

**INDEPENDENT  
MULTIDISCIPLINARY  
SCIENCE TEAM  
(IMST)**



**State of Oregon**

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

September 8, 2000

The Honorable John A. Kitzhaber  
Governor of Oregon  
State Capitol  
Salem OR 97310

The Honorable Brady Adams  
Oregon Senate President  
State Capitol  
Salem OR 97310

The Honorable Lynn Snodgrass  
Oregon House Speaker  
269 State Capitol  
Salem OR 97310

Enclosed is the annual report of the Independent Multidisciplinary Science Team for 1999. The Team is sending the report to you, the appointing authority for the Team, and by copy of this letter to the Joint Legislative Committee for Stream Restoration and Species Recovery, and to Mr. Roy Hemmingway, Manager of the Oregon Plan for Salmon and Watersheds. The Oregon Watershed Enhancement Board Office will make arrangements for further production and distribution of this report.

There are three science perspectives relevant to the Oregon Plan for Salmon and Watersheds that go beyond the scope of this report for 1999 that we want to alert you to.

- **Conceptual Basis for Recovery.** Our 1999 report on forest practices includes a preface in which we describe a conceptual base for recovery of salmonids associated with forestlands in western Oregon. As written in the forestry report, it is indeed very forestry centric, but we are finding that this conceptual base is also applicable to other land uses and to many aspects of the management of salmonid recovery as well. I anticipate that we will enlarge the scope of applicability of this conceptual base to make it relevant to our other reports. My point here is to alert you to the importance of the preface in our 1999 report on forest practices in western Oregon.
- **Landscape Perspective.** In our 1998 annual report, we alerted you to the emerging importance of taking a landscape perspective in accomplishing the recovery of depressed stocks of wild salmonids. The importance of the landscape perspective was prominent in our technical report on forest practices. I expect the landscape perspective to be prominent in our three upcoming reports on land use (western Oregon lowland resources, eastern Oregon land use, and urban land use). It is also emerging as an important perspective in our projects on hatchery management and harvest management.

September 8, 2000

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IMST believes the science is clear on the importance of taking a landscape perspective, but the existing policy framework does not appear to accommodate it well. This will be a key interface between science and policy in salmonid recovery and in our opinion deserves careful attention.

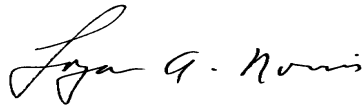
- **Defining Recovery.** Recovery of depressed stocks of salmonids is a goal of the Oregon Plan. However, there is no clear definition of recovery in the Plan that provides technical guidance for assessing progress towards this goal. Measuring progress towards recovery is one of several pressing scientific and technical reasons such a definition is necessary. IMST conducted a scientific workshop on defining and assessing recovery in 1999 (Technical Report 1999-2). Our report of this workshop provides important insights into this issue. The IMST will provide its technical report on this subject in 2000. We alert you to this because it is both important, and is also a key interface between science and policy.

Finally, we comment on the challenge of keeping science separate from policy. IMST recognizes the sensitivity of this issue. While it is a difficult issue, the most pressing scientific issues in salmonid recovery are those that have critical policy implications. We make a conscious effort to be sensitive to this issue and to be clear when we are approaching that awkward interface between science and policy. Our technical reports all include a section titled "Implications for Policy".

To help us with this, it is my intention to seek review of our draft reports from individuals who understand policy, but who are not currently part of the policy process. I believe that by doing so, we can identify and modify language that otherwise might give the impression that we are dealing with policy. Those giving us this "policy review" will be identified in our reports.

We will provide our 2000 annual report in January 2001 to provide an up to date basis for the legislative session.

Sincerely yours,



Logan A. Norris, Chair  
Independent Multidisciplinary Science Team

LAN:grs

Enclosures

cc: JLCSRSR, with enclosure

Roy Hemmingway, Manager, Oregon Plan, with enclosures

**Independent Multidisciplinary Science Team,  
Oregon Plan for Salmon and Watershed**

**1999 Annual Report**

**August 31, 2000**

# **Independent Multidisciplinary Science Team, Oregon Plan for Salmon and Watershed**

## **1999 Annual Report**

August 31, 2000

The Independent Multidisciplinary Science Team (IMST) of the Oregon Plan was established by the Oregon Legislature as part of Senate Bill 924, which was signed into law by Governor John Kitzhaber on March 25, 1997. Governor Kitzhaber constituted the Team in collaboration with Oregon Senate President Adams and Oregon House Speaker Lundquist. Team membership was announced at a press briefing in Salem on October 10, 1997.

This is a report of the Team's activities and accomplishments for the period January 1, 1999 through December 31, 1999. The report also briefly outlines the plans and direction of the Team for 2000. Appendices include listings of Team meetings, presentations and briefings by the Team, the log of active Team projects, summaries of Team reports, a catalog of the status of responses to Team recommendations, a copy of the home page of the IMST web site, and the Team's plan of work for July 1, 1999 through June 30, 2001.

The Team met in public meetings (one or two days) each month in 1999 except February and July (Appendix 1). Team meetings were open to the public, consistent with the Oregon Public Meetings law. Each meeting had an agenda and minutes, and was audio recorded. Several Team subcommittee meetings were held through out the year but were not open to the public. The Oregon Watershed Enhancement Board is the Repository of the Records of the Team. The Team Chair is the Custodian of the Records and authorizes their release.

The Team made numerous oral presentations or briefings (Appendix 2). These included meetings with the Joint Legislative Committee for Stream Restoration and Species Recovery, the Oregon Board of Forestry, the Oregon Department of Forestry Forest Practices Advisory Committee, the Willamette Restoration Initiative Board, and others.

### **Major Activities of the Team**

#### **Team Projects.**

The Active Project Log is in Appendix 3. The Team worked on the following projects during 1999.

- **Forest Practices.** Forests provide critical habitat for wild salmonids, and forestry practices can adversely impact this habitat. The Oregon Forest Practices Act and its administrative rules provide the regulatory framework for the protection of this habitat. In addition, the Oregon Plan contains a series of voluntary measures with this same objective. The IMST carried out this major project to evaluate the scientific basis for the management of forests, and to recommend needed changes in the rules and voluntary measures. This was done as the Oregon Dept. of Forestry was modifying forest practices rules as needed to accomplish the mission of the Oregon Plan. This project was

completed in 1999 and the IMST made nineteen specific recommendations. Most were to ODF, but several were to ODFW and one was to the Forest Research Laboratory.

**Harvest Management.** This major project deals with the management of the harvest impacts on Oregon coastal natural (OCN) coho salmon. Fishing pressure, both sport and commercial, historically had significant impacts on fish stocks and an evaluation of the basis for management of fisheries was needed. In 1999, the IMST made specific recommendations to ODFW on the 1999 ocean harvest of OCN coho salmon (see March 22, 1999 letter report in Appendix 4). Work on our detailed technical report continued through 1999, with plans for completion in 2000.

- **Defining Recovery.** IMST held a scientific workshop on August 4-5, 1999 to consider technical issues related to defining recovery. The mission of the Oregon Plan is the recovery of depressed stocks of wild salmonids, but the Plan does not provide an explicit definition of what recovery means. The IMST feels that the lack of a technical definition of recovery limits the ability of state agencies to plan, monitor and adaptively manage for it. The report of this workshop identifies key components of a definition of “recovery” as it is used in the context of the Oregon Plan. The IMST is completing its own technical report on recovery in 2000.
- **Monitoring.** As required by Senate Bill 924, IMST evaluated the 1998 monitoring program of the Oregon Plan. We found that the coordinated monitoring effort envisioned in the Oregon Plan was in its early stages of development. While it included some significant new efforts, it was uneven across agencies and it consisted largely of the independent monitoring programs already underway in state and federal agencies. Recommendations were made to refine the program, increase integration of effort and centralize data management and analysis efforts.
- **Temperature standards.** The IMST began work on a temperature standards project as EPA and the State worked to reach agreement on this issue. Work on this project was suspended to allow the Team to focus on the forestry project and the harvest management project. We expect to be complete work on temperature in 2000.
- **Gravel Mining.** Gravel mining as it impacts water quality and fish habitat is one of the several factors believed to influence the recovery of wild salmonids. Work on this project was initiated, but suspended as the Team focused on the forestry project and the harvest management project. Work on gravel mining is expected to be completed in 2001.
- **Eastern Oregon Land Use.** The project to evaluate the scientific basis for management of eastern Oregon resources mirrors the western Oregon forest practices project and the western Oregon lowland resources project. It was activated late in 1999 and, therefore, saw little development in the year. It is planned for completion in 2001.

