

**INDEPENDENT
MULTIDISCIPLINARY
SCIENCE TEAM
(IMST)**



State of Oregon

**John Buckhouse
Wayne Elmore
Stan Gregory
Kathleen Kavanagh
James Lichatowich
Logan Norris, Chair
William Percy**

February 9, 2001

The Honorable John A. Kitzhaber
Governor of Oregon
State Capitol
Salem OR 973 10

The Honorable Gene Derfler
Oregon Senate President
State Capitol
Salem OR 973 10

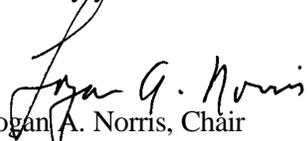
The Honorable Mark Simmons
Oregon House Speaker
State Capitol
Salem OR 973 10

Enclosed is an Administrative Report evaluating the responses we have received regarding specific recommendations of the IMST. Under Senate Bill 924, agencies are required to respond to specific recommendations made by the IMST concerning scientific and technical issues within the Oregon Plan. Agency responses are to be sent to the Manager of the Oregon Plan and shared with the IMST. Initially we began keeping a check list of recommendations made and whether or not an agency acknowledge and/or responded to specific recommendations. Although this system works to keep track of recommendations and responses it does not evaluate how the responses and subsequent actions by the agencies may affect the success of the Oregon Plan and eventual recovery of salmonids.

The members of IMST have evaluated the responses received to date in this report. Our analysis is not exhaustive but serves as an alert to the State of our view of the responses and to promote further communication and interaction with agencies involved with the Oregon Plan.

We will be glad to discuss any of this with you in more detail if that would be helpful.

Sincerely yours,


Logan A. Norris, Chair
Independent Multidisciplinary Science Team

LAN:grs

Enclosures
Evaluation of Responses Report

cc with Enclosure:

House Committee for Stream Restoration and Species Recovery
Roy Hemmingway, Manager, Oregon Plan
IMST

Evaluation of Responses to IMST Recommendations

Administrative Report 2001-1

A report of the
Independent Multidisciplinary Science Team,
Oregon Plan for Salmon and Watersheds

February 9, 2001

Members of the IMST

Logan Norris, Team Chair, Department of Forest Science, Oregon State University

John Buckhouse, Department of Rangeland Resources, Oregon State University

Wayne Elmore, Bureau of Land Management, US Dept. of Interior

Stanley Gregory, Department of Fisheries and Wildlife, Oregon State University

Kathleen Kavanagh, Department of Forest Resources, University of Idaho

James Lichatowich, Alder Fork Consulting

William Percy, College of Oceanic and Atmospheric Science, Oregon State University

Citation: Independent Multidisciplinary Science Team. 2001. Evaluation of Responses to IMST Recommendations. Administrative Report 2001-1 to the Oregon Plan for Salmon and Watersheds. Oregon Watershed Enhancement Board. Salem, Oregon.

Acknowledgements

The IMST would like to thank Kathleen Maas-Hebner for her contributions to writing and producing this report. We are grateful to Glenda Serpa for her administrative support in the production of the report.

Table of Contents

Executive Summary 1

Introduction..... 3

Technical Report 1998-1..... 4

Technical Report 1998-2..... 7

Technical Report 1999-1..... 9

3/22/99 Letter Report to Jim Greer, Director of ODFW..... 13

4/1/99 Letter Report to Appointing Authority 13

2/15/00 Letter Report to Jim Greer, Director of ODFW..... 17

5/26/00 letter to Geoff Huntington, Executive Director of OWEB 18

9/6/00 letter to Kay Brown, Fish Division Policy Coordinator for ODFW..... 20

10/25/00 Letter to Kay Brown, Fish Division Policy Coordinator for ODFW 24

Conclusions 25

Appendix 1. Catalog of Recommendations from IMST and Status of Responses. 1-1

Executive Summary

Senate Bill 924, 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 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 suggestion as recommendations and has directed them to specific agencies. The recommendations of the Team are included in Technical Reports, Letter Reports and letters. They deal with technical and scientific matters that the Team feels are important for the Oregon Plan. A catalog of recommendations and responses is in the Appendix. It shows the status of responses to the recommendations as of January 31, 2001, but does not evaluate their adequacy or appropriateness in terms of the accomplishing the mission of the Oregon Plan.

Through December 31, 2000, the IMST has made 68 specific recommendations. We have received responses to 48 (70 %) of these. Of 53 recommendations issued prior to July 1, 2000 (therefore more than six months old) we have received responses to 38 (72 %), leaving 15 (28 %) for which we have no response or only a preliminary response. Another 15 were issued after July 1, 2000 for which we have received responses to 10 (77 %) and the remaining 5 (33%) without responses are still within the six-month response period. In some cases, the delay in formal responses simply reflects the time required to process them.

The IMST evaluated the scientific adequacy of all of the agency responses received through January 31, 2001. Four general categories were used to evaluate responses: adequate, intermediate, inadequate, and 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. We note our concerns but stop short of suggesting that the recommendation to 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 suggest that the decision be reconsidered.
- Indeterminate means that we can not tell what the agency decided to do with the recommendation or that we do not have enough information to fully evaluate their response.

In general the adequacy of responses received is good. In our opinion:

- 60 % of the responses are adequate.
- 4 % are intermediate.

- 6 % of the responses or related actions by the responding agency are inadequate.
- 30 % of the responses are indeterminate in that they did not provide the Team with sufficient information to determine what the agency decided to do with the recommendation, or how the decision may affect the success of the Oregon Plan. In a few cases, an agency indicated that they did not clearly understand the meaning of the recommendation. In these cases, we expect the agency to alert the IMST to the problem and to request clarification.

As a result of this analysis of agency responses to IMST recommendations, we conclude that:

- Agency responses need to explicitly address each recommendation, noting how the agency intends to implement it or why they are not going to implement it (as called for in Senate Bill 924).
- The Manager of the Oregon Plan, or some other individual specifically charged to do so should:
 - Ensure agencies respond to IMST recommendations in a timely manner
 - Obtain clarification from agencies when their responses do not permit determination of their intent
 - Monitor long-term implementation of recommendations adopted by agencies
 - Obtain resolution of significant points of disagreements between agency responses and IMST recommendations.

Introduction

Senate Bill 924, 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 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. The recommendations of the Team are included in Technical Reports, Letter Reports and letters. They deal with technical and scientific matters that the Team feels are important for the Oregon Plan. A catalog of recommendations and responses is in the appendix. It shows the status of responses to the recommendations as of January 31, 2001, but does not evaluate their adequacy or appropriateness in terms of the accomplishing the mission of the Oregon Plan.

In this report 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.

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. We note our concerns but stop 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 suggest that the decision be reconsidered.
- Indeterminate means that we can not tell what the agency decided to do with the recommendation, or that we do not have enough information to fully evaluate their response.

The material is organized by the report or letter from which the recommendation came.

Technical Report 1998-1, Review of the Hatchery Measures in the Oregon Plan for Salmon and Watersheds. Part I: Consistency of the Oregon With Recommendations From Recent Scientific Review Panels

Recommendation 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.

ODFW response: The lack of funding and staff has limited ODFW's ability to accomplish measure 11.A.3 in a more timely manner. Some components of the measure are being worked on to bring them to conclusion.

IMST conclusion: *Indeterminate*. The response is vague as to what they will actually do. Will ODFW ask for funds to implement the recommendations? Can they reprioritize funds? Do they consider it too low a priority to do either?

Recommendation 2. ODFW establish and implement a specific program to determine if it's coastal coho hatcheries are meeting their objectives, and the process by which management will be adapted if they are not.

ODFW response: ODFW recently completed a hatchery review that evaluated the effectiveness of current coastal hatchery programs in meeting their stated purpose, goals, and objectives. An adaptive management processes that develops strategies specific to each hatchery will be developed subsequent to the completion of genetic monitoring and evaluation plans and a review of the implications of recently completed work relevant to this recommendation.

