

**Independent
Multidisciplinary
Science Team
(IMST)**



State of Oregon

Robert M. Hughes
Victor Kaczynski
Nancy Molina
Carl Schreck
Clint Shock
J. Alan Yeakley

c/o
Oregon State University
Department of Fisheries &
Wildlife
104 Nash Hall
Corvallis OR 97331-3803

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Roy Elicker, Director
Oregon Dept. of Fish & Wildlife
3406 Cherry Ave, NE
Salem, Oregon 97303

Dear Director Elicker,

Over the past five years, the Independent Multidisciplinary Science Team (IMST) has reviewed seven draft native fish recovery and conservation plans for the Oregon Department of Fish and Wildlife (ODFW) and the Governor's Natural Resources Office:

- *Conservation Plan for Fall Chinook in the Rogue Species Management Unit* (November 11, 2011 review);
- *Lower Columbia River White Sturgeon Conservation Plan* (July 25, 2011);
- *Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead* (September 22, 2010 review);
- *Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead* (October 6, 2009 review);
- *Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Distinct Population Segment* (May 8, 2008 review);
- *Native Fish Conservation Plan for the Spring Chinook Salmon: Rogue Species Management Unit* (May 30, 2007 review); and
- *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit* (December 11, 2006 review).

Based on discussions with ODFW staff, we anticipate there will be at least three additional plans needing our review in the future: recovery plans for the Southern Oregon-Northern California Coho and the Snake River Recovery Domain and a conservation plan for redband trout. We may also be requested to review plan revisions that are scheduled approximately every 10 to 12 years after a plan is adopted.

In the draft plans reviewed so far, IMST has found several overarching science issues that commonly have weaknesses or inconsistencies in how they are treated among the various plans, including differences in definition, approach, and depth of coverage. Those issues are:

- climate change (e.g., water temperature, hydrological regimes, water storage and use),

- ocean conditions (e.g., regime shifts, predator, prey, productivity, hypoxia, acidification),
- projections of human population and economic growth and likely impacts on natural systems,
- competing land and water uses outside ODFW's regulatory authority that fundamentally limit salmon recovery,
- fish population definition rules (e.g., genetic, life history, dependent vs. independent populations),
- documentation of predictive models (e.g., discussion of possible alternatives, model & data selection processes, assumptions, sources of error, verification, validation, data needs, confidence limits, uncertainties),
- quantitative targets (number, size/density, recruitment, and distribution of healthy independent populations; quantitative biotic and environmental criteria),
- habitat rehabilitation at watershed and reach scales,
- information and data gaps (i.e., describe major weaknesses and research/monitoring needs),
- monitoring (e.g., detailed plans and designs, spawners, recruits, water quality, physical habitat structure, entire fish assemblages, parasites/disease, alien/invasive species, prey base, commercial and sport harvest, hatchery releases, indicators),
- adaptive management (i.e., detailed plans, action alternatives, monitoring, action levels), and
- the degree of citizen involvement in developing and implementing plans (i.e., public hearings, workshops, review, education, technical assistance).

In general the ODFW plans have shown improvement in the quality and clarity of the concepts, analyses, and writing over time. However IMST remains concerned with the unevenness among the plans in those three general areas and in the coverage of the listed overarching issues. Presumably this is because the amount and quality of data differ among basins and populations, and because entirely different staff members develop the concepts to be discussed, conduct the data analyses and modeling, and write and edit each plan. Although local knowledge and expertise are essential, greater consistency in conceptual frameworks and modeling should be common to all the plans to ensure that the overarching issues are covered adequately and consistently, and that the fish populations receive the attention that is needed for their conservation and sustainability.

Additionally, the IMST is concerned about the scientific adequacy of monitoring that ODFW is conducting on healthy salmonid populations and their habitats. During the IMST's recent review of the *Conservation Plan for Fall Chinook in the Rogue Species Management Unit*, the Team found that the available data and monitoring identified

within the plan were not adequate to detect future changes in population status. Presently, the fall Chinook populations in the Rogue River basin are considered healthy but not well monitored and there are no data available for the Illinois River population. This lack of data prevents the agency from adequately assessing when the status of populations or their habitats begin to decline. Likewise, a better understanding of what constitutes healthy (reference) conditions in terms of fish populations and their environmental conditions (including both in-stream and watershed) would aid in establishing more reasonable and rigorous expectations and benchmarks for at-risk populations. Protecting a healthy salmonid population generally costs less than the herculean actions often taken to recover the population from a depleted state and rigorous monitoring is a key piece of that protection. An agency concerned with a widely valued resource such as the Rogue River fall Chinook salmon populations and their environments must balance the costs of insufficient monitoring against the costs of future population declines and possible listing under the federal Endangered Species Act.