### **Team Products.**

A series of written products were produced during the period covered by this report. Two are detailed technical reports and the others are brief letter reports. All contain specific recommendations and are available on the IMST web site (<http://www.fsl.orst.edu/imst>). The

executive summaries of the technical reports and the full text of the letter reports are in Appendix 4. The Team products include the following:

- March 22, 1999 - Letter Report to ODFW evaluating salmon harvest management options proposed by the Pacific Fisheries Management Council.
- April 1, 1999 - Letter Report to the Governor, Senate President, and House Speaker on Oregon Plan monitoring. It includes recommendations to the Interagency Monitoring Team.
- September 8, 1999 - Technical Report 1999-1 an evaluation of Oregon Forest Practices Act and Administrative Rules in western Oregon forests and impacts on the recovery of wild salmonids including recommendations to ODF and other agencies.
- November 3, 1999 - Addendum 1 to Technical Report 1999-1 to clarify three recommendations to ODF.
- December 10, 1999 – Workshop Technical Report 1999-2 on defining and evaluating recovery of Oregon Coastal Natural coho salmon and implications for rebuilding stocks under the Oregon Plan and Amendment 13 to the Pacific Coast Salmon Plan by the Pacific Fishery Management Council.

### **Catalog of IMST Recommendations and Responses**

Senate Bill 924 requires state agencies to respond to the recommendations of the IMST. The Team established a catalog of recommendations and the status of responses to simplify tracking compliance with Senate Bill 924. Roy Hemmingway, Manager of the Oregon Plan, is the recipient of the responses, and he shares them with the Team for any further attention. The Catalog (Appendix 5) is up to date as of August 31, 2000.

The Catalog showed that as of December 31, 1999, there had been few responses to the recommendations of the Team. As a result of this, Mr. Hemmingway began working more closely with the agencies and established that a response to Team recommendations would normally be expected within six months. The number of responses has increased. The recommendations involving ODF and forest practices have been acknowledged, but agency completion of work on them is expected to take more than 6 months because of the rule-making process.

### **Team Web Page**

The Team developed and established a web page to facilitate access to information about the Team, its products and the calendar of Team activities. The web address for the IMST web page is <http://www.fsl.orst.edu/imst>. A copy of the home page is in Appendix 6.

### **Analysis of the Situation and Plans for the Future**

1. The Changing Situation. The Team was constituted to provide science oversight for the Oregon Plan. Since the Team was commissioned in 1997, the scope of the task has expanded

significantly. Originally it was OCN coho salmon, but soon after coastal steelhead was added and with Executive Order 99-01 the scope was expanded to include all wild salmonids in the State. To accommodate the increased complexity and scope of work the budget allocation for the Team for the biennium was increased by \$397,036 for the period January 1, 2000 through June 30, 2001.

The Team was funded to work 20% of full time through 1999. The funds were paid directly to Mr. Lichatowich in his capacity as a private consultant, or to Oregon State University for the services and expenses of Team members and support staff from OSU and the one team member from the University of Idaho. The funds to OSU were used by the academic units of OSU and University of Idaho to purchase services in various ways to compensate for the reassignment of faculty time. In no case were the funds added to existing 1.0 FTE salary. There was no charge to the State for Mr. Elmore, a federal employee.

2. Team's Approach for the Future. The Team has a significant workload for 2000. Through the increased budget on January 1, 2000, we have increased the time allocation of Team members from 20% to 33% of full time. In addition, three technical support assistants are being funded to increase the efficiency and productivity of Team members. We have a plan of work for the calendar year 2000 and the first six months of 2001 (to the end of the current biennium). It was prepared for the Joint Legislative Committee (Appendix 7).

Several projects are in progress, with planned completion dates in 2000. These include project reports on:

- Western Oregon Lowland Resources
- Coho Harvest Management (sport and commercial fishing)
- Temperature Standards
- 1999 Monitoring Program of the Oregon Plan
- ODFW Hatchery Audit
- Artificial Propagation (hatchery management)

Projects scheduled for completion in 2001 include:

- ODFW Native Fish Conservation Policy
- Gravel Mining
- Eastern Oregon Resources
- Urban Land Uses

The Independent Multidisciplinary Science Team is committed to providing the scientific oversight for the Oregon Plan called for in Senate Bill 924 and Executive Order 99-01, consistent with the resources provided for the Team.

## Appendices

Appendix 1. 1999 meetings held by the IMST

Appendix 2. Oral presentations and briefings by the IMST

Appendix 3. Active Project Log (as of August 31, 2000)

Appendix 4. Team Written Products

- March 22, 1999 -- Letter Report to ODFW evaluating salmon management options proposed by the Pacific Fisheries Management Council.
- April 1, 1999 -- Letter Report to the Governor of Oregon, Oregon Senate President, and Oregon House Speaker on evaluation and recommendations of 1998 Oregon Plan monitoring data.
- September 8, 1999 -- Executive summary of the 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.
- November 3, 1999 -- Addendum 1 to 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.
- December 10, 1999 -- Introduction and Conclusions of the Technical Report 1999-2. Defining and Evaluating Recovery of OCN Coho Salmon Stocks: Implications for rebuilding stocks under the Oregon Plan.

Appendix 5. Catalog of IMST Recommendations and Agency Responses (as of August 31, 2000)

Appendix 6. Home Page of the IMST Web page

Appendix 7. IMST Plan of Work, January 1, 2000 – June 30, 2001

## **Appendix 1.**

### **IMST Meetings, 1999**

## **Appendix 1. Meetings Held by the IMST, 1999**

January 20-21, 1999 held in Corvallis, OR

March 11, 1999 held in Corvallis, OR

April 14-15, 1999 held in Corvallis, OR

May 12-13, 1999 held in Salem, OR

May 28, 1999 Forestry Report Subcommittee meeting with ODF in Salem, OR

June 14-15, 1999 held in Corvallis, OR

August 4-6, 1999 technical workshop held in Corvallis, OR

September 8, 1999 held in Corvallis, OR

October 13-14, 1999 held in Corvallis, OR

November 15-16, 1999 held in Corvallis, OR

December 14, 1999 held in Corvallis, OR

## **Appendix 2.**

### **Oral presentations and briefings by the IMST 1999**

## **Appendix 2. Oral Presentations and Briefings, 1999**

Jan 14 - Consultation, ODF ad hoc committee on forest practices, Salem

Feb 5 - Briefing, Willamette Restoration Initiative, Salem

Feb 9 - Consultation, Joint Legislative Committee on Stream Restoration and Species Recovery, Salem

Apr 2 - Consultation, ODF ad hoc committee on forest practices, Salem

Apr 30 - Consultation, ODF ad hoc committee on forest practices, Salem

May 28 - Consultation, ODF staff, Salem

Jun 2 - Consultation, Joint Legislative Committee on Stream Restoration and Species Recovery, Salem

July 16 - Consultation, ODF staff, Corvallis

Aug 11-12 - Consultation/field trip, ODF, Eastern Oregon

Sep 23 - IMST Report to ODF ad hoc committee on forest practices, Salem

Oct 22 - IMST report to Board of Forestry, Elkton

Nov 5 - Consultation, ODF ad hoc committee on forest practices, Salem

Dec 9 - Briefing, IMST report on forest practices for ODF training session, Salem

**Appendix 3**  
**Active Project Log**

**IMST Active Project Log**  
Revised, August 28, 2000

Following is a log of the projects accepted by the IMST. This is a chronological listing not a prioritized listing. Each project has a unique identifying number. This number was assigned when the project was brought to the IMST, and will be retained throughout the time it is a project of IMST. This document will be updated as projects are added or completed.

The term “project” includes specific areas of study, or specific activities requested of the Team. The entry for each project includes a brief title (with description), the source of the project, the date received by IMST and the disposition of the project. In many cases the projects included in this log are the result of combining two or more projects that were proposed independently to the IMST. When this is the case, this reference is noted in the “Source of Project” column. A log of all projects addressed to the IMST is also available.