IMST conclusion: *Adequate*. The review referred to in their response did turn up some problems that need to be addressed. Their genetic monitoring and evaluation plans appear to be adequate and will lead to implementation of this recommendation, although it may take longer than it should.

Recommendation 3. ODFW develop and implement a program of research that determines the effects of wild-hatchery fish interactions.

ODFW response: The agency is supportive of pursuing well designed research projects but developing such complex and expensive programs will be more useful for future program modification rather than for immediate application. They suggest that limited measures already in use are useful in assessing the effects of wild-hatchery fish interactions.

IMST conclusion: *Adequate*. We agree in principle with their response. However, ODFW should develop a long-range plan and commitment to obtain the funds and conduct the research, including the possibility of cooperative research with other agencies.

Recommendation 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.

ODFW response: The agency agrees that it is appropriate to implement management actions and monitoring measures that are the logical outcome of reliable research results.

IMST conclusion: Indeterminate. What will they do?

Recommendation 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.

ODFW response: ODFW has staff working on implementation of Oregon Plan strategies to quantify and reduce impacts of mixed stock fisheries on recovery of depressed OCN stocks. Other ongoing Department efforts are also addressing this recommendation.

IMST conclusion: Adequate. Refer to IMST letter reports (in this report) dated March 22, 1999 and February 15, 2000 to Jim Greer regarding ocean harvests of coho salmon for further information on this point.

Recommendation 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.

ODFW response: Ongoing studies in Alsea Bay are attempting to evaluate this problem but ODFW points out that funding is inadequate at this time to develop a full evaluation research program to determine the impact of hatchery release practices on the predation of salmon.

IMST conclusion: Adequate. We agree in principle with their response. However, ODFW should develop a long range-plan and commitment to obtain the funds and conduct the research, including the possibility of cooperative research with other agencies.

Recommendation 7. ODFW use hatcheries as important tools in research that supports monitoring programs.

ODFW response: ODFW lists two Oregon Plan measures that address these activities and department staff are being allocated to accomplish these measures. ODFW requests greater specificity in this recommendation to assist in designing and implementing further efforts.

IMST conclusion: *Adequate* in principle. IMST provides the following additional information to help with implementation.

Better estimates of non-retention mortality can be made by continuing and expanding double index tagging of hatchery fish during years when selective coho fisheries are implemented. In order to account for differences in recovery rates of marked and unmarked fish, accurate data are needed on exploitation rates in both commercial and recreational fisheries.

Analysis of pit tags recovered on Caspian nesting tern locations can be used to evaluate hypotheses that prey selection by terns is influenced by hatchery origin, time of release, size, health, smoltification, transport, hatchery practices, and passage conditions in the river. The mortality of smolts in the upper estuary could be estimated by experimental releases of groups of fish into to lower Columbia River along with controls released at Bonneville.

Studies are also needed that relate hatchery releases of smolts to pinniped predation in order to gain knowledge of these impacts on both hatchery and wild stocks. Variables such as month and year of release, magnitude and size of release groups, predator numbers and food habits, alternative prey availability, and other environmental variables should be evaluated during critical periods of ocean entry. The effects of the release of hatchery smolts on the aggregation of predators and their impact on both hatchery and natural smolts should be determined using experimental releases of hatchery fish.

Recommendation 8. ODFW establish explicit coordination between hatchery programs and monitoring programs to help them ensure that they accomplish management and research objectives.

ODFW response: The agency believes that coordination is occurring between hatcheries and monitoring programs, although this is not always documented. ODFW has an Oregon Plan monitoring coordinator obligated to assist in improving coordination between hatchery and monitoring programs.

IMST conclusion: *Indeterminate.* The hatchery audit showed that hatchery staff are either not aware of monitoring information or they are not using it. Either way it is a problem that needs to be resolved. We encourage ODFW to evaluate the coordination that is occurring, and improve it where needed.

Technical Report 1998-2, Pinniped and Seabird Predation: Implications for Recovery of Threatened Stocks of Salmonids in Oregon Under the Oregon Plan for Salmon and Watersheds

Recommendation 1. Determine the factors influencing high predation rates on salmonid smolts in the Columbia River estuary.

ODFW response: ODFW is involved in the interagency Caspian Tern Working Group focusing on the lower Columbia River. The Department supports continued research on tern/cormorant predation on salmon. They are also in communication with NMFS their harbor seal predation studies.

IMST conclusion: Adequate.

Recommendation 2. Improve the estimates of the impact of pinniped predation on salmonid stocks and on the recovery of depressed stocks.

ODFW response: ODFW is involved as a lead member of a west coast wide working group to address the question of pinniped predation on salmonids and its effects on their recovery. ODFW research is taking place on the Rogue and Alsea Rivers and estimates of losses to predation should be available after the third year of research.

IMST conclusion: Adequate.

Recommendation 3. Improve estimates of the impacts of seabird predators on wild salmonids.

ODFW response: ODFW is supporting continued research on the Columbia River to assess changes in Caspian tern diets. Funding to continue seabird predation studies is also being provided by federal agencies and Oregon State University.

IMST conclusion: Adequate.

Recommendation 4. Test the feasibility of relocation of Caspian terns to other nesting sites and evaluate the consequences of tern relocation on all salmonids stocks in the area.

ODFW response: In 1999 the interagency Caspian Tern Working Group successfully relocated 1400 pairs from Rice Island in the Columbia River to East Sand Island. The efforts will continue during 2000 with the goal of relocating the entire colony to East Sand Island and other potential sites along the Washington coast. Monitoring of tern food habits will continue as part of this project.

IMST conclusion: Adequate in regards to testing the feasibility of relocating terns.

IMST conclusion: Indeterminate concerning if and how the agency is evaluating the consequences of tern relocation to nearby salmonid stocks in Washington.

Recommendation 5. Evaluate the effectiveness of cormorant hazing in Oregon's estuaries

ODFW response: Research was initiated in 1999 to study avian predation and implications for smolt migration through north coast estuaries. Work in Nehalem Bay during 1999 included evaluation of cormorant harassment. Because of inconsistencies present in the data collected from the Nehalem, Tillamook, and Nestucca systems, and the lack of standardized reporting, it was not possible to evaluate harassment methods.

IMST conclusion: Inadequate. We are concerned that hazing techniques are being used prior to instituting a program to evaluate the effects on target and non-target species. Based on the lack of a full evaluation we feel that hazing programs should not move forward because the resources used by this program might be better allocated to other aspects of the Oregon Plan.

Recommendation 6. Use modeling of pinniped and avian predation in risk assessment.

ODFW response: Estimates of losses to pinniped predation at the Rogue and Alsea will be available for consideration by managers and fish stock recovery modelers. Preliminary modeling on the Columbia River has resulted in the current effort to relocate terns to the lower estuary. For 2000, should relocation be successful, a 25-45% reduction in consumption of smolts by terns is expected.

IMST conclusion: Indeterminate. The response does not give evidence of predation data being utilized in risk assessment.

Recommendation 7. Improve coordination with monitoring activities under the Oregon Plan, and coordinate with research projects on pinniped predation along the northwestern coast of North America.

ODFW response: The West Coast pinniped predation working group coordinated by NMFS is operating successfully with monthly conference calls on work progress and problem resolution. Annual meetings are held to present and review research results. ODFW pinniped predation work is being coordinated with salmonid stock assessment work for the Rogue and Alsea Rivers. NMFS and ODFW fisheries biologists participated in development and monitoring of the ODFW pinniped predation studies.

IMST conclusion: Adequate.

