

**INDEPENDENT
MULTIDISCIPLINARY
SCIENCE TEAM
(IMST)**



State of Oregon

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**IMST
c/o Oregon State University
Dept. of Forest Science
Corvallis, OR 97331**

April 27, 2004

The Honorable Ted Kulongoski
Governor of Oregon
State Capital Building
Salem, OR 97301

The Honorable Peter Courtney
Oregon Senate President
State Capital Building
Salem, OR 97301

The Honorable Karen Minnis
Oregon House Speaker
State Capital Building
Salem, OR 97301

Enclosed is the 2003 Annual Report of the Independent Multidisciplinary Science Team (IMST) for the Oregon Plan for Salmon and Watersheds. This report summarizes the activities of the IMST for 2003, including independent reports, letter reports to state agencies, briefings, and presentations. During 2003, we completed a major report on water and fish management issues in the Klamath River Basin. We have continued to work on projects on Urban and Rural Residential Land Use, Eastern Oregon Resources, and Oregon's Water Temperatures Standards. The Temperature Standards report has been adopted by the IMST pending incorporation of final edits and will be issued shortly. In addition, the IMST has continued to provide an independent, unbiased review of science issues related to the Oregon Plan to state agencies and the people of Oregon. The IMST also undertook the development of a list of the critical information still needed by the Oregon Plan.

We direct your attention to a critical discussion within our 2003 Annual Report under the section titled "External factors affecting the work of the Team". The members of the IMST have concerns with the long delays in replacing team members whose appointments have ended, the politicization of the appointment process, and operating budget constraints. These factors outside of the IMST have been negatively affecting Team operations and the effectiveness in serving the State of Oregon and the Oregon Plan. The Team functioned with only four members during much of the year because of vacant positions.

In our 2002 Annual Report, we evaluated the effectiveness of the IMST. Although the IMST believes that it has made substantial contributions toward

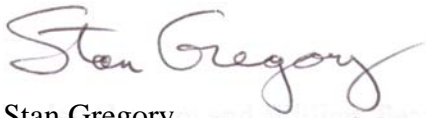
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the success of the Oregon Plan for Salmon and Watersheds, we suggested that the State should conduct an independent review of the Team's effectiveness and products, as well as the process by which the Team operates relative to the many agencies involved in the Oregon Plan. To date this task has not been initiated; however, we still encourage this type of review in order to determine how well the IMST is fulfilling State needs and to identify changes that may improve our effectiveness.

Feel free to contact us if you wish to further discuss this report and/or any related issues with you.

Sincerely,



Stan Gregory



Carl Schreck

Co-Chairs, IMST

cc: Mr. Jim Brown, Natural Resource Policy Director
Mr. Jim Myron, Natural Resource Policy Advisor
Sen. Gary George, Chair, Senate Natural Resources Committee
Rep. Jeff Kropf, Co-Chair, House Agriculture and Natural Resources Committee
Rep. Patti Smith, Co-Chair, House Agriculture and Natural Resources Committee
Rep. Bob Jenson, Chair, House Water Subcommittee
Mr. Geoff Huntington, Director, OWEB
IMST

Independent Multidisciplinary Science Team, Oregon Plan for Salmon and Watersheds

2003 Annual Report

April 27, 2004

2003 Members of IMST

John Buckhouse, Department of Rangeland Resources, Oregon State University
Wayne Elmore, Retired, Bureau of Land Management, US Department of Interior
Stanley Gregory, Department of Fisheries and Wildlife, Oregon State University
Kathleen Kavanagh, Forest Resources Department, University of Idaho
William Percy, College of Oceanic and Atmospheric Sciences, Oregon State University
Carl Schreck, Biological Resources Division, USGS, US Department of Interior

2004 Members of IMST

Wayne Elmore, Retired, Bureau of Land Management, US Department of Interior
Stanley Gregory, Department of Fisheries and Wildlife, Oregon State University
Robert M. Hughes, Dynamac Corporation
William Percy, College of Oceanic and Atmospheric Sciences, Oregon State University
Carl Schreck, Biological Resources Division, USGS, US Department of Interior
Richard Shepard, Applied Ecosystem Services, Inc.
Carlton Yee, Yee Forestry Associates

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**Independent Multidisciplinary Science Team,
Oregon Plan for Salmon and Watersheds
2003 Annual Report
27 April 2004**

The Independent Multidisciplinary Science Team (IMST) 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. The establishment of the Team also reflected an agreement between the State of Oregon and the National Marine Fisheries Service in the memorandum of agreement concerning coho salmon, signed by the State on April 22, 1997. This agreement has been terminated, but Executive Order 99-01 specifies the continuing role of the Team in recovery of wild salmonids in Oregon. Section 5 of SB 924 provides for a 7-member team with “recognized expertise in fisheries, artificial propagation, stream ecology, forestry, range, watershed, and agricultural management” whose general mission is to advise the State on matters of science related to the Oregon Plan for Salmon and Watersheds.