Project Number	Title and Description	Source of Project	Date Rec.	Disposition and Date
1	Review implementation of Oregon Coastal Salmon Restoration Initiative, as described in SB 924. This includes Review Oregon Plan’s Fishery Management Regime to Ensure Protection and Rebuilding of Oregon Coastal Natural Coho, Review of data generated by state agencies, effectiveness of watershed councils, and the priorities for long-term monitoring based on the information it will yield & cost, impact of land-use practices in and around estuarine systems	Senate Bill 924, 69 <sup>th</sup> Legislative Assembly  Includes projects 5, 10, 14, 16, 36, 38	11/10/97	Accepted as an on-going activity (Norris, activity leader) 11/10/97
2	Prepare annual report on the implementation of the Coastal Oregon Salmon Restoration Initiative	Senate Bill 924, 69 <sup>th</sup> Legislative Assembly	11/10/97	Accepted as an on-going activity (Norris, activity leader) 11/10/97
3	Serve as independent scientific peer review panel to state agencies, including evaluation of proposed changes in Oregon Forest Practices Act.	Senate Bill 924, 69 <sup>th</sup> Legislative Assembly, includes project 12	11/10/97	Accepted as an on-going activity (Norris, activity leader) 11/10/97. Forestry project report issued 9/8/99
4	Report to Joint Legislative Committee on Stream Restoration and Species Recovery	Senate Bill 924, 69 <sup>th</sup> Legislative Assembly	11/10/97	Accepted as an on-going activity (Norris, activity leader) 11/10/97

Project Number	Title and Description	Source of Project	Date Rec.	Disposition and Date
6	Determine extent of predator impact, and recommend mitigation. Includes effects of exotic species, although this element is deferred from initial consideration	IMST, includes project 25	12/10/98	Accepted as study topic (Pearcy, topic leader) 12/10/98, Project completed 12/7/98
7	Hatchery programs. Review scientific basis and protocols. Phase I – Adoption of scientific principles from other science reviews by Oregon Plan Phase II – Oregon hatchery audit Phase III – Oregon hatchery programs	IMST, includes project 37, 22, 45	12/10/98	Accepted as study topic (Lichatowich, topic leader) 12/10/98, Phase 1 completed 12/2/98
8	Review harvest management (adult escapement) goals, taking into consideration fish population levels at various life stages, the relation between ocean conditions and fish survival and reproduction, freshwater habitat needs, the role of salmon carcasses on in-stream production, and Amendment 13	IMST, includes projects 15, 21, 24, 27, 44	12/10/98	Accepted as study topic (Gregory topic leader) 12/10/98. Workshop report on Recovery issued 12/10/99. Other work ongoing
9	Western Oregon Lowland Resources. Fish habitat as it relates to land use - except Western Oregon forestry and urban land uses, which are covered under other projects. July 15, 1999 IMST reorganized this project, confining the scope to the lowlands of western Oregon and combined it with project 42, lowlands and estuarine systems	IMST, includes project 22, 23, 37	12/10/98	Accepted as study topic (Buckhouse, topic leader) 12/10/98; With 7/15/99 reorganization, Kavanagh added as co-lead with Buckhouse
17	Agency monitoring effectiveness. This project includes an annual report on monitoring and may include more detailed technical reports on specific aspects of monitoring.	IMST Modified during discussion to include projects 11, 19, 13, 35 and 36	12/10/98	Accepted as study topic (Elmore, topic leader) 12/10/98  1998 annual report issued in March, 1999

Project Number	Title and Description	Source of Project	Date Rec.	Disposition and Date
41	Relationship between stream temperature, land-use and fish habitat needs (temperature standard)	IMST, and Appointing Authority	12/10/98 1/13/98	Accepted as study topic (Gregory, topic leader) 1/14/98
42	Fish habitat in estuary and lowland (non-forest) systems. IMST moved this project into project 9 on land use 7/15/99.	IMST, includes elements of project 37	12/10/98	Accepted as study topic (Kavanagh, topic leader) 1/14/98. Consolidated into project 9 on land use 7/15/99.
46	Review 1998 State of Oregon Report on Salmon	GWEB	1/13/98	Accepted as activity (Norris, activity leader) 1/14/9
47	DEQ rules for Certification of grazing on federal lands	Oregon Trout	1/20/98	Accepted as activity 2/11/98, Project subsequently dropped because it was resolved in court.
49	Willamette Spring Chinook Management Plan	Oregon Trout ODFW	1/26, 2/7/98 7/23/98	Accepted as an activity for peer review, (Norris is activity leader) 8/12/98. Waiting for Agency report.
50	Gravel Mining	Executive Order 99-01 and others	Various dates	Accepted as project. (Buckhouse is activity leader)
51.	Information Management	IMST	7/15/99	Accepted as project for letter report. (Gregory is activity leader).
52	Native Fish Conservation Policy	ODFW	7/15/99	Accepted as a review project for scoping. (Norris initial activity leader)

Project Number	Title and Description	Source of Project	Date Rec.	Disposition and Date
53	Urban and Surburban Land Use	IMST	12/14/99	Accepted as project for scoping. (Norris initial activity leader)
54	Eastern Oregon Land Uses	IMST	12/14/99	Accepted as project for scoping. (Kavanagh initial activity leader)

## **Appendix 4.**

### **Team Products**

**INDEPENDENT  
MULTIDISCIPLINARY  
SCIENCE TEAM  
(IMST)**



**State of Oregon**

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

March 22, 1999

Jim Greer, Director  
Oregon Dept of Fish & Wildlife  
PO Box 59  
Portland, OR 97207

Dear Mr. Greer,

I write to you on behalf of the Independent Multidisciplinary Science Team (IMST) because ODFW represents the State of Oregon to the Pacific Fisheries Management Council (PFMC). We find that three aspects of the salmon management options proposed by the PFMC for 1999 are not scientifically compatible with recovery of OCN coho stocks and the Oregon Plan. The proposals include:

1. a selective recreational fishery for coho with missing adipose fins along the Oregon coast from Cape Falcon to Humbug Mountain,
2. increased quotas for coho salmon in troll fisheries north of Cape Falcon, and
3. a commercial troll fishery for chinook salmon south of Cape Falcon during July.

All of these fisheries will increase the mortality of these depressed OCN coho stocks, and there is a high degree of scientific uncertainty of the impacts of the management options on them. The scientific basis for our recommendations is that:

1. OCN coho stocks are at record lows. Many stocks are not replacing themselves. The year-class of OCN coho that will be impacted by the 1999 fisheries have declined during the past two brood cycles, 1993 and 1996. Imposing additional sources of mortality on stocks that are approaching record low numbers is not scientifically compatible with the Oregon Plan.
2. The North and North Central components of the OCN coho are especially depressed. Any additional impact on these stocks would increase the risk of extinction. Area closures will not protect these weak stocks because they are mixed with other OCN components at other locations where fishing is being proposed.

Although all coho with intact adipose fins would be released, hooking mortalities from a selective recreational coho fishery along the coast and an early chinook fishery are uncertain. Recent studies suggest they may be higher than predicted, exacerbating impacts to OCN coho.

4. The models upon which these fisheries are based are imprecise. Predictions have wide confidence intervals. For example, the total OCN stock abundance was over-predicted by more than 100% for the past two years. Recent projections of stock abundance generally have overestimated the status of the stocks. This lack of precision in estimates does not provide the scientific reliability for optimistic predictions about the lack of impact of additional sources of mortality.
5. Numbers of returning coho spawners in several coastal basins are in the range of 100-1000 individuals. Such extremely low populations are approaching levels where extinctions are likely. Harvest on such stocks is certain to increase the probability of extinctions.
6. Approximately half of the coho populations in the lower Columbia River are either extirpated or at risk of extirpation. Only two wild stocks remain intact-those that spawn in the Clackamas and Sandy Rivers, and these are being considered for listing under the ESA. Increases in the harvest of marked coho salmon in the proposed recreational fisheries (north of Cape Falcon and at Buoy 10 in the Columbia River) will increase the threat to these two Columbia River stocks, and to the severely depressed OCN coho stocks in the Tillamook and other north component basins.

In our previous correspondence with PFMC, the IMST recommended a conservative approach. We find the "precautionary principle" in Executive Order 99-01 consistent with this approach (i.e., if the risk of an action is great or the uncertainty is high, be conservative-do no harm).