Technical Report 1999-1, Recovery of Wild Salmonids in Western Oregon Forests: Oregon Forest Practices Act Rules and the Measures in the Oregon Plan for Salmon and Watersheds

Recommendation 1. Explicitly incorporate the policy objective of the Oregon Plan and Executive Order 99-01 into OFPA.

Recommendation 2. ODF should develop a policy framework to encompass landscape (large watershed) level planning and operations on forests within the range of wild salmonids in Oregon. IMST recommends that the following elements be included in this modified forest policy framework:

Recommendation 3. Treat non-fish-bearing streams the same as small, medium, and large fish-bearing streams when determining buffer-width protection.

Recommendation 4. Provide increased riparian protection for the 100-year floodplains and islands.

Recommendation 5. Increase the conifer basal-area requirement and the number-of-trees requirement for RMAs, with increases in these requirements for medium and small streams regardless of fish presence.

Recommendation 6. Complete the study of the effectiveness of the OFPA rules in providing large wood for the short- and long-term.

Recommendation 7. Provide enhanced certainty of protection for “core areas”.

Recommendation 8. Develop and implement standards or guidelines that reduce the length of roadside drainage ditches that discharge into channels.

Recommendation 9. Implement the standards and guidelines for the length of roadside drainage ditch between cross-drainage structures, especially on steep-gradient roads.

Recommendation 10. Require the flow capacity of cross-drainage structures and stream-crossing structures and culverts to meet current design standards.

Recommendation 11. Provide for the stabilization of roads not constructed to current standards (including "old roads and railroad grades") in critical locations. Stabilization means reduction or elimination of the potential for failure. It includes a variety of strategies ranging from removal to abandonment, entirely or of sections, by which specific roads and railroad grades become a much less important source of sediment.

Recommendation 12. Require durable surfacing on wet-season haul roads and require that hauling cease before surfaces become soft or “pump” sediment to the surface.

Recommendation 13. Retain trees on "high risk slopes" and in likely debris torrent tracks to increase the likelihood that large wood will be transported to streams when landslides and debris torrents occur.

Recommendation 14. Continue to apply the current best management practices (BMP) approach to the management of forest lands with significant landslide potential, and develop a better case history basis for evaluating the effectiveness of BMP in this area.

Recommendation 15. Modify culverts and other structures to permit the passage of juvenile and adult salmonids upstream and downstream at forest road-stream crossings.

ODF response: ODF acknowledged receipt of the recommendations 1 – 15 and indicated that they were forwarding them to the Board of Forestry's Ad Hoc Forest Practices Advisory Committee for consideration for their proceedings, fall 1999. However, ODF has not yet made any formal responses to these recommendations.

IMST conclusion: We do not know their current position on these recommendations or when they expect to be able to communicate them to us.

Recommendation 16. ODFW and ODF should develop a collaborative program of monitoring to quantify the linkages between parameters of ecosystem condition and wild salmonid recovery.

ODFW/ODF response: Though lacking a specific response from ODF, ODFW responded that they have developed a collaborative monitoring program with ODF and other state agencies through the interagency monitoring team. They are in the process of collecting data for some parameter that describe ecosystem condition. They agree that it is important to understand the linkages between parameters of ecosystem condition and wild salmonid recovery and intend to continue their efforts to build data to help understand these relationships.

IMST conclusion: *Adequate.* While there is no explicit response from ODF as yet, it appears the collaborative program recommended is in-place. Analysis of the outcomes of this collaborative program are suggested for the future to verify that it is providing the quantitative relationships between ecosystem condition and salmonid recovery that is at the heart of this recommendation.

Recommendation 17. ODFW should complete "core area" designation for all wild salmonids in Oregon and identify high priority protection/restoration areas that are not covered by current "core area" designations. ODFW should work with the Oregon Plan Implementation Team in prioritizing habitat for enhanced levels of protection and/or restoration.

ODFW response: Efforts related to this task have recently begun and will continue until September 2001 in coastal basin of western Oregon. A staff member has been hired to identify "priority areas" for salmon conservation. This expands the efforts by personnel identifying salmon emphasis areas for the ODF Western Oregon State Forest Planning effort. Their intent is to continue this effort statewide if they receive the funding for it in the next Biennium.

IMST conclusion: *Adequate.* ODFW appears committed to this effort, although based on the response from ODFW it appears implementation may require additional financial resources. IMST urges ODFW to make this a priority issue in their biennial plan of work and budget request.

Recommendation 18. ODFW should include consideration of practices (forestry, agriculture, urban, other land uses) above and below core areas, as these may affect the conditions and processes critical to maintenance of core area function in forestry areas.

ODFW response: ODFW finds that this task may be related to Recommendation 17. The ongoing effort to identify "priority areas" is using the 6th field Hydrological HUC as the base of establishing these areas rather than stream segments (as was done for core areas).

IMST conclusion: *Inadequate.* The intent of our recommendation is to evaluate the condition of the watershed system within which "core areas" occur. The purpose is to identify key limiting factors above and below "core areas" that may significantly limit their ability to provide the recovery functions intended for these areas.

We accept that ODFW has moved from the stream segment approach to core areas to using "priority areas" via 6th field Hydrological HUC as a basis. However we believe that the intent of Recommendation 18 remains appropriate, and calls for analysis of habitat condition and land use practices within the entire watershed that includes a "priority area" such that limitations in function of such areas at the watershed scale are identified. Once identified, these limitations should have priority for remediation.

We urge reconsideration of Recommendation 18 in this light.

Recommendation 19. The Oregon Forest Research Laboratory (FRL), in collaboration with ODFW, should develop forest road-stream crossing strategies that facilitate the passage of large wood at road-stream crossings.

ODFW response: To the best of ODFW's knowledge, no action has been completed or initiated on this recommendation. They agree that it is an important issue and it was discussed in the FPAC process and there are related items in the FPAC report recommendation that support this need. However, ODFW is not working independently with FRL.

FRL response: No response to date.

IMST conclusion: Indeterminate. There has been no response to this recommendation from the Forest Research Laboratory, and only a preliminary response to it from ODFW. Given the supporting commentary from the Board or Forestry's Ad Hoc Forest Practices Advisory Committee , we urge the FRL to provide the leadership needed to move an initiative in this area forward, in collaboration with ODF and ODFW.

3/22/99 Letter Report to Jim Greer, Director of ODFW, regarding year 1999 salmon management options proposed by the PFMC

Recommendation 1. The State of Oregon encourage the PFMC to adopt the goals of Amendment 13 (“to remove the fishery related impacts as a significant impediment to the recovery of depressed OCN coho and to allow rebuilding of the component populations subgroups to higher levels”).

ODFW response: ODFW agrees with this recommendation. Both Plan Amendment 13 and the risk assessment were peer reviewed by STT and SCC. The allowable impact criteria in Amendment 13 are identical to those in NMFS jeopardy standards for OCN under the ESA.

IMST conclusion: *Adequate.*

Recommendation 2. The State of Oregon encourage the PFMC to adopt

- the recreational fishery option III (no selective fishery south of Cape Falcon),
- troll option III north of Cape Fakon, and troll option II south of Cape Falcon

ODFW response: ODFW has difficulty understanding these recommendations and find discrepancies in IMST's logic. They also find no evidence that a July closure of the troll fisheries to be the most effective strategy for limiting OCN impacts.

IMST conclusion: *Intermediate.* It is difficult to understand how the agency could see "no evidence" in light of the very low numbers of projected OCN coho adults. While the non-retention mortalities associated with the fishery would not jeopardize the Oregon Plan, they add potential for mortality at a critical period of conservation.

4/1/99 Letter Report to Appointing Authority regarding 1998 annual review of the Oregon Plan Monitoring Program

Recommendation 1. The Interagency Monitoring Team organization. The monitoring Teams should be organized to effectively address and prioritize key issues, to identify the highest priority questions that are to be answered by monitoring in the context of the goals of the Oregon Plan, and to implement actions. This will result in prioritization of effort and a shift of focus from the tasks in the monitoring program to the goals to be attained. Tasks need to be adopted to answer the high priority questions. We feel this will encourage cooperation and minimize omissions in the scientific approach.