We therefore offer two recommendations aimed at achieving greater consistency among plans, and increasing the amount and quality of data available for assessing healthy salmonid populations. IMST's recommendations are in Attachment A. As you are aware, IMST recommendations are based on our assessment of the best available science as it pertains to salmonid recovery and watershed restoration and the management of Oregon's natural resources. Recommendations are directed to one or more state agencies or entities (e.g., Oregon Plan Core Team) that have the ability to implement or to affect changes in management or regulation that are needed for implementation. The IMST considers each recommendation important to accomplishing the mission of the Oregon Plan for Salmon and Watersheds. Under Oregon Revised Statute 541.409, state agencies or entities are required to respond to IMST recommendations (see Attachment B for information regarding formal responses).

The IMST is committed to the State's native fish conservation and recovery efforts, and as such would like to assist you during the process of developing more comprehensive monitoring, conservation and recovery plans. The IMST would be very pleased to discuss this further with you both and your staffs. Please feel free to contact us if you have any questions regarding the attached recommendation.

Sincerely yours,



Carl Schreck
IMST Co-Chair



Nancy Molina
IMST Co-Chair

cc:

Richard Whitman, GNRO
Senator Jackie Dingfelder
Representative Bob Jenson
Tom Byler, OWEB
W. Dan Edge, OFWC
Ed Bowles, ODFW
Dave Jepsen, ODFW

RECOMMENDATIONS

RECOMMENDATION 1. IMST recommends that the Oregon Department of Fish and Wildlife (ODFW) substantially raise the level of consistency and evenness of treatment of the following issues in its recovery and conservation plans for native fish:

- climate change,
- ocean conditions,
- impacts of projected human population and economic growth on natural systems,
- competing land and water uses outside ODFW's regulatory authority,
- fish population definition rules,
- documentation of predictive models,
- quantitative targets,
- habitat rehabilitation,
- information and data gaps,
- monitoring,
- adaptive management, and
- the degree of citizen involvement in developing and implementing plans.

Increasing consistency and thoroughness would likely have the added value of providing a general statewide philosophy regarding recovery and species management plans as opposed to having each region come up with its own and leaving the impression that there are no central guidelines. IMST does not make recommendations regarding agency staffing or organization, but we do observe that a greater degree of consistency might be gained by having a single oversight team of experts guide the monitoring, modeling and plan development, in collaboration with local experts who have in-depth knowledge of the subject fish populations, the human and natural limits of the watersheds, and the data needed for, and used in, analyses.

RECOMMENDATION 2. IMST recommends that the Oregon Department of Fish and Wildlife (ODFW) rigorously monitor healthy salmonid populations and their environments.

Presently, most ODFW salmonid monitoring programs are focused on federally-listed and other at-risk populations. Increased monitoring of healthy populations would provide a baseline against which to judge the future status of the population and to detect declines before a population's status falls to critically poor levels. It would also have the added value of providing information to set better benchmarks for threatened or endangered

populations. ODFW could achieve more rigorous monitoring of healthy populations by involving (and using monitoring data collected by) other state and federal natural resource agencies and local groups such as watershed councils. Regional and statewide interagency monitoring programs could produce benefits to each entity that would be difficult to obtain by a single institution.

Independent Multidisciplinary Science Team (IMST) Recommendations
Background and General Information
Adopted January 25, 2006

The IMST creates several types of reports¹. The largest reports are created in response to the IMST's continuing evaluation of the State's science needs necessary to pursue the mission and goals of the Oregon Plan for Salmon and Watersheds (Oregon Plan). These reports are generally topic-oriented and often called "landscape-level reports". An example of this type of report is Technical Report 2002-1, *Recovery of Wild Salmonids in Western Oregon Lowlands*. The landscape-level reports present IMST's independent evaluation of the state of the science regarding the resources being considered and support the evaluations with a comprehensive scientific literature review. These reports also receive extensive peer and technical review².