The original team was constituted by Governor Kitzhaber in collaboration with Oregon Senate President Adams and Oregon House Speaker Lundquist, and was announced at a press briefing in Salem on October 10, 1997. Current Team members have staggered appointments. During 2003 two positions went unfilled from July 1, 2003 and one position had been vacant since January 1, 2002. In February 2004, these three positions were filled. However, two additional members will leave the team July 2004, and currently only one replacement has been confirmed, thereby creating another potential shortage of members as well as a 71% turnover in staff within six months.

The intent of the Team is to work in good faith and to focus on science, maintain its independence, operate by consensus (with minority positions identified), and report its findings and conclusions in writing. It is also the Team’s intent to conduct its work within applicable Public Records and Meeting laws. This is a report of the Team’s activities and accomplishments for the period January 1-- December 31, 2003. The report also briefly outlines the plans and direction of the Team for 2004. The Appendix includes a listing of Team public meetings.

Members of the Team in 2003

John Buckhouse, Ph.D., Professor, Department of Rangeland Resources, Oregon State University, Corvallis. Dr. Buckhouse was educated at University California, Davis, and Utah State University, Logan. He received his Ph.D. degree from Utah State University in 1974. He has been on the faculty at Oregon State University (OSU) since January 1975. During that time he has won numerous teaching awards; been recognized for having a nationally acclaimed research program in watershed management; served on a number of national task forces (including a National Academy of Sciences task force where he cooperated in the writing of the book entitled "Rangeland Health"); and is the lead teacher for the Watershed Ecosystem (WEST) Program for landowners. Dr. Buckhouse has published over 150 articles, books, book chapters, and symposium abstracts on the subject of watershed management. Dr. Buckhouse’s term ended June 30, 2003.

Wayne Elmore, Retired as Leader of the National Riparian Service Team, BLM, USFS, NRCS, Washington Office, Prineville, Oregon in May 2003. Wayne Elmore graduated from Oklahoma

State University in 1968 with a BS in Forest Management. He has completed additional Post Graduate Studies in Fisheries and Wildlife Management. He began work for the Bureau of Land Management (BLM) as a resource area forester in Spokane, Washington in 1968. He has since held various positions with BLM including: District Wildlife Biologist, District Wildlife and Fisheries Biologist, Oregon and Washington State Riparian Specialist, and the BLM National Riparian Field Manager. He has worked on over 2,500 miles of riverine riparian systems, including coastal, forested and rangeland areas in eleven western states and other countries. Mr. Elmore's experience has focused primarily on the natural functions and processes of riparian systems and the incorporation of compatible management techniques. He has numerous publications dealing primarily with riparian ecosystem function and management, including riparian management chapters for two textbooks, one sponsored by the Society of Range Management and one by the University of Washington. He has given numerous speeches, lectures, and talks on riparian function, potential, and management.

Stanley Gregory, Ph.D., Professor, Department of Fisheries and Wildlife, Oregon State University, Corvallis. Dr. Gregory has a B.S. in Zoology from the University of Tennessee and a M.S. and Ph.D. in Fisheries and Wildlife from OSU. Dr. Gregory was leader of the Northwest Field Research Laboratory for the U.S. Fish & Wildlife Service from 1977-1981 and a professor in the Department of Fisheries & Wildlife at OSU since 1981. He has conducted research in stream ecology in the McKenzie River basin and the Pacific Northwest for the last 30 years. His research program has investigated many aspects of stream ecology, including algal ecology; invertebrate ecology; fish-habitat relationships; dynamics of large wood; stream chemistry; principles and methods for stream ecosystem restoration; riparian ecology and management; and patterns and processes of river networks in landscape ecology.

Kathleen Kavanagh, Ph.D., Assistant Professor, University of Idaho, Moscow, Idaho. Dr. Kavanagh has a B.S. in Forest Management from the State University of New York (SUNY), a M.S. in Silviculture from SUNY, and a Ph.D. in Forest Science from OSU. Dr. Kavanagh served as Assistant Professor in the Department of Forest Resources, OSU and Forestry Extension Agent for Clatsop County, OR from 1994 to 1999. Since 1999, she has been serving as Assistant Professor in the Department of Forest Resources at the University of Idaho. Dr. Kavanagh's research areas include silviculture, forest ecosystem processes, and tree hydraulic architecture. Dr. Kavanagh's term ended June 30, 2003.

William Percy, Ph.D., Professor Emeritus of Oceanography, Oregon State University, Corvallis. Dr. Percy is a zoologist, with a current research emphasis in fishery oceanography and the ocean ecology of salmon. His education includes B.S. and M.S. in zoology from Iowa State University, and the Ph.D. in marine zoology from Yale University. Originally hired to OSU in 1960, he now serves as an emeritus faculty member in the College of Oceanographic and Atmospheric Sciences at OSU. He is very active in providing leadership and service to the scientific and fisheries management community. Dr. Percy received the 1998 Outstanding Achievement Award of the American Institute of Fishery Research Biologists, and the 1996 Oscar E. Sette Outstanding Marine Fishery Biologist Award of the American Fisheries Society. He has numerous publications focusing on fish ecology in the marine environment.