Monitoring Team response: A strategy document has been drafted which outlines key question for each monitoring program component and identifies the level of effort applied to each question. The final draft strategy report was to be completed prior to the April 2000 public review of the program.

IMST conclusion: Adequate. Response is adequate as long as a report is issued, but as of 1/31/2001 no draft has been finalized.

IMST conclusion: Indeterminate. We conclude that the effectiveness of the report is indeterminate until the IMST has an opportunity to review it.

Recommendation 2. The Interagency Monitoring Team should do the following:

Short Term

- Define what constitutes an annual period in the monitoring program. Is it the calendar year, or would some other 12-month period be more logical?

Monitoring Team response: The Monitoring Team has chosen an annual, October-October water year for their reporting period. This corresponds to the life cycle of salmon and to many field season schedules.

IMST conclusion: Adequate.

- Define what constitutes a comprehensive report of the monitoring effort for this period. It seems logical that this might be the Annual Monitoring Report and the synthesis that results from the Interagency Monitoring Conference.

Monitoring Team response: The comprehensive report will provide documentation of the overall monitoring strategy, detailed descriptions of the type, location, and scope of the monitoring activity, and identification of issues and needs relevant to monitoring. A report appendix will include sampling protocol, field methods, analysis plan, and examples of how data should be used for each activity.

IMST conclusion: Adequate. The response is adequate as long as this report gets written, but it has not been as of 1/31/2001.

IMST conclusion: Indeterminate. We conclude that the effectiveness of the report is indeterminate until it has been finalized and the IMST has an opportunity to review it.

- Establish a schedule for the production of these documents and provide them to the IMST to facilitate our annual review of the monitoring program.

Monitoring Team response: The comprehensive report will be produced for the annual April review of the monitoring program. Individual project reports will be completed by each agency on a regular and published schedule. ODFW's schedule was given as an example.

IMST conclusion: Adequate. The response is adequate as long as these reports are prepared. The performance of the Monitoring Team in

accomplishing the recommendation is indeterminate as they are having difficulty maintaining their schedule. The comprehensive report should be put as a priority item. We encourage them to reevaluate the schedules for individual project reports to determine if they have them planned within the necessary time frames, some project reports may not be needed annually but rather every 2-5 years.

- Provide the IMST with specific questions on which scientific guidance is desired.

Monitoring Team response: The Monitoring Team agrees that this should be an ongoing interaction with IMST.

IMST conclusion: *Indeterminate.* We do not know if they will be providing specific questions for the IMST to work with or within what time frame. We encourage the Monitoring Team to be proactive in seeking our assistance on all scientific aspects of the program, particularly in the early stages of its' development.

Long Term

- Develop and adopt a strategy to ensure integrating and synthesizing of monitoring data collected by the agencies, and relate the output to the goals of the Oregon Plan. We think this is particularly important in understanding the relationships between ocean conditions and onshore aquatic habitat conditions.

Monitoring Team response: The Monitoring Team agrees that this is important and is working toward this goal. Development of clear, quantifiable, goals for population health and watershed condition have not been done.

IMST conclusion: *Indeterminate.* We do not know how they will implement their intention. How and when it would be done and what it would contain are critically important.

- Encourage cooperation and coordination with the Governor's Watershed Enhancement Board and the Watershed Councils.

Monitoring Team response: The Monitoring Team provides technical review of proposals to OWEB that have monitoring components and works to ensure that field activities are coordinated.

IMST conclusion: *Indeterminate.* We do not know what that they are doing to accomplish this recommendation.

- Develop strategies and specific mechanisms to ensure that information from the monitoring program is incorporated into the adaptive management strategies of each agency. Part of this may be various forms of technology transfer. Findings of the Monitoring Team apparently are not being transferred and getting to field level entities responsible for implementing elements of the Oregon Plan (watershed councils, agency field personnel, etc.). We suggest the report for the annual monitoring program should include a section on technology transfer that will facilitate adaptive management actions.

Monitoring Team response: The Monitoring Team Charter, as signed by each of the natural resource agency directors, establishes a commitment to incorporate monitoring into their management strategies. They are also working to develop locally appropriate objectives for the Oregon Plan.

IMST conclusion: *Indeterminate.* We do not know how they plan to accomplish this recommendation.

Recommendation 3. The Interagency Monitoring Team has identified ocean and estuarine systems as key components in the Monitoring Plan. These monitoring efforts have not been implemented, yet these environments are a critical part of the habitat.

Monitoring Team response: The Monitoring Team has established a working group to address coordination in this area. The group plans to coordinate current efforts, identify research and monitoring areas, develop greater access to information, and to link monitoring in estuaries to other activities conducted to evaluate watershed processes.

IMST conclusion: *Adequate.* This initial response is adequate, but the effectiveness of the work group remains to be demonstrated.

Recommendation 4. The Manager of the Oregon Plan should evaluate staffing needs and levels devoted to the oversight, management and integrative and synthetic activities of the monitoring program. The Steelhead Supplement pg. 16-33 lists two staff positions that will be funded to accomplish this task, but our observation is that these are existing staff members that have been assigned these functions on a collateral duty basis. It is our opinion that this has resulted in inadequate staff time to successfully accomplish the task.

Oregon Plan Manager/Monitoring Team response: The Monitoring Team agrees that additional support staff, information management staff, and report production staff are needed. The decision about future staffing will be made by the Governor's Office in coordination with OWEB, state agencies, and the Legislature.

IMST conclusion: *Adequate.* These two positions were included in the Governor's budget for the 2001-2003 biennium. As long as these staff positions are filled with full time experienced people to providing needed integrative and synthetic activities to the monitoring program, the response is adequate.

Recommendation 5. The Salmon Core Team should accomplish greater integration and collaboration between federal and state monitoring efforts. The IMST recommends active participation from the Federal Agencies at the Regional and State Office level with State Agencies. This cooperation is critical to any successful species recovery effort, given that essential habitat occurs on both federal and non-federal lands. Disconnected, uncoordinated individual monitoring strategies simply will not be sufficient to provide adequate information to implement adaptive management on the landscape scales that will be necessary to restore aquatic habitats in the Pacific Northwest. After many meetings and even with agreement to coordinate at the policy level, it is clear that State and Federal Agencies are still not very good at working together. We believe it will likely take a concerted effort by agency executives to ensure this goal is achieved at the operating level.

Salmon Core Team/Monitoring Team response: They agree that this is necessary and ongoing efforts are underway. Federal agencies participate on the Monitoring Team. State and federal agencies coordinate on implementation of the 4(d) rule, share information of restoration efforts, and monitoring projects. Federal agencies provide direct financial, technical, and policy support for the Oregon Plan. Policy coordination also occurs between state agency directors and the Governor's office with the leadership of federal agencies within the region.

IMST conclusion: *Indeterminate.* The initial response is positive and we encourage the Monitoring Team to further develop and expand these coordination activities into integration and collaboration of monitoring issues and programs statewide in order to maximize resources and to help the Monitoring Program move beyond local and short-term scales.

2/15/00 Letter Report to Jim Greer, Director of ODFW, regarding year 2000 salmon management options proposed by the PFMC

Recommendation 1. ODFW and PFMC maximize spawner escapement and abundance in the adult recruits of 2000.

ODFW response: From 1994 through 1997 PFMC implemented an escapement goal management policy for OCN coho under Amendment 13. Preliminary analysis of 1999 data indicate that the post season estimate of impacts will be less than the pre-season projection and will once again be about half of the allowable (15%) in the Amendment 13 matrix.