In summary, the IMST recommends that:

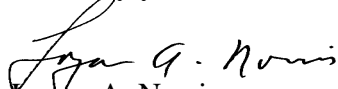
- 1) The State of Oregon encourage the PFMC to adopt the goals of Amendment 13 ("to remove the fishery related impacts as a significant impediment to the recovery of depressed OCN coho and to allow rebuilding of the component populations subgroups to higher levels"). Amendment 13 also states: "If some components begin rebuilding faster than others, but data are not available which allows the marine harvest of OCN components at different rates, opportunities for increased ocean harvests may be constrained by the weakest component. In the foreseeable future, the northern stock component can be expect to dictate low harvest levels in marine fisheries for all components."

March 22, 1999  
Greer  
Page 3

- 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 Falcon, and
  - troll option II south of Cape Falcon (however, we believe eliminating the July portion of this fishery south of Cape Falcon provides a stronger scientific basis for limiting the impact on OCN coho stocks).

To reiterate, the IMST does not consider the current scientific basis adequate to support a fishery that will impact OCN coho stocks. We believe such a fishery is not scientifically compatible with the goals of the Oregon Plan.

Sincerely yours,



Logan A. Norris  
Chair, IMST

Cc: Governor Kitzhaber  
President Adams  
Speaker Lundquist  
JLCSRSR  
Larry Six, Pacific Fisheries Management Council  
Roy Hemmingway, Manager, Oregon Plan

**INDEPENDENT  
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**State of Oregon**

**John Buckhouse  
Wayne Elmore  
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James Lichatowich  
Logan Norris, Chair  
William Pearcy**

April 1, 1999

The Honorable Governor John A. Kitzhaber  
Governor of Oregon  
State Capitol Building  
Salem, OR 97310

The Honorable Brady Adams  
Oregon Senate President  
State Capitol Building  
Salem OR 97310

The Honorable Lynn Snodgrass  
Oregon House Speaker  
State Capitol Building  
Salem OR 97310

I write this letter report about the monitoring program of the Oregon Plan on behalf of the Independent Multidisciplinary Science Team (IMST). Senate Bill 924, Steelhead Supplement (pg. 16-7), and Executive Order No. EO 99-01 requests that the IMST annually review monitoring results and identify where the Oregon Plan for Salmon and Watersheds warrants change for scientific or technical reasons and make recommendations to the appropriate agency on adjustments that appear necessary. This letter represents our first report to you as part of this task.

### **Process**

The IMST focused on calendar year 1998 for the purposes of this review. In preparation of this report, the IMST has reviewed the Oregon Plan Annual Report and met three times with Kelly Moore and once with Jim Martin. We have found reasons for significant encouragement, but also experienced considerable frustration when we attempted to discharge our responsibilities. Our review is complicated by the fact that a report from the Interagency Monitoring Team is not yet available. Their report should provide a cohesive and comprehensive report on monitoring. For purposes of the 1998 review, IMST focused on the Oregon Plan Annual Report.

### **Findings**

We found that the first year of implementation of the Monitoring Plan has resulted in some high quality monitoring activity by various State agencies. For various reasons, the monitoring programs of all state agencies are not at the same level of development. For instance, the Oregon Department of Forestry monitoring effort is more extensively developed, reflecting its longevity. In the future, support for monitoring by the Watershed Councils and the Healthy Streams Partnership should be an important part of the monitoring effort.

It remains for IMST to review the monitoring procedures and protocols to determine their scientific adequacy. We expect to accomplish this task from a synthesis document that would be developed by the Teams of the Oregon Plan in 1999. Our goal in this technical review will be to determine if the most relevant

monitoring questions are being addressed, and if the procedures being used will provide clear answers to them. In addition, we will evaluate the procedures for data analysis and interpretation, and the methods the agencies are using to incorporate findings into programs of adaptive management.

The progress made in coordinating monitoring activities is encouraging. It shows lots of hard work and diligence of effort; however, much needs to be done. It is a daunting task, which can only be successful with dedication and cooperation from the state agencies in the monitoring program.

The 1998 monitoring program is a mixture of monitoring activities in which the agencies were already engaged, and some enhancements made possible through funding from the 1997 legislature. We feel it is important to integrate the monitoring activities of the agencies. While an aggregation of existing programs is a useful place to start, it will not ensure that progress towards the goals of the Oregon Plan is occurring, or show if adaptive management is needed.

The most pressing need is a long-term commitment for integration, not simply aggregation. It is essential that individual agencies prioritize the questions to be answered via the monitoring program and show how these monitoring activities relate to the goals of the Oregon Plan.

Integration and synthesis of data collected by these studies across agencies is lacking. This integration and synthesis is necessary to understanding the linkages between various monitoring elements, for instance between ocean conditions, on-shore aquatic habitat condition and fish population levels. Currently this is not occurring and there does not appear to be an adequate workforce dedicated to accomplishing this critical task.

## **Recommendations**

Success in the Oregon Plan requires a monitoring program that is geared to the Plan and is effective. In the future the IMST will make a more effective evaluation of the monitoring effort than was possible for 1998.

To achieve these goals we make the following recommendations:

- 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.
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?
- 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.

### **Long Term**

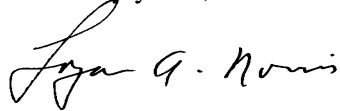
- Develop and adopt a strategy to ensure integrating and synthesizing of monitoring data collected by the agencies, and relate the output to the goals of the Oregon Plan. We think this is particularly important in understanding the relationships between ocean conditions and onshore aquatic habitat conditions.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

Oregon is engaged in an unprecedented effort of wild salmonid species recovery. We all are navigating in uncharted waters. The IMST strongly supports the monitoring efforts to date but at the same time are of the opinion that there is room for significant improvement. We hope our review for 1998, and the recommendations we make will be useful to you in meeting this challenge.

### **Key Points**

- **Success in the Oregon Plan requires a long-term monitoring plan that is geared to the Plan, and is effective.**
- **The most pressing need is for greater integration, not just aggregation.**
- **Develop strategies and specific mechanisms to ensure information from the monitoring program is incorporated into the adaptive management strategies of each agency.**

Sincerely yours,



Logan A. Norris, Chair  
Independent Multidisciplinary Science Team

cc: Joint Legislative Committee on Stream Restoration and Species Recovery  
Roy Hemmingway, Oregon Plan Manager  
Kelly Moore, Oregon Plan Monitoring Leader  
IMST

**INDEPENDENT  
MULTIDISCIPLINARY  
SCIENCE TEAM  
(IMST)**



**State of Oregon**

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

September 14, 1999

The Honorable John A. Kitzhaber  
Governor of Oregon  
State Capitol  
Salem OR 97310

The Honorable Brady Adams  
Oregon Senate President  
State Capitol  
Salem OR 97310

The Honorable Lynn Snodgrass  
Oregon House Speaker  
State Capitol  
Salem OR 97310

Enclosed is Technical Report 1999-1 from the Independent Multidisciplinary Science Team on the forestry project that we just completed. The report contains 19 specific recommendations. Most are directed to the Oregon Department of Forestry (ODF), but there are also recommendations for Oregon Department of Fish and Wildlife (ODFW) and the Forest Research Laboratory (FRL).

This report focuses on topics involving the management of (a) riparian areas, (b) large wood (sometimes referred to as large woody debris), (c) sedimentation from roads and landslides and (d) fish passage at road-stream crossings. While there are other forestry issues that could impact the recovery of wild salmonids, we felt these were most important, and were within the scope of what the IMST could do given the rest of our responsibilities.

The geographic scope of our report is forested lands west of the Cascades and in the Siskiyou. We excluded forest lands on the east side in part because grazing and forestry are so strongly intermingled on these lands and in many instances it will be difficult to segregate the effects on aquatic habitat of one land use from the other. I anticipate that IMST will address this intermixed land use on the eastside and their different policies in a separate project. For now we note that the concepts articulated for the westside forestlands can likely be extended by ODF, ODFW and the FRL to the eastside forests.

Concerning this report, the IMST finds that some specific aspects the Oregon Forest Practices Rules and the Measures of the Oregon Plan need improvement in dealing with riparian buffers, large wood management,

sedimentation and fish passage at road-stream crossings. We believe these changes can all be accommodated within the existing policy framework. However, even with these changes, the current site-specific approach of regulation and voluntary actions is not sufficient to accomplish the recovery of wild salmonids. A landscape scale approach with flexible or adaptive

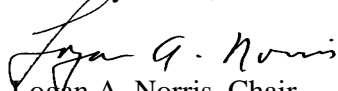
management will be needed. Our report recommends this for forestlands (see recommendations I and 2), but we believe this will require a change in the forest policy framework of the State before it will be feasible, equitable and attractive. Given that salmonids extend across most of the lands of the State, I anticipate that in the future the IMST will conclude the landscape approach will need to extend across this larger landscape as well.