A second type of report the IMST generates is in response to specific requests by the Governor's Office, Legislature, state agency, or other entity to either provide guidance or to review draft reports or proposals involving topics related to the Oregon Plan. An example of this type of report is our 2005 evaluation of the State of Oregon's draft *Viability Criteria and Status Assessment of Oregon Coastal Coho*, the draft *Policy to Evaluate Conservation Efforts (PECE) analysis*, and the draft *Synthesis of Viability Analysis and Evaluation of Conservation Efforts*. A third type of report is called a "letter report" that may be prepared in response to specific questions, such as IMST's 2002 report addressing issues related to instream aggregate (gravel and sand) mining regulated by the Oregon Division of State Lands and how operations may affect salmonid habitat.

In the second and third types of reports, the IMST is often asked whether the scientific approach, analyses, and/or interpretations are credible and consistent with accepted scientific standards, and whether the assumptions and uncertainties are reasonable and accurately characterized. In both of these two types of reports, the IMST generally evaluates the scientific literature being used to support the agency's or State of Oregon's draft report or proposed actions, rather than produce a comprehensive review of available scientific literature.

Depending on the nature of the report being generated (more commonly contained in the landscape-level reports), the IMST may develop a series of scientific questions and answers that help to organize the report and to aid a reader's understanding of the topic. The scientific questions are created by the IMST and are judged to be relevant and useful to understanding the issues, resources or subjects being analyzed. In general, IMST develops and answers each science question, then summarizes its findings and conclusions for each question. Next, the IMST develops recommendations from specific

¹ All three types of reports are an undertaking of the entire Team, although subcommittees often are assigned leading responsibilities; subcommittee composition is based on Team member expertise and interest with topic areas. Minority opinions may be appended or incorporated within any IMST report.

² Although technical reports may be subject to technical and peer review, release of draft documents is restricted by the IMST in order to insure accuracy of content prior to release to a wider audience. IMST's policy is stated in the Team's Charter and Operating Guidelines: <http://www.fsl.orst.edu/imst/charter.pdf>

findings and conclusions or from a synthesis of several findings and conclusions. The recommendations are often grouped into broad subject areas for convenience and the order does not imply priority. The IMST considers each recommendation important to accomplishing the mission and goals of the Oregon Plan.

Recommendations are based on IMST's assessment of the best available science pertaining to salmonid recovery, watershed function and the management of Oregon's natural resources. Recommendations are directed to one or more agencies (or entities) that have the ability to implement, or alter management actions or regulations that are needed for implementation. **The IMST emphasizes that it looks beyond the State's current ability to implement the recommendations because current legal, regulatory, or funding situations may need to be modified over time.** The IMST believes that if an agency (or entity) agrees that a recommendation is technically sound and would aid the recovery of salmonid stocks and watersheds, the agency (or entity) would then determine what impediments might exist to prevent or delay implementation and work toward eliminating those impediments. The IMST also assumes that each agency (or entity) has the knowledge and expertise to determine how best to identify and eliminate impediments to implementation and to determine appropriate time frames and goals needed to meet the intent of the recommendation. The IMST also recognizes that an agency (or entity) may already have ongoing activities that address a particular recommendation; therefore, inclusion of such an "overlapping" recommendation should be seen as reinforcement for the continuation of such actions.

Formal Responses to Recommendations

Oregon Revised Statute (ORS) 541.409, which created the 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, the agency shall respond to the Team explaining how the agency intends to implement the suggestion or why the agency does not intend to implement the suggestion". State agencies are expected to formerly respond to IMST recommendations within six months after a report is issued.

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. Ultimately, each recommendation response is assigned to one of four general categories:

- **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.

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.

Responses that include these characteristics will be more easily characterized by IMST as *Adequate*, *Intermediate* or *Inadequate*, avoiding the use of *Indeterminate*.

The IMST evaluations of the responses are then delivered to each responding state agency (or entity) and the agency (or entity) has an opportunity to discuss the IMST evaluations of their responses. Agencies (or entities) are also encouraged to update the IMST their progress on implementing recommendations.

Finally, IMST includes any formal responses to recommendations and IMST's evaluation of the responses in its reports to the Governor and the State Legislature (e.g., Joint Committee on Salmon and Stream Enhancement or other natural resource committees as appropriate).