IMST conclusion: *Intermediate.* IMST has praised the lowering of impacts on coho under Amendment 13, but we have noted the need for additional measures at extremely low spawner abundances or periods of extremely low ocean survival. Again, the non-retention mortalities associated with the fishery would not jeopardize the Oregon Plan, but the IMST continues to recommend the State to minimize impacts on coho where possible.

Recommendation 2. Where ODFW participates in fishery decisions, ODFW minimize impacts to OCN stocks by not recommending a selective fishery in ocean coho salmon during the year 2000.

ODFW response: If there is no selective fishery on ocean coho salmon, ODFW contends that increases in other fisheries, such as for chinook, would still have impacts on coho and total OCN impacts would rise to the accepted total allowable level regardless of where they occur. They believe that the only way to effectively lower overall impacts on OCN coho is to convince PFMC or NMFS to lower the total allowable level.

IMST conclusion: *Intermediate.* ODFW is correct that lowering the total allowable level is essential and the various directed harvest and indirect impacts from other fisheries by other states affects OCN coho. The management and negotiations within PFMC are complex, but IMST continues to urge ODFW and the State of Oregon to take additional measures at extremely low spawner abundances or periods of extremely low ocean survival. These measures are important even if Oregon acts unilaterally (within actions allowed under regional management) and leads by example. Regional management tends to base it's decisions on the starting point that there will be harvest and impacts and the burden of proof is on any group that recommends reduced impacts. Under critical periods for conservation, precautionary approaches would place the burden of proof on any groups proposing actions that create impacts. The IMST continues to recommend the State to minimize impacts on coho where possible.

5/26/00 letter to Geoff Huntington, Executive Director of OWEB, regarding proposals submitted to OWEB

Specifically we make four recommendations - the first two deal with the proposals provided, and the second two deal with the process for science review.

Recommendation 1. Fund only the proposal focusing on the Nehalem watershed.

This recommendation is based on our assessment that the techniques proposed are in relatively early stages of development and specific experience with them in our context is advised before making additional investments in this area.

OWEB response: OWEB considered information provided by the IMST and funded the proposed Nehalem watershed project.

IMST conclusion: *Adequate.*

Recommendation 2. Request that the investigators determine the degree to which implantation affects the behavior of these fish.

We are concerned that the effect of implantation of the devices on the behavior of the fish is unknown. Without a method for determining that the behavior of implanted fish is essentially the same or very similar to “control” wild fish, the results will subject to criticism that the effects noted are the result of implantation and therefore not representative of what we would expect normally in wild fish.

OWEB response: OWEB considered information provided by the IMST and did not fund this proposed project.

IMST conclusion: Adequate.

Recommendation 3. Develop a proposal format requirement that is designed for research proposals.

With regards to future research proposals to OWEB, we find the format requirements of proposals to OWEB poorly structured for research proposals. Some of the difficulty we had in our review reflects the use of the current forms. The time-tested approach to research proposals used by NSF, USDA competitive grants, and many others will better meet the needs of scientific reviewers and ultimately OWEB. These provide the framework in which

- the hypotheses to be tested can be explicitly stated,
- the methods proposed can be given in enough detail for reviewers to determine if they are likely to work (without the reviewers doing a review of the literature),
- investigators explain how they will go from data collection through data analysis to draw anticipated conclusions, and
- the financial, personnel and other resources needed or available for the project can be displayed.

OWEB response: With IMST's assistance, OWEB developed a process for prioritizing its investments in research by proactively seeking proposals on specific projects rather than responding to individual grant requests overtime. OWEB adopted staff report recommendation early 2001.

IMST conclusion: Adequate.

Recommendation 4. Expand the scope of science review for research proposals.

The IMST can accommodate review of a limited number of research proposals, but we feel it would be useful for you to request review from others as well. As an example, ODFW has technical staff competent to provide scientific review of these proposals. A broader base of review will reduce the potential for institutional or cultural bias, it will more likely result in detection of areas of weakness or strength, and it will serve to inform others of this impending work. In aggregate this may result in improvements in the proposal and the work, and may result in levels of collaboration with others.

OWEB response: Since OWEB recently adopted a process of seeking proposals on prioritized research topics; OWEB will not be implementing this recommendation.

IMST conclusion: Adequate.

9/6/00 letter to Kay Brown, Fish Division Policy Coordinator for ODFW, regarding establishment salmon harvest levels by the PFMC

Recommendation 1. ODFW advocate new criteria be incorporated into the matrix of Amendment 13 to include “very low” OCN coho salmon parent spawner abundance and “very low” marine survival.

ODFW response: ODFW supports the recommendations by PFMC's OCN Working Group to include very low and critical conservative levels of parent spawner abundance and extremely low marine survival categories. The OCN Work Group proposes to expand the current 3×3 harvest matrix to 4×5 in order to address the lower levels of productivity.

IMST conclusion: Adequate. Initial response is positive.

IMST conclusion: Inadequate. Unfortunately, the ODFW response in PFMC negotiations (after public discussion of the OCN Working Group Report) was a motion to adopt the report only as guidance and to continue to manage under the matrix and policies of Amendment 13. The IMST finds this action to be inadequate implementation of the recommendation to advocate that new criteria be incorporated. If ODFW and the State of Oregon endorse the OCN Working Group Report and the additional measures for extreme conditions, the motion put forward by the Oregon representative weakens that position and is contradictory to our recommendation of and advocacy position for the State of Oregon by the Department. The IMST strongly endorses the new matrix proposed by the OCN Working Group. We urge recommitment of ODFW to the recommendation including advocacy that PFMC adopt the proposed matrix into its management framework.

Recommendation 2. ODFW advocate the applicability of (a) the minimum sustainable escapement (MSE) concept to augment the use of (b) the number of OCN ocean recruits in setting harvest impacts.

ODFW response: ODFW feels that the new "critical" and "very low" parental spawner categories and the extremely low allowable incidental impacts (in the 4×5 matrix recommended by the OCN Work Group) that correspond to spawner abundance are consistent with the MSE concept recommended by the IMST.

ODFW finds the phrase "augment us of (b) the number of ocean recruits in setting harvest impacts" unclear. They agree that setting harvest rates based on the number of ocean recruits is desirable but they have been unable to achieve this goal with respect to OCN coho because they lack a reliable forecasting model for predicting

ocean recruit numbers. And state that the harvest management matrix in Amendment 13 are based on measured, not predicted, population attributes and that management evolved to circumvent the imprecision inherent in OCN coho escapement goal management based on ocean recruit forecasts.

IMST conclusion: *Adequate.* As pointed out above, IMST supports the new matrix proposed by the OCN Working Group, especially the new "critical" and "very low" parental spawner categories. IMST recommends the State to make every effort to have the proposed matrix adopted by PFMC as its management framework. Unfortunately, current PFMC action is to use the report only as guidance and to continue to manage under the matrix and policies of Amendment 13.

IMST used the term "augment" to indicate conservative measures beyond the existing matrix in Amendment 13.

Recommendation 3. ODFW advocate that decisions to change harvest levels incorporate elements of stock abundance over longer periods of time and include consideration of the spatial distribution of stocks.

ODFW response: ODFW does not feel that IMST is specific enough when referring to a "longer period of time" nor do they explain the advantages of delaying relaxation of constraints once stock abundance meets the criteria in Amendment 13. ODFW states that results of the habitat-based production model suggest that the population productivity of OCN coho is not overly sensitive to modest changes in parental spawner abundance once they exceed "critical" status and marine survival exceeds "extremely low" status. They continue to say that compensatory effects during the juvenile freshwater life stage may more than offset the relatively small reduction in adult spawners from small incidental impacts permitted under Amendment 13 as the population recovers.