To conclude, as you study our report keep in mind there are two levels of resolution and two general time scales involved. One level of resolution is at the operational level involving changes to existing Rules and Measures and their implementation. This level of resolution can be accomplished in the near-term future. The second level of resolution is at the policy level, as reflected in recommendations I and 2. This issues involved at this level will require a longer period of time.

The IMST will discuss this report with the ODF Advisory Committee on Forest Practices on September 23. I will discuss this report with the Board of forestry on October 22.

The IMST remains committed to the mission of the Oregon Plan and hope our work is helpful. We would be pleased to discuss this report or any of our other work with you at your convenience.

Sincerely Yours,



Logan A. Norris, Chair

Independent Multidisciplinary Science Team

LAN:grs

cc: IMST  
JLCSRSR

**Recovery of Wild Salmonids in Western Oregon Forests:  
Oregon Forest Practices Act Rules  
and the Measures in the  
Oregon Plan for Salmon and Watersheds**

**Technical Report 1999-1**

**Independent Multidisciplinary Science Team**

**September 8, 1999**

**Members of 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, U.S. Department of Interior  
Stanley Gregory, Department of Fisheries and Wildlife, Oregon State University  
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James Lichatowich, Alder Fork Consulting  
William Percy, College of Oceanic and Atmospheric Sciences, Oregon State University

**Citation:** Independent Multidisciplinary Science Team. 1999. Recovery of Wild Salmonids in Western Oregon Forests: Oregon Forest Practices Act Rules and the Measures in the Oregon Plan for Salmon and Watersheds. Technical Report 1999-1 to the Oregon Plan for Salmon and Watersheds, Governor's Natural Resources Office, Salem, Oregon.

## Executive Summary

The forests of Oregon are an important part of the landscape used by wild salmonids. How these forests are managed is important in attaining the goals of the Oregon Plan for Salmon and Watersheds (Oregon Plan) and Oregon Executive Order 99-01. Agricultural, urban, and other environments are addressed in other projects of the Independent Multidisciplinary Science Team (IMST).

Forested landscapes include both aquatic and terrestrial components. The linkage between aquatic and terrestrial components has been recognized for a long time and has been prominent in the Oregon Forest Practices Act (OFPA) since its creation in 1972. The OFPA and its Administrative Rules were developed primarily to protect resource values, including water quality and, indirectly, habitat for salmonids. They were not specifically directed towards the recovery of wild salmonids, which is the mission of the Oregon Plan. However, it is through the Administrative Rules of OFPA and the Measures in the Oregon Plan that the mission of the Oregon Plan and Executive Order 99-01 are to be accomplished. The goals of the IMST forestry project are to

- (a) articulate the scientific basis for the recovery of wild salmonids as it relates to the forests of Oregon, and
- (b) recommend actions concerning the Rules and the Measures as they contribute to accomplishing the mission of the Oregon Plan.

The geographic scope of this Technical Report is the portion of Oregon forests that provide habitat for wild salmonids west of the crest of the Cascade Range and in the Siskiyou Mountains. However, it also provides the fundamental concepts and relevant science questions and findings for a much broader area. Topically, it covers riparian buffers, large wood, sedimentation, and fish passage at road-stream crossings because IMST believes these are the most important aspects for the recovery of wild salmonids. The Report focuses on broad scientific issues and concepts. It is not a review of each OFPA Administrative Rule or Measure of the Oregon Plan, although some are addressed primarily as examples. The scientific direction provided by this Report can guide ODF staff (working with other panels of experts as needed) in formulating rules for OFPA and measures for the Oregon Plan that are needed as part of accomplishing the recovery of depressed stocks of wild salmonids.

This is a long and complex report addressing some issues with broad policy implications that will take time to resolve, and some other issues that are more operational and can probably be dealt with more rapidly. The Report includes a preface in which the fundamental approach to recovery of wild salmonids is outlined. Briefly, the approach is emulation (not duplication) of the historic range of conditions across the landscape. This approach is appropriate for all lands, although the extent to which it is applied is a matter of policy, to be determined in part by the extent to which wild salmonid recovery is to be achieved. The report is divided into six sections with an appendix. The details of the organization of the report are in Section 1, The Introduction.

The report addresses three science questions:

**Question 1. What is the scientific basis for maintaining fish habitat/water quality in forested ecosystems with respect to riparian buffers, large wood, sedimentation, and fish passage at road-stream crossings?**

This question is applied to four broad subject areas:

**Riparian Protection**

Managing riparian areas differently than upslope areas as a strategy for protecting fish habitat is scientifically valid only if it is done with the goal of maintaining the dynamics of landscape structure and function. Sharp demarcations between riparian forest and upslope forest, and between fish-bearing and nonfish-bearing streams are not consistent with the historic pattern.

**Large Wood Management**

Large wood is a key structural and functional component of aquatic systems. Most models of large wood recruitment focus on riparian areas as the source, ignoring the important contributions made by upslope sources, especially from landslides. There is a critical need to restore the ecological processes that produce and deliver large wood to the streams from riparian as well as upslope areas.

**Sedimentation**

Sediment is a natural part of forest stream systems, as are the more coarse elements of stream structure, such as large wood, boulders, and gravel. Roads and landslides increase the amount of fine sediment in streams, but do not always add the more coarse elements. In addition, fine sediment production from roads is chronic rather than episodic. Management of sedimentation from roads and landslides at the watershed level is more difficult, and the scientific basis for it is less well developed, although the concepts are known and provide a basis for reasonable conjecture on how to proceed. In essence, the concept is to vary the extent and intensity of disturbance in a watershed over space and time, emulating the historical pattern of disturbance.

**Fish Passage at Stream Crossings**

The road-stream crossing guidelines developed by ODFW (ODFW 1996) are based on science, although often not the result of explicit experimentation. They provide a scientifically sound basis for management of such crossings, although better information should result from monitoring.

**Question 2. Are current forest practice Rules and Measures with regard to riparian buffers, large wood, sedimentation, and fish passage at road-stream crossings adequate to achieve the mission of the Oregon Plan?**

IMST concludes that current rules for riparian protection, large wood management, sedimentation, and fish passage are not adequate to reserve depressed stocks of wild salmonids. They are not adequate because they are dominated by site- and action-specific strategies. While these are important as an initial step in accomplishing the mission of the Oregon Plan, they are not sufficient for the recovery of critical habitat for wild salmonids.

### **Question 3. What strategies are needed in the management of forest resources to achieve the mission of the Oregon Plan?**

Recovery of wild salmonids requires, among other things, habitat that is functional across the landscape. This means that policy, management, regulation, and voluntary actions must also work across the landscape. Current State forest policy focuses on specific actions occurring within defined periods of time at specific sites. As an example, the rules provide for riparian protection on a site-by-site basis, rather than at the landscape level. Sharp distinctions in the management of riparian zones (as compared to upslope forests), based on the size of the stream and the presence or absence of fish, will result in a failure to maintain the dynamics of structure and function of riparian zones across the landscape. In other cases, hazardous sites on forest roads and railroad grades are exempt from current OFPA Rules because the actions occurred before the Rules were in effect. Mechanisms are needed to solve these problems on critical sites that are exempted from current rules. Similar examples can be drawn from conclusions about the recruitment of large wood and the management of sediment and fish passage. A policy framework that incorporates landscape perspectives and makes regulation, management, and voluntary actions possible at this scale is needed.

There are three major areas in which shifts in policy are needed:

1. Incorporate the objectives of the Oregon Plan and Executive Order 99-01 into the OFPA. This will place an emphasis of regulation on the protection and enhancement of habitat needed for the recovery of wild salmonids.
2. Develop policy that extends the management of forest resources to the landscape level. This does not delete the site-specific aspects of current rules, but applies them in a different context. It will entail a shift from prescriptive rules applied uniformly across the landscape to site-by-site regulations that take into account cumulative disturbance in the watershed, landscape features, and climatic variation.
3. Develop policy that brings roads not constructed to current standards and other hazardous settings in critical locations into compliance with current standards. This means having the current OFPA Rules applied to actions taken before the current Rules were in force. In many cases, the operator acted in good faith and within the rules of the day, but the outcome is not scientifically consistent with the mission of the Oregon Plan; thus, a provision by which remediation is accomplished is needed.

