contributions to the Plan may be effective in meeting the Plan goals.

Core Team Response: The Core Team (Team) agreed with the recommendation. The Team acknowledged that more information on agency contributions and identification of the limiting factor(s) that the actions were addressing would have been beneficial, as well as, articulation of respective goals and objectives to be achieved within the Conservation Plan's overarching goals. The Team recognized the critical importance an in-depth presentation and integrated analysis of multi-agency actions would be to help direct efforts to protect and restore landscape functions for the overall viability and productivity of coho. The Team pointed out that a high level analysis was done as part of the earlier coho assessment and it could have better linked to the Conservation Plan. The analysis was reported in *Part 3B: Policy for the Evaluation of Conservation Efforts: The Certainty that the Conservation Efforts will be Effective, Final Report, May 6, 2005* (Oregon Coast Coho Assessment 2005).

Oregon is in the process of developing a common set of "high-level" indicators to gather data across landscapes and land uses to assess ecosystem functions. Agency consensus of the indicators is expected in the near future. Once indicators are selected and agreed to, the State will develop a common sampling design for the metrics under each indicator as well as an open-access database. The Team provided examples from the Oregon Board of Forestry's work to develop indicators for sustainable forestry.

Oregon is also developing new tools for holistically assessing landscape responses to a range of potential stressors and to integrate the various indicators with other data. The tools are being designed to evaluate a range of management alternatives and display potential outcomes in relatively simple ways while accurately accounting for the wide variety of things society expects from Oregon's natural resources. The Team also agreed that predictive modeling would be a useful tool in evaluation management action effectiveness on desired landscape changes. The State would need to rely on the services of non-agency statisticians and in recognizing this need, Oregon through the Oregon Watershed Enhancement Board, has committed financial support for statistical services through Oregon State University.

Agencies have wide ranging trend monitoring and regulatory and programmatic effectiveness monitoring projects underway that will be rolled up through the Oregon Plan Monitoring Team and annually reported to the Core Team. The Core Team is working to integrate these efforts to better support the indicators work and to ensure statistical validity, quality, and consistency at various scales.

An adaptive management framework is in place under the Oregon Plan at all levels including watersheds, the coho ESU, and statewide. The Oregon Plan and its adaptive management system works within the overall strategic planning and budgeting process supported by the Oregon Benchmarks. The adaptive management process is also connected to federal adaptive management efforts as well as active research being undertaken related to hatcheries and habitat. Ensuring that the Oregon Plan functions within this broader context is an important strength in promoting budgetary and other investments by Oregon's Legislature.

The Team's role is to promote interagency communication, coordination, and policy direction on environmental and natural resource issues associated with the Oregon Plan. The Team described,

in detail, how coordination occurs within the Oregon Plan teams, the state agencies, and federal partners. They also noted that statutory or administrative rule requirements exist for state Boards, Commissions, and agencies to coordinate in the development of rules and implementation of programs. Although not included in the Conservation Plan, a number of the requirements were listed in *Part 3A: Policy for the Evaluation of Conservation Efforts: The Certainty that the Conservation Efforts will be implemented, Final Report, May 6, 2005* (Oregon Coast Coho Assessment 2005).

A “programmatic review” of agency programs that addresses limiting factors for salmonids is also being conducted by natural resource agencies as part of the recovery planning process [i.e., under the federal Endangered Species Act (ESA)]. This review evaluates each agency’s programs in the context of specific threats and habitat limiting factors within various land use types. Although largely subjective, the review does assess program strengths and constraints. Part of the assessment will “roll up” agency actions into a collective whole to define the State’s capacity and likely success in addressing limiting factors and threats. Once completed, the assessment will serve to answer the question of what the effects of actions are likely to produce. While the task is being undertaken to establish a baseline for future Threats Criteria (federal ESA) when an ESA listed species is proposed for delisting, it will be useful in the context of the Coho Conservation Plan.

IMST Conclusion: Adequate, but the response as well as IMST’s framing of the recommendation should have been more specific.

Recommendation 3. **IMST recommends that ODFW employ multiple measurement time frames (e.g., 3, 6, 12, 24, & 48 years) and formally evaluate and model Coho ESU abundance trends across those times. Modeling should include both long-term increases and decreases in ocean productivity.**

ODFW Response: ODFW agreed with the recommendation. Oregon will be producing annual status reports that will assess a range of information relevant to coho status, habitat, and plan implementation and are designed to track progress and serve as an early warning system to detect unexpected performance in coho populations and plan implementation. A six-year status report will examine recent trends in coho abundance, environmental condition and plan implementation to evaluate progress and identify potential problems. A twelve-year assessment will be conducted with a scope similar to the 2005 coho assessment. Each report commitment recognizes that irregularly occurring events such as Pacific Decadal Oscillation and El Niño-Southern Oscillation will continue to affect coho abundance. ODFW will incorporate additional analyses into on-going monitoring, including modeling trends, to address these types of factors as they arise. Recent changes in the sampling design of Oregon Plan monitoring throughout the ESU will increase the power of analysis over time.

IMST Conclusion: Adequate.

Oregon Department of Fish and Wildlife's
Native Fish Conservation Plan for the Spring Chinook Salmon: Rogue Species
Management Unit
(ODFW February 28, 2007 draft)

A technical review requested by the Oregon Department of Fish and Wildlife. The May 30, 2007 letter report was addressed to Ed Bowles, ODFW. Responses are not expected from the agency until November 30, 2007. Agency responses and IMST's evaluations will be reported in a 2008 Administrative Report.

Recommendation 1. IMST recommends that ODFW's native fish conservation plans should contain sufficient information on data, data analysis, variance estimates and other critical information, to demonstrate whether or not the plans are scientifically rigorous.

Recommendation 2. IMST recommends that ODFW should follow steps to ensure statistical best practices are used in the conservation planning process.

Recommendation 3. IMST recommends that ODFW should include measurements of habitat variables as well as monitoring of fish abundances.

Recommendation 4. IMST recommends that ODFW investigate alternative models and relationships to explain trends and variability in observed data. For example, straight-line models might not be the "best fit"(e.g., Figures 5-7).

Recommendation 5. IMST recommends that ODFW should provide clearly defined measures and criteria for recovery in all conservation plans.

Recommendation 6. IMST recommends that ODFW should not recommend the killing of native predators without adequate research on the effectiveness of predator control. Control of non-native species should include both non-game and game fish.

Recommendation 7. IMST recommends that if Lost Creek Dam is the factor most strongly associated with the decline of spring Chinook salmon in the Rogue River, ODFW should list and evaluate all options relative to retention and operation of the project and prioritize those that would most benefit naturally produced spring Chinook salmon.