IMST conclusion: *Indeterminate.* The OCN Working Group Report provided new measures based on numbers of spawners per mile. This represents a move in the direction recommended by IMST in terms of spatial distribution. IMST recognizes and endorses the combined limitations of Amendment 13 for both marine survival and spawner abundance. We still encourage ODFW to consider the implications of the timing of decisions to increase impacts based on short-term indications of improved abundance or ocean conditions. As the OCN Working Group reported, political pressures to increase impacts will be great during the transition periods after low abundances where a few favorable trends are noted. There is potential for returns to be greater than predicted and for these returns to be unharvested. We understand the public's desire to experience and harvest these fish, but the State must educate the public about the high degree of uncertainty and risks to the populations during these transition periods. The uncertainty and risk associated with this transition phase are not widely discussed by the decision makers of Oregon (e.g., Fish and Wildlife Commission, State Legislature, Governor's Office).

Recommendation 4. ODFW advocate initiation of a scientific review of the Fisheries Regulation Analysis Model (FRAM) used to estimate harvest impact on OCN stocks components.

ODFW response: The current FRAM has been reviewed by the Scientific and Statistical Committee (SSC) more than once and the model is currently being revised. The new version will incorporate an updated and longer base period of stock abundance by time and area in ocean fisheries. The new model will be reviewed by the SSC prior to its implementation by the PFMC.

IMST conclusion: Adequate.

Recommendation 5. ODFW advocate adherence to the policy that links decisions on ocean harvest to the status of the weakest stock component.

ODFW response: Plan Amendment 13 and the revised management matrix recommended by the OCN Work Group sub-divide the OCN aggregate into four sub-aggregates that nearly align with recognized gene conservation groups. Harvest rates in the existing and proposed matrix are based on the parental spawner status of the weakest sub-aggregate.

IMST conclusion: Adequate. IMST acknowledges the statistical limitations described by ODFW. We encourage the state to continue to develop new approaches to provide indications of status and trends at smaller spatial scales, but we recognize that continued research and additional support are required to improve the spatial resolution of status and trends.

Recommendation 6. ODFW advocate determining the relationship between the response of salmon juveniles and their food webs to carcass abundance.

ODFW response: ODFW is examining the relationship between adult returns and nutrient loading in a set of treatment and control streams, but do not have a program to examine the response of juveniles and their food webs to carcass loading. Investigators in Washington have studied and described these relationships for juvenile salmon. ODFW would welcome future monitoring funds to examine these relationships in coastal streams.

IMST conclusion: Adequate. IMST strongly encourages the Oregon Legislature and the Governor's Office to find resource to fund this critical area of research.

Recommendation 7. ODFW support PFMC review of hook & release.

ODFW response: ODFW supports adoption of conservative hooking mortality assumptions in the PFMS fishery models in order to respond to the variability and uncertainty in developing accurate hooking mortality rates and believe that the

expanded rates established for 2000 PFMC management of salmon appropriately incorporates this conservative approach.

IMST conclusion: Adequate.

Recommendation 8. The IMST recommends that ODFW advocate determination of the degree to which plausible extremes in mortality and in spatial and temporal variation can influence the risk of extinction.

ODFW response: The habitat based production model that is used to determine appropriate harvest rates by the OCN Work Group and in Plan Amendment 13 harvest management matrices does include sources of mortality as stochastic variables that span a historical range of observed variables. ODFW finds that the phrase "and in spatial and temporal variation" is unclear and cannot address that part of the recommendation.

IMST conclusion: Adequate. But IMST continues to recommend the expand exploration of the characteristics habitat-based production model through sensitivity analysis. This analysis would provide a better understanding of the model performance AND it would provide a conceptual indication of the degree to which extreme values might influence the performance of salmon stocks.

Recommendation 9. The IMST recommends that ODFW advocate that PFMC use an explicit analytical process that incorporates monitoring results, harvest records, and the life-history model as part of the decision process for harvest levels.

ODFW response: The current Plan Amendment 13 harvest management matrix and the recommendations of the OCN Work Group are based on an explicit analytical process. The process uses a peer reviewed and published habitat based production model to predict responses of OCN coho productivity to changes in parental spawner abundance and marine survival. Some monitoring results has been incorporated in analytical PFMC decision making processes for a long time while other results may have only been incorporated recently or not at all depending on the available time series of data.

IMST conclusion: Indeterminate. IMST recognizes that funding and staff limit ODFW's actions. IMST feels that the non-centralized approach leads to much higher uncertainty about full use of the tools available to the state and counts on partners in different organizations and agencies to participate. Given the importance of the decline of salmon as addressed in the Oregon Plan, IMST has an obligation to report that a technical approach is available that would strengthen the approach used by the State and would increase the certainty of successful implementation of the technical information developed under the Oregon Plan. We strongly encourage the State Legislature and Governor's Office to develop the resources necessary to conduct this central task for determining potential trends and status of salmon and relating projections to the monitoring information collected by the State.

Recommendation 10. The IMST recommends that ODFW advocate that PFMC incorporate dynamic and changing landscape conditions in the analytical process to reflect potential habitat restoration, human-related degradation, and natural disturbances.

ODFW response: Recommendation was not addressed.

IMST conclusion: *Indeterminate.* ODFW did not respond to IMST, but this point was noted in the conclusion of the OCN Working Group Report. IMST continues to encourage the State to incorporate long-term landscape dynamics in their analyses of salmon populations and risk of extinction.

10/25/00 Letter to Kay Brown, Fish Division Policy Coordinator for ODFW, regarding the scientific review of ODFW's Coastal Salmonid and Willamette Hatchery Program Review (referred to as Hatchery Audit in report)

Recommendation 1. Develop a strategic plan for the management of hatcheries to be consistent with the goals of the Oregon Plan for Salmon and Watersheds.

Recommendation 2. Develop a strategy for evaluating hatchery performance that includes assessing the performance of fish outside of the hatchery (survival of hatchery fish from smolt to adult).

Recommendation 3. Develop a strategy for the assessment of the impact of hatchery-released fish on the performance, production and survival of naturally spawning wild stocks of fish.

Recommendation 4. Include direct and indirect costs in cost-benefit analyses.

Recommendation 5. Develop and use a consistent method for (a) evaluating the degree of straying of hatchery fish onto natural spawning beds and (b) assessing the impacts on wild stocks.

ODFW response: ODFW has acknowledged receiving the recommendations and the agency intends to respond to the IMST within six months from the time the letter report was received.

IMST conclusion: IMST will reach a conclusion for each response after we receive them from ODFW.

Conclusions

Through December 31, 2000, the IMST has made 68 specific recommendations. We have received responses to 48 (70 %) of these. Of 53 recommendations issued prior to July 1, 2000 (therefore more than six months old) we have received responses to 38 (72 %), leaving 15 (28 %) for which we have no response or only a preliminary response. Another 15 were issued after July 1, 2000 for which we have received responses to 10 (77 %) and the remaining 5 (33%) without responses are still within the six-month response period. In some cases the delay in formal responses simply reflects the time required to process them.

In general the adequacy of responses received is good. In our opinion:

- 60 % of the responses are adequate.
- 4 % are intermediate.
- 6 % of the responses or related actions by the responding agency are inadequate.
- 30 % of the responses are indeterminate in that they did not provide the Team with sufficient information to determine what the agency decided to do with the recommendation or how the decision may affect the success of the Oregon Plan. In a few cases an agency indicated that they did not clearly understand the meaning of the recommendation. In these cases, we expect the agency to alert the IMST to the problem and to request clarification.

As a result of this analysis of agency responses to IMST recommendations, we conclude that:

- Agency responses need to explicitly address each recommendation, noting how the agency intends to implement it or why they are not going to implement it (as called for in Senate Bill 924).
- The Manager of the Oregon Plan, or some other individual specifically charged to do so should:
 - Ensure agencies respond to IMST recommendations in a timely manner
 - Obtain clarification from agencies when their responses do not permit determination of their intent
 - Monitor long-term implementation of recommendations adopted by agencies
 - Obtain resolution of significant points of disagreements between agency responses and IMST recommendations.