Evaluating policy options within the complexity of contemporary forestry is a challenge. Extending these options to the landscape level and over time makes the job enormously more difficult. Fortunately, there are analytical approaches and models that can help. Examples of these are in the CLAMS research project, the Umpqua Land Exchange Project, and others.

The following are the specific recommendations of IMST. The first two recommendations will be difficult or impossible to implement within the existing policy framework. These we identify as Recommendations that May Require a Modified Policy Framework. Although these recommendations will take a longer period of time to implement, work on the revised policy framework should begin immediately. The other 17 recommendations can be accommodated within the existing policy framework of the Oregon Forest Practices Act or the Oregon Plan. These we identify as Recommendations Consistent with the Existing

Policy Framework, and we believe they can be addressed in the near future. In aggregate, our recommendations are intended to both reinforce and enhance the site-specific Rules of the OFPA and Measures of the Oregon Plan and provide a bridge to management that incorporates a landscape perspective.

## **Recommendations for ODF**

### ***Recommendations that May Require a Modified Policy Framework***

**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:

*Long-term landscape level assessment* of the upslope and riparian forest and associated aquatic systems to ensure that the desired condition is maintained across the landscape and through time.

*Identified goals* for the characteristics of aquatic systems and riparian and upslope forests across the landscape to ensure the integrity of salmonid habitat.

*Monitoring* that will provide the information needed to evaluate the aggregated outcomes of management at the landscape level.

*Coordination* among agencies and watershed councils to facilitate landscape level planning and management at scales that extend beyond the forest.

### ***Recommendations Consistent with the Existing 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.

#### **Recommendations for or with other agencies**

**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.

**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.

**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.

**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.

**INDEPENDENT  
MULTIDISCIPLINARY  
SCIENCE TEAM  
(IMST)**



**State of Oregon**

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

November 12, 1999

The Honorable John A. Kitzhaber  
Governor of Oregon  
State Capitol  
Salem OR 97310

The Honorable Brady Adams  
Oregon Senate President  
State Capitol  
Salem OR 97310

The Honorable Lynn Snodgrass  
Oregon House Speaker  
State Capitol  
Salem OR 97310

The IMST issued Technical Report 1999-1 on forest practices on Sept. 8, 1999. We discussed the report and its recommendations with the Oregon Dept. of Forestry Forest Practices Advisory Committee on Sept. 23, and with the Joint Interim Committee on Stream Restoration and Species Recovery on October 11, 1999. As a result of these meetings we have identified areas we feel should be clarified. We provide the enclosed addendum to Technical Report 1999-1 for this purpose.

The Joint Interim Committee raised two specific questions that are not addressed in the addendum because the IMST considers them primarily explanatory and not substantial changes to the report. The questions are paraphrased below. Specifically:

1. What opportunities are made possible through the utilization of the landscape perspective recommended by the report?

IMST Response: In addition to the increased probability of recovery of depressed stocks of wild salmonids, the IMST cited three opportunities for flexibility in forest management that may be gained through utilization of the landscape perspective. These are cited on page 43 of the Technical Report. They are:

- permit a shift from the current, rigid buffer-width strategy to one providing the historic array of condition at the landscape level
- provide the ability to achieving water temperature goals through control of the proportion of the landscape in a forested condition
- provide greater flexibility in scheduling the extent and frequency of management related disturbance (i.e. concentrate timber harvest and then provide longer periods to stabilize and recover).

These are examples, and are not intended as a complete list of such opportunities. Much work remains to be done in this area.

2. The Report seems to emphasize regulations as the strategy for accomplishing the mission of the Oregon Plan. Is this the intent of the Team?

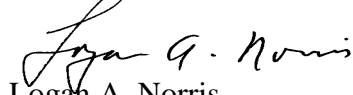
IMST Response: The Team believes that accomplishing the mission of the Oregon plan will require a combination of voluntary and regulatory strategies. Complete reliance on either one is not likely to be successful.

The intent of the team is not to specify how our recommendations should be implemented, or how their objectives should be accomplished. We consider these decisions in the area of policy and therefore beyond the scope of the Team's responsibility. Those who make policy are better positioned than the IMST to make decisions about the balance between regulatory and voluntary measures.

We believe the outcomes expected from implementation of the recommendations in the report are important. In determining precisely how each recommendation is implemented and its objectives accomplished, we suggest policy makers be guided by the outcomes intended by each recommendation.

The IMST is hopeful that this commentary and the enclosed addendum to Technical Report 1999-1 clarify these issues and concerns.

Sincerely yours,



Logan A. Norris

Chair, Independent Multidisciplinary Science Team

Enclosure

cc: JLCSRSR  
IMST

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

**Addendum 1  
November 3, 1999**

The IMST issued Technical Report 1999-1 on forest practices on Sept. 8, 1999. We discussed the report and its recommendations with the Oregon Dept. of Forestry Forest Practices Advisory Committee on Sept. 23, and with the Joint Interim Committee on Stream Restoration and Species Recovery on October 11, 1999. This addendum to Technical Report 1999-1 was produced to clarify three of our recommendations, based on issues identified at these meetings.

**Recommendation 2. Landscape Management**

The report emphasizes the importance of utilizing a landscape perspective in accomplishing the recovery of depressed stocks of wild salmonids through the Oregon Plan. We amend the explanation of the recommendation (page 42) report by adding the following statement to clarify what we mean by the term “landscape”:

“Landscape means a broader geographic scale than the site. Our use of the term implies managing natural resources at this broader geographic scale. Site-specific management will still be done, but the context for it will be different. The broadness of this scale is likely to vary with the circumstance and the sets of policies within which it is accomplished. Our report focuses on large watersheds (such as the Rogue, Umpqua or Willamette) as the unit of management. This is the relevant scale for recovery of wild salmonids because this is the scale of metapopulations of fish. But it is not the only scale that is relevant to the resource management.”

“The concepts can be applied to much smaller areas, including major drainage basins within larger watersheds. Given that the upstream-reach of most basins is forested, the landscape perspective can conceivably be applied to a single larger ownership that dominates a basin. The science and the practice of landscape management is developing and evolving, as is the policy frameworks within which it will work.”

**Recommendation 5. Conifer Basal-Area Requirements in RMAs**

The intent of this recommendation is to increase the supply of large conifer in RMAs as future sources of large wood for streams. We amend the explanation of the recommendation (on pages 44 and 45 of the report) by adding the following statements:

- “This recommendation is based on the expected volume and number of trees in the riparian forest under current rules at least to the level required for large streams.”
- “During harvest, disproportionately removing the larger diameters from the RMA should not be allowed. The size class distribution and density of conifer-dominated riparian forests should eventually reflect that of an older forest (160 years and greater).”

#### Recommendation 12. Durable Surfacing of Roads

The purpose of this recommendation is to reduce the delivery of road related sediment to aquatic systems. It focuses on the production of fine sediments from road surfaces. We amend the explanation of the recommendation (on page 47) with the following statement:

- “The recommendation applies to road segments where road drainage water can carry road-related sediments to aquatic systems.”

**INDEPENDENT  
MULTIDISCIPLINARY  
SCIENCE TEAM  
(IMST)**

December 13, 1999

The Honorable John A. Kitzhaber  
Governor of Oregon  
State Capitol  
Salem, OR 97310

The Honorable Brady Adams  
Oregon Senate President  
State Capitol  
Salem, OR 97310

The Honorable Lynn Snodgrass  
Oregon House Speaker  
State Capitol  
Salem, OR 97310



**State of Oregon**

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

Enclosed is Technical Report 1999-2 from the Independent Multidisciplinary Science Team. It is a summary of the findings of a workshop on "Defining and Evaluating Recovery of OCN Coho Salmon Stocks: Implications for rebuilding stocks under the Oregon Plan". The IMST organized this workshop to explore definitions and criteria for recovery of depressed salmon stocks as part of our project on harvest management, escapement and recovery of Oregon coho salmon. This workshop included regional experts in the ecology and management of salmon

The recovery of depressed stocks is the primary goal of both the Oregon Plan and salmon management under the Pacific Fishery Management Council, but the IMST finds no explicit definition of "recovery". Because this question is so important to the Oregon Plan, the IMST decided to explore definitions and scientific criteria for recovery that may be useful to state and federal managers. The IMST convened 19 regional leaders in salmon management and research in a workshop on August 4-5, 1999. The main purposes of the workshop were to 1) define the concept of recovery and 2) to identify criteria for evaluating recovery.

The enclosed report contains ten major conclusions developed by workshop participants. It does not contain specific recommendations of the IMST. These will be in the technical report on harvest management, escapement, and recovery of Oregon coho salmon that we expect to release early in 2000. That report will address the technical basis for harvest management under the Oregon Plan and Amendment 13 of the Pacific Coast Salmon Plan of the Pacific Fishery Management Council.

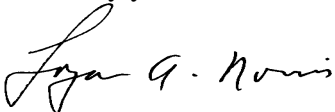
Participants in the workshop included:

Dan Bottom	Oregon Department of Fish and Wildlife
Mark Chilcote	Oregon Department Fish and Wildlife
John Coon	Pacific Fishery Management Council
Bob Francis	University of Washington
Stan Gregory	Oregon State University, IMST
Steve Jacobs	Oregon Department Fish and Wildlife
Robert Kope	National Marine Fisheries Service
Peter Lawson	National Marine Fisheries Service
Kelly Moore	Governor's Natural Resources Office
Willa Nehlsen	U.S. Fish and Wildlife Service
Jay Nicholas	Governor's Natural Resources Office
Tom Nickelson	Oregon Department Fish and Wildlife
Bill Percy	Oregon State University, fMST
Gordie Reeves	U.S. Forest Service
Sam Sharr	Oregon Department Fish and Wildlife
Chuck Tracy	Oregon Department Fish and Wildlife
Bill Tweit	Washington Department of Fish and Wildlife
Tom Wainwright	National Marine Fisheries Service
Robin Waples	National Marine Fisheries Service

Although the focus of the workshop was OCN coho salmon, the definitions and criteria for recovery apply to all salmonid species and populations and to watershed restoration under the Oregon Plan. We believe the findings of the workshop participants are important to the ultimate success of the Oregon Plan.

The IMST remains committed to the mission of the Oregon Plan and hope our work is helpful. We would be pleased to discuss this report or any of our other work with you at your convenience.

Sincerely yours,



Logan A. Norris, Chair  
Independent Multidisciplinary Science Team

Enclosure

cc with enclosure:

Joint Legislative Committee on Stream Restoration and Species Recovery  
Governor's Natural Resources Office  
IMST

# **Defining and Evaluating Recovery of OCN Coho Salmon Stocks: Implications for rebuilding stocks under the Oregon Plan**

**Summary of a workshop organized by the  
Independent Multidisciplinary Science Team,  
August 4-5, 1999**

**Technical Report 1999-2**

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

**December 10, 1999**

## **Members of 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 Sciences, Oregon State University

**Citation:** Independent Multidisciplinary Science Team. 1999. Defining and Evaluating Recovery of OCN Coho Salmon Stocks: Implications for rebuilding stocks under the Oregon Plan for Salmonids and Watersheds. Technical Report 1999-2 to the Oregon Plan for Salmon and Watersheds. Governor's Natural Resources Office. Salem, Oregon.

## **Purpose of the IMST Workshop**

The Independent Multidisciplinary Science Team (IMST) is preparing a report on harvest impacts, escapement, and recovery of Oregon coho salmon. The report will address the technical basis for actions identified by the Oregon Plan and Amendment 13 of the Pacific Coast Salmon Plan of the Pacific Fishery Management Council.

In spite of the fact that recovery of depressed stocks is the primary goal of the Oregon Plan and a legal mandate of the Pacific Fishery Management Council, the IMST has found no explicit statement of the definition of “recovery”. The only criteria for determining whether specific stocks meet the goal of rebuilding stocks are the triggers for changing harvest levels. The IMST has been unable to find either an explicit conceptual framework for recovery or a description of the technical basis for the harvest management criteria.

Because this question is central to the Oregon Plan and harvest management of depressed salmon stocks, the IMST decided to explore definitions and criteria for recovery that may be useful to state and federal managers. The IMST convened 19 regional leaders in salmon management and research in a workshop on Goals for Recovery of OCN Stocks on August 4-5, 1999. The main purposes of the workshop were to 1) define the concept of recovery and 2) to identify criteria for evaluating recovery. Although the focus of the workshop was OCN coho salmon, the definitions and criteria for recovery apply to all salmonid species and populations. The following report summarizes the conclusions and recommendations of that workshop.

## **Major Conclusions:**

The Oregon Plan was created because of clear declines in coastal salmon populations. The State is faced with serious questions about risk of extinction of populations, major factors contributing to declines, goals for resource decisions, guidance for public and private actions, and design of monitoring. Assessment and future projections of the status of salmon stocks are a central requirement in each phase of the Oregon Plan.

Participants in the workshop arrived at the following conclusions:

- 1. Explicit definition of recovery of depressed stocks and criteria for evaluating population status and trends is essential for successful implementation of the Oregon Plan for Salmon and Watersheds and the PFMC’s Coastal Salmon Management Plan. These should be developed as soon as possible.**
- 2. Recovery should encompass the three major elements identified in the U.S. Fish and Wildlife Service definition—reversal of declines, neutralization of threats, and insured long-term survival.**
- 3. During periods of environmental stress or poor ocean survival, salmon populations must be protected and habitat quality must be restored to prevent extinctions and to permit future rebuilding of salmon stocks.**

- 4. Criteria for stock performance and habitat conditions should be established to provide guidance for rebuilding salmon stocks under varying ocean and freshwater conditions over the long term.**
  - 4 a. An increase in numbers of salmon alone does not constitute recovery, even if abundance exceeds minimum viable populations or harvest production targets.**
  - 4 b. Widespread distribution of salmon populations in watersheds and appropriate habitat conditions must be achieved during periods of good survival to provide a buffer against subsequent periods of poor survival.**
  - 4 c. Adequate and appropriate genetic variability must be represented in the populations.**
- 5. Definition of recovery under the Oregon Plan should emphasize the long-term viability of salmon populations. However, recovery is not complete until production is adequate to provide social, cultural, and economic benefits.**
- 6. The long-term nature of recovery requires assessments based on dynamic climate, habitats, and environmental conditions. Assessments and model evaluations should incorporate the historic range of habitat conditions across the landscape and, more importantly, future alternative habitat patterns across the landscape.**
- 7. Criteria for evaluating recovery of depressed stocks should be developed. They should include measures of salmon abundance, productivity, spatial and temporal structure, diversity, and critical ecological functions of salmon.**
- 8. The process and criteria that will be used to evaluate the status and trend of coastal salmon and the success of the Oregon Plan must be identified as soon as possible. The monitoring program should then be modified where necessary to provide the required information for future assessment.**
- 9. Current funding and staffing for monitoring and modeling of coastal salmon trends are inadequate and fragmented. Additional funding and staffing support are required for monitoring of fish abundances at all life-history stages, habitat at reach and basin levels, ocean survival, and application of existing models of habitat, production, harvest impacts, and risk of extinction.**
- 10. The state should develop specific actions that explicitly represent application of the Precautionary Principle under the Oregon Plan. The Precautionary Principle needs to be applied to wild salmonids and to be integrated with the best available science into the management of OCN coho salmon by the Pacific Fishery Management Council and ODFW.**

## **Appendix 5**

# **Catalog of Recommendations and Agency Responses**

**Recommendations, Technical Reports**

<b>Recommendations, Technical Reports</b>	<b>Agency Acknowl.<sup>1</sup></b>	<b>Response Received<sup>2</sup></b>
<p><b>Technical Report 1998-1, Hatchery Report, Phase 1 – December 10, 1998</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>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</li> <li>3. ODFW develop and implement a program of research that determines the effects of wild-hatchery fish interactions.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>7. ODFW use hatcheries as important tools in research that supports monitoring programs.</li> <li>8. ODFW establish explicit coordination between hatchery programs and monitoring programs to help them ensure that they accomplish management and research objectives.</li> </ol>	Yes	Yes  Yes  Yes  Yes  Yes  Yes
<p><b>Technical Report 1998-2, Predation – December 22, 1998</b></p> <ol style="list-style-type: none"> <li>1. Determine the factors influencing high predation rates on salmonid smolts in the Columbia River estuary.</li> <li>2. Improve the estimates of the impact of pinniped predation on salmonid stocks and on the recovery of depressed stocks.</li> <li>3. Improve estimates of the impacts of seabird predators on wild salmonids.</li> <li>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.</li> <li>5. Evaluate the effectiveness of cormorant hazing in Oregon’s estuaries</li> <li>6. Use modeling of pinniped and avian predation in risk assessment.</li> <li>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.</li> </ol>	Yes	Yes  Yes  Yes Yes Yes Yes
<p><b>Technical Report 1999-1, Forest Practices – September 8, 1999</b></p> <ol style="list-style-type: none"> <li>1. Explicitly incorporate the policy objective of the Oregon Plan and Executive Order 99-01 into OFPA.</li> <li>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:</li> <li>3. Treat non-fish-bearing streams the same as small, medium, and large fish-bearing streams when determining buffer-width protection.</li> </ol>	Yes	No  No  No