Appendix 1

Catalog of Recommendations from IMST and Status of Responses

January 31,2001

Appendix 1.

Catalog of Recommendations from IMST and Status of Responses.
January 17, 2001

Recommendations, Technical Reports	Agency Acknowl. ¹	Response Received ²
<p>Technical Report 1998-1, Hatchery Report, Phase 1 – December 10, 1998</p> <ol style="list-style-type: none"> 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. 	Yes	Yes Yes Yes Yes Yes Yes Yes Yes
<p>Technical Report 1998-2, Predation – December 22, 1998</p> <ol style="list-style-type: none"> 1. Determine the factors influencing high predation rates on salmonid smolts in the Columbia River estuary. 2. Improve the estimates of the impact of pinniped predation on salmonid stocks and on the recovery of depressed stocks. 3. Improve estimates of the impacts of seabird predators on wild salmonids. 4. Test the feasibility of relocation of Caspian terns to other nesting sites and evaluate the consequences of tern relocation on all salmonids stocks in the area. 5. Evaluate the effectiveness of cormorant hazing in Oregon’s estuaries 6. Use modeling of pinniped and avian predation in risk assessment. 7. Improve coordination with monitoring activities under the Oregon Plan, and coordinate with research projects on pinniped predation along the northwestern coast of North America. 	Yes	Yes Yes Yes Yes Yes Yes Yes
<p>Technical Report 1999-1, Forest Practices – September 8, 1999</p> <p>Recommendation 20. Explicitly incorporate the policy objective of the Oregon Plan and Executive Order 99-01 into OFPA.</p> <p>Recommendation 21. ODF should develop a policy framework to encompass landscape (large watershed) level planning and operations on forests within the range of wild salmonids in Oregon. IMST recommends that the following elements be included in this modified forest policy framework:</p> <p>Recommendation 22. Treat non-fish-bearing streams the same as small, medium, and large fish-bearing streams when determining buffer-width protection.</p> <p>Recommendation 23. Provide increased riparian protection for the 100-year floodplains and islands.</p> <p>Recommendation 24. Increase the conifer basal-area requirement and the number-of-trees requirement for RMAs, with increases in these requirements for medium and small streams regardless of fish presence.</p>	Yes	No No No No No

¹ Agency has acknowledged receipt of recommendations

² Agency has provided their response

Recommendations, Technical Reports

**Agency
Acknowl.¹**

**Response
Received²**

<p>Recommendation 25. Complete the study of the effectiveness of the OFPA rules in providing large wood for the short- and long-term.</p>		No
<p>Recommendation 26. Provide enhanced certainty of protection for “core areas”.</p>		No
<p>Recommendation 27. Develop and implement standards or guidelines that reduce the length of roadside drainage ditches that discharge into channels.</p>		No
<p>Recommendation 28. Implement the standards and guidelines for the length of roadside drainage ditch between cross-drainage structures, especially on steep-gradient roads.</p>		No
<p>Recommendation 29. Require the flow capacity of cross-drainage structures and stream-crossing structures and culverts to meet current design standards.</p>		No
<p>Recommendation 30. Provide for the stabilization of roads not constructed to current standards (including "old roads and railroad grades") in critical locations. Stabilization means reduction or elimination of the potential for failure. It includes a variety of strategies ranging from removal to abandonment, entirely or of sections, by which specific roads and railroad grades become a much less important source of sediment.</p>		No
<p>Recommendation 31. Require durable surfacing on wet-season haul roads and require that hauling cease before surfaces become soft or “pump” sediment to the surface.</p>		No
<p>Recommendation 32. Retain trees on "high risk slopes" and in likely debris torrent tracks to increase the likelihood that large wood will be transported to streams when landslides and debris torrents occur.</p>		No
<p>Recommendation 33. Continue to apply the current best management practices (BMP) approach to the management of forest lands with significant landslide potential, and develop a better case history basis for evaluating the effectiveness of BMP in this area.</p>		No
<p>Recommendation 34. Modify culverts and other structures to permit the passage of juvenile and adult salmonids upstream and downstream at forest road-stream crossings.</p>		No
<p>Recommendation 35. ODFW and ODF should develop a collaborative program of monitoring to quantify the linkages between parameters of ecosystem condition and wild salmonid recovery.</p>		Yes
<p>Recommendation 36. ODFW should complete "core area" designation for all wild salmonids in Oregon and identify high priority protection/restoration areas that are not covered by current "core area" designations. ODFW should work with the Oregon Plan Implementation Team in prioritizing habitat for enhanced levels of protection and/or restoration.</p>		Yes
<p>Recommendation 37. ODFW should include consideration of practices (forestry, agriculture, urban, other land uses) above and below core areas, as these may affect the conditions and processes critical to maintenance of core area function in forestry areas.</p>		Yes
<p>Recommendation 38. The Oregon Forest Research Laboratory (FRL), in collaboration with ODFW, should develop forest road-stream crossing strategies that facilitate the passage of large wood at road-stream crossings.</p>		Yes

¹ Agency has acknowledged receipt of recommendations

² Agency has provided their response

<p><i>3/22/99 letter to Jim Greer re PFMC plans</i></p> <ol style="list-style-type: none"> The State of Oregon encourage the PFMC to adopt the goals of Amendment 13 (“to remove the fishery related impacts as a significant impediment to the recovery of depressed OCN coho and to allow rebuilding of the component populations subgroups to higher levels”). The State of Oregon encourage the PFMC to adopt <ul style="list-style-type: none"> the recreational fishery option III (no selective fishery south of Cape Falcon), troll option III north of Cape Falcon, and troll option II south of Cape Falcon <p><i>2/15/00 letter to Jim Greer re PFMC plans</i></p> <ol style="list-style-type: none"> ODFW and PFMC maximize spawner escapement and abundance in the adult recruits of 2000. Where ODFW participates in fishery decisions, ODFW minimize impacts to OCN stocks by not recommending a selective fishery in ocean coho salmon during the year 2000. 		<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<p><i>4/1/99 Monitoring letter report to Appointing Authority</i></p> <ol style="list-style-type: none"> The Interagency Monitoring Team organization. The monitoring Teams should be organized to effectively address and prioritize key issues, to identify the highest priority questions that are to be answered by monitoring in the context of the goals of the Oregon Plan, and to implement actions. This will result in prioritization of effort and a shift of focus from the tasks in the monitoring program to the goals to be attained. Tasks need to be adopted to answer the high priority questions. We feel this will encourage cooperation and minimize omissions in the scientific approach. The Interagency Monitoring Team should do the following: <p>Short Term</p> <ul style="list-style-type: none"> Define what constitutes an annual period in the monitoring program. Is it the calendar year, or would some other 12-month period be more logical? Define what constitutes a comprehensive report of the monitoring effort for this period. It seems logical that this might be the Annual Monitoring Report and the synthesis that results from the Interagency Monitoring Conference. Establish a schedule for the production of these documents and provide them to the IMST to facilitate our annual review of the monitoring program. Provide the IMST with specific questions on which scientific guidance is desired. <p>Long Term</p> <ul style="list-style-type: none"> Develop and adopt a strategy to ensure integrating and synthesizing of monitoring data collected by the agencies, and relate the output to the goals of the Oregon Plan. We think this is particularly important in understanding the relationships between ocean conditions and onshore aquatic habitat conditions. Encourage cooperation and coordination with the Governor’s Watershed Enhancement Board and the Watershed Councils. Develop strategies and specific mechanisms to ensure that information from the monitoring program is incorporated into the adaptive management strategies of each agency. Part of this may be various forms of technology transfer. Findings of the Monitoring Team apparently are not being transferred and getting to field level entities responsible for implementing elements of the Oregon Plan (watershed councils, agency field personnel, etc.). We suggest the report for the annual monitoring program should include a section on technology transfer that will facilitate adaptive management actions. The Interagency Monitoring Team has identified ocean and estuarine systems as key components in the Monitoring Plan. These monitoring efforts have not been implemented, yet these environments are a critical part of the habitat. The Manager of the Oregon Plan should evaluate staffing needs and levels devoted to the oversight, management and integrative and synthetic activities of the monitoring program. The Steelhead Supplement pg. 16-33 lists two staff positions that will be funded to accomplish this task, but our observation is that these are existing staff members that have been assigned these functions on a collateral duty basis. It is our opinion that this has resulted in inadequate staff time to successfully accomplish the task. 		<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