<sup>1</sup> Agency has acknowledged receipt of recommendations

<sup>2</sup> Agency has provided their response

**Recommendations, Technical Reports**

**Agency Acknowl.<sup>1</sup>**

**Response Received<sup>2</sup>**

4. Provide increased riparian protection for the 100-year floodplains and islands.		No
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.		No
6. Complete the study of the effectiveness of the OFPA rules in providing large wood for the short- and long-term.		No
7. Provide enhanced certainty of protection for “core areas”.		No
8. Develop and implement standards or guidelines that reduce the length of roadside drainage ditches that discharge into channels.		No
9. Implement the standards and guidelines for the length of roadside drainage ditch between cross-drainage structures, especially on steep-gradient roads.		No
10. Require the flow capacity of cross-drainage structures and stream-crossing structures and culverts to meet current design standards.		No
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.		No
12. Require durable surfacing on wet-season haul roads and require that hauling cease before surfaces become soft or “pump” sediment to the surface.		
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.		No
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.		No
15. Modify culverts and other structures to permit the passage of juvenile and adult salmonids upstream and downstream at forest road-stream crossings.		No
16. ODFW and ODF should develop a collaborative program of monitoring to quantify the linkages between parameters of ecosystem condition and wild salmonid recovery.		No
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.		No
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.		No
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.		No

<sup>1</sup> Agency has acknowledged receipt of recommendations

<sup>2</sup> Agency has provided their response

Recommendations, Letter Reports

Agency Acknowl.<sup>1</sup>

Response Received<sup>2</sup>

<p><i>3/22/99 letter to Jim Greer re PFMC plans</i></p> <ol style="list-style-type: none"> <li>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”).</li> <li>The State of Oregon encourage the PFMC to adopt <ul style="list-style-type: none"> <li>the recreational fishery option III (no selective fishery south of Cape Falcon),</li> <li>troll option III north of Cape Falcon, and troll option II south of Cape Falcon</li> </ul> </li> </ol> <p><i>2/15/00 letter to Jim Greer re PFMC plans</i></p> <ol style="list-style-type: none"> <li>ODFW and PFMC maximize spawner escapement and abundance in the adult recruits of 2000.</li> <li>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.</li> </ol>		<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"> <li>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.</li> <li>The Interagency Monitoring Team should do the following: <p><b>Short Term</b></p> <ul style="list-style-type: none"> <li>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?</li> <li>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.</li> <li>Establish a schedule for the production of these documents and provide them to the IMST to facilitate our annual review of the monitoring program.</li> <li>Provide the IMST with specific questions on which scientific guidance is desired.</li> </ul> <p><b>Long Term</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Encourage cooperation and coordination with the Governor-s Watershed Enhancement Board and the Watershed Councils.</li> <li>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.</li> </ul> </li> <li>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.</li> <li>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</li> </ol>		<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>In progress</p> <p>Ongoing</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

**Recommendations, Letter Reports**

**Agency  
Acknowl.<sup>1</sup>**

**Response  
Received<sup>2</sup>**

<p>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> <p>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.</p>		<p>Yes</p>
<p><i>5/26/00 letter to Geoff Huntington regarding proposals submitted to OWEB</i> Specifically we make four recommendations - the first two deal with the proposals provided, and the second two deal with the process for science review.</p> <p>1. Fund only the proposal focusing on the Nehalem watershed.</p> <p>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.</p> <p>2. Request that the investigators determine the degree to which implantation affects the behavior of these fish.</p> <p>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.</p> <p>3. Develop a proposal format requirement that is designed for research proposals.</p> <p>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</p> <ul style="list-style-type: none"> <li>• the hypotheses to be tested can be explicitly stated,</li> <li>• 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),</li> <li>• investigators explain how they will go from data collection through data analysis to draw anticipated conclusions, and</li> <li>• the financial, personnel and other resources needed or available for the project can be displayed.</li> </ul> <p>All this information is essential to the quality scientific review called for when expenditures of this magnitude are considered.</p>	<p>Yes</p>	<p>No</p> <p>No</p> <p>No</p>

**Recommendations, Letter Reports**

**Agency  
Acknowl.<sup>1</sup>**

**Response  
Received<sup>2</sup>**

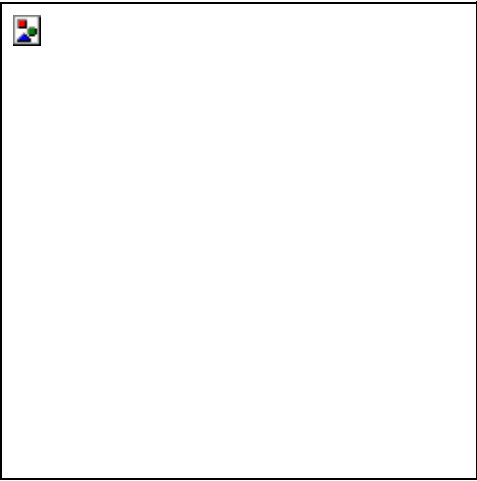
<p>4. Expand the scope of science review for research proposals.</p> <p>The IMST can accommodate review of a limited number of research proposals, but we feel it would be useful for you to request review from others as well. As an example, ODFW has technical staff competent to provide scientific review 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.</p>		No
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## **Appendix 6**

### **IMST Home Page**



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# Independent Multidisciplinary Science Team (IMST)

Oregon Plan For Salmon and Watersheds

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The Independent Multidisciplinary Science Team (IMST) was established by the 1997 Oregon Legislature via Senate Bill 924, signed by Governor John Kitzhaber on March 25, 1997. The Team is to advise the State on matters of science, related to the Oregon Plan for Salmon and Watersheds.

The Governor, the Senate President and the Speaker of the House jointly constituted the 7-member Team October 10, 1997. The establishment of the Team reflected the 1997 agreement between Oregon and the National Marine Fisheries Service concerning coho salmon. This agreement has been terminated, but Executive Order 99-01 expanding the scope of the Oregon Plan specifies the continuing role of the Team in the recovery of wild salmonids in Oregon. (For more info please read "Team Charter")

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[Team Charter](#)

Contact Information:  
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Last Reviewed:

## **Appendix 7**

### **Plan of Work for 2000-2001**

IMST Scope of Work  
July 1 1999 – June 30, 2001

Logan Norris  
January 21, 2000

The IMST has two broad areas of work.

- **Independent projects** dealing with the scientific basis for management of resources and settings relative to the Oregon Plan. These are areas of work identified by the Team as crucial to the programs of the state that influence the outcome of the Oregon Plan. Examples include land use such as the forestry project, hatchery management, fish harvest management etc.
- **Review projects** in which the Team is reviewing ongoing or proposed programs and activities that could influence accomplishing the mission of the Oregon Plan. These are projects that are brought to the Team for scientific review and evaluation. Examples include water temperature standards, monitoring programs, Native Fish Conservation Policy, etc.

The IMST believes that the independent projects should be helpful in shaping the programs of the State and for that reason we have put first priority on them. As State programs are developed, initiated or modified there will be greater need for the Team to emphasize its review function. To accommodate this changing need the Team is planning on completing its major independent projects by June 2001. These projects include:

- Harvest Management (adult fish escapement to spawning)
- Western Oregon Lowland Resources (Land uses in western Oregon that are not forest and are not urban)
- Eastern Oregon Resources (forest, range and pasture and cultivated agriculture land uses, not urban)
- Urban land uses, statewide
- Hatchery management

Completing these projects will take a focused effort by Team members, and the assistance of technical staff whose entire responsibility is IMST functions.