<p>The IMST recommended the following conclusions and recommendations be adopted as the ODFW position in the PFMC process to establish harvest levels.</p> <p>Past practices of over-harvest have contributed to the population decline resulting in listing under ESA. Management actions after adoption of Amendment 13 have not improved conditions, and current management includes irregular and relatively haphazard distribution of carcasses with no link to priorities or expected outcomes. The IMST recommendations that:</p> <ol style="list-style-type: none"> 1. ODFW advocate new criteria be incorporated into the matrix of Amendment 13 to include “very low” OCN coho salmon parent spawner abundance and “very low” marine survival. <p>This will strengthen the criteria designed for protection or recovery of populations under extreme conditions. Under these conditions, no directed coho fisheries should be allowed and fishery related impacts should be reduced to the lowest levels possible.</p> 2. ODFW advocate the applicability of (a) the minimum sustainable escapement (MSE) concept to augment the use of (b) the number of OCN ocean recruits in setting harvest impacts. <p>This could provide a safeguard against loss of stocks during the periods of low freshwater or ocean survival. The National Research Council (1996) recommends this methodology to minimize extinction risks of a population or metapopulation and to enhance recovery. Because spawner abundances have been extremely low and recruitment for all three recent brood years (1995, 1996, 1997) has been below replacement, fishery impacts should be as close to zero as possible until established signs of recovery are observed.</p> 3. ODFW advocate that decisions to change harvest levels incorporate elements of stock abundance over longer periods of time and include consideration of the spatial distribution of stocks. <p>The timeframe and spatial distribution of OCN coho salmon stocks is a critical aspect of measuring recovery. Harvest policies should be revised to require responses over sufficient time to indicate real population trends. We offer the following criteria as possible examples to be incorporated into the decision process whereby harvest levels are changed.</p> <p>Criterion 1. Stock Abundance. Stock abundance has achieved a defined minimum sustainable escapement before harvest impacts can exceed 10-13%.</p> <p>Criterion 2. Duration of Recovery. Stocks have achieved greater than 1:1 spawner-to-spawner replacement for each brood year over at least three brood cycles.</p> <p>Criterion 3. Spatial Distribution. Stocks have achieved two consecutive generations of recovery (spawning recruits/parental adult of >1.5) with seeding above level 2 (75% seeding of available habitat).</p> 4. ODFW advocate initiation of a scientific review of the Fisheries Regulation Analysis Model (FRAM) used to estimate harvest impact on OCN stocks components. <p>Such a review might be incorporated into the Year 2000 review of Amendment 13.</p> 5. ODFW advocate adherence to the policy that links decisions on ocean harvest to the status of the weakest stock component. <p>Oregon currently adheres to this requirement, but pressures to allow fishing by sport or commercial fishermen create challenges for following this policy.</p> 6. ODFW advocate determining the relationship between the response of salmon juveniles and their food webs to carcass abundance. <p>Criteria should be developed that consider the impacts of harvest management on carcass abundance and distribution. Strategies for stock recovery need to recognize the role of food resources and carcasses in production of smolts in freshwater habitats. As an</p> 		<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
--	--	---

<p>example, management criteria could identify minimum numbers of spawners per mile of stream to provide the food base necessary to support young salmon.</p> <p>Current estimates of mortality from non-retention fisheries are highly variable, subject to substantial uncertainty, and cannot be characterized as accurate. Experimental methods are limited and subject to many sources of error. Even low incidental mortality rate of OCN coho salmon could significantly slow recovery for depressed stocks. Scientific review of hook and release mortalities should be an on-going process, as environmental conditions change.</p> <p>7. ODFW support PFMC review of hook & release.</p> <p style="padding-left: 40px;">This is a key factor for impact analysis of fisheries. Analysis of hook & release mortality should continue after 2000 because uncertainty is high and ocean conditions are highly variable.</p> <p>8. The IMST recommends that ODFW advocate determination of the degree to which plausible extremes in mortality and in spatial and temporal variation can influence the risk of extinction.</p> <p style="padding-left: 40px;">Hooking mortality and encounter rates are variable, and sensitivity analysis can help evaluate their impact on probability of extinction. Highly sensitive parameters should be strengthened by monitoring, especially by double-index tagging.</p> <p>The life cycle models developed by ODFW and NMFS (Nickelson and Lawson) are rigorous, but are not being used to their full potential. This model can be strengthened, and additional models can be developed to provide the ability to confirm model performance and identify areas of uncertainty.</p> <p>Several features of the model and information base that could be improved in future model development and applications are 1) scarce data, 2) aggregated functions that should be articulated separately, and 3) incorporation of variability (locally and regionally; short term and long term) into model projections. Currently modeling by PFMC and ODFW uses a static view of future landscape conditions. Restoration of freshwater habitats and future disturbance processes are not considered. Current analyses are dynamic in terms of ocean conditions and fish populations, but they treat watersheds and freshwater habitat as fixed and unchanging.</p> <p>Coordinated analysis of harvest management, monitoring, model applications, and risk assessment would create a more scientifically sound decision-making context for salmon harvest management and allow management to adapt and improve more quickly. Unfortunately we do not find a concrete link between the operation of the model, the monitoring program and the development of harvest management policy. The efforts in SRS monitoring system, basin habitat surveys, life cycle monitoring sites, and life-cycle models would be strengthened if they were integrated into an on-going program of assessment and integration of information and future stock projections.</p> <p>9. The IMST recommends that ODFW advocate that PFMC use an explicit analytical process that incorporates monitoring results, harvest records, and the life-history model as part of the decision process for harvest levels.</p> <p style="padding-left: 40px;">This analysis should link spawner surveys, habitat surveys, marine survival or impacts and model projections. It should also be spatially explicit to the greatest degree allowed by the data and model structure.</p> <p>10. The IMST recommends that ODFW advocate that PFMC incorporate dynamic and changing landscape conditions in the analytical process to reflect potential habitat restoration, human-related degradation, and natural disturbances.</p> <p style="padding-left: 40px;">Use of dynamic conditions for both ocean and freshwater environments will provide more realistic projections of future population trends and risks of extinction. Such integration also recognizes regional goals to protect and restore watershed conditions along the Pacific Coast.</p>		<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
--	--	---

<p><i>10/25/00 letter to Kay Brown, ODFW, re Hatchery Audit</i></p> <p>Based upon its review of the Hatchery Audit, IMST recommends:</p> <ol style="list-style-type: none"> 1. Develop a strategic plan for the management of hatcheries to be consistent with the goals of the Oregon Plan for Salmon and Watersheds. 2. Develop a strategy for evaluating hatchery performance that includes assessing the performance of fish outside of the hatchery (survival of hatchery fish from smolt to adult). 3. Develop a strategy for the assessment of the impact of hatchery released fish on the performance, production and survival of naturally spawning wild stocks of fish. 4. Include direct and indirect costs in cost-benefit analyses. 5. Develop and use a consistent method for (a) evaluating the degree of straying of hatchery fish onto natural spawning beds and (b) assessing the impacts on wild stocks. 	<p>Yes</p>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p>
--	------------	---