Carl Schreck, Ph.D., Leader, Oregon Cooperative Fish and Wildlife Research Unit, Biological Resources Division, U.S. Geological Survey, Corvallis, Oregon. Dr. Schreck has been researching the biology of fishes for nearly 30 years. He has an A.B. in Zoology from the University of California, Berkeley, a M.S. in Fisheries Science and a Ph.D. in Physiology and

Biophysics and Fisheries Science from Colorado State University. He currently serves as Leader of the Oregon Cooperative Fish and Wildlife Research Unit and is senior scientist in the Biological Resources Division, U.S. Geological Survey and as a Professor in the Department of Fisheries and Wildlife at OSU. His research has focused primarily on salmonids. He applies environmental physiology to address environmentally relevant questions; this research has led to over 200 published papers. Dr. Schreck is a member of several scientific and management teams, organizations and committees. He is currently serving a four-year term as President of the International Federation of Fish Endocrinologists. He has won numerous national teaching, research, and publication awards.

Members who joined the Team in February 2004

Robert M. Hughes, Ph.D., Regional Aquatic Ecologist, Dynamac Corporation, Corvallis, Oregon joined the IMST February 2004. Dr. Hughes received a B.A. in Psychology/Biology and an M.S. in Resource Planning and Conservation from the University of Michigan. In 1979, he received his Ph.D. in Fisheries and Wildlife from Oregon State University. Dr Hughes has over 25 years of experience in sampling and analyzing data for fish assemblages in various parts of the US, including previously serving as the indicator coordinator for the Environmental Monitoring and Assessment Program (EMAP) - - Surface Waters. He developed monitoring techniques and indicators for bird, fish, macrobenthos, and algae assemblages in northeastern USA lakes, Appalachian streams and rivers, and western USA streams and rivers. He has also developed fish assemblage indicators for Indian and French rivers, and is currently applying those approaches to Brazilian rivers. Dr. Hughes has published 59 peer-reviewed manuscripts, is currently co-editing three books, and has served as associate editor for two professional journals. He was recently elected vice-president of the Western Division of the American Fisheries Society (AFS), and was elected president of the AFS Water Quality Section in 1999-2001, and the AFS Oregon Chapter in 1994-1995.

Richard Shepard, Ph.D., President, Applied Ecosystem Services, Inc., Troutdale, Oregon joined the IMST in February 2004. Dr. Shepard has a B.A. in Biology from Quinnipiac College, Connecticut, an M.S. in Limnology from the University of Illinois, and a Ph.D. in Lotic Ecosystem Ecology/Fluvial Geomorphology from Idaho State University. Dr. Shepard has worked for over 10 years as a consultant in river ecology and fluvial geomorphology. He has over 30 years of experience in the field, including serving as senior scientist for two Portland-based corporations. In the public sector, he led the clean up efforts for a large segment of a major river in the southeastern U.S. and assisted in international mosquito control efforts.

Carlton Yee, Ph.D., Consulting Forester and Hydrologist, Yee Forest Associates, Bend, Oregon joined the IMST in February 2004. Dr. Yee received a B.S. in Forest Management from Humboldt State University, an M.F. in Industrial Forest Administration from Yale University and his Ph.D. in Forest Engineering from Oregon State University. Dr. Yee has been a consultant for over 25 years with expertise in forest operations, logging systems, watershed effects from logging and the mitigation of those effects. He has participated in a dozen forest practice compliance audits on western U.S. industrial forest ownerships in the last four years. He is an Emeritus Professor of Forest Engineering and Watershed Management, Humboldt State University, with 30 years in education and research at the university. Yee served on the California State Board of Forestry from 1983 to 1991. Yee also serves on the Oregon Soil and Water Conservation Commission and is Chair of the Deschutes Soil and Water Conservation District.

Analysis of the Current Status of the Team

Team Management

The Team members were funded to work 33% of full time through June 30, 2003. From July 1 – December 31, 2003, Team members were funded to work 25% of full time due to cuts to the Team's operating budget for the 2003-2005 Biennium. The funds are paid directly to Oregon State University (OSU) for the services and expenses of Team members and support staff from OSU, and one Team member from Prineville under a single source personal services contract. The funds to OSU were used by OSU 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 academic salary. There was no charge for Mr. Elmore (from January 1 thorough May 15, 2003) and Dr. Schreck (for 2003), both federal employees.

Senate Bill 945 modified the terms in which Team members are appointed and replaced to allow for staggered terms beginning January 1, 2002. New appointments were designated as follows:

- 1) Two shall serve for a term ending July 1, 2003.
- 2) Two shall serve for a term ending July 1, 2004.
- 3) Two shall serve for a term ending July 1, 2005.
- 4) One shall serve for a term ending July 1, 2006.

Subsequent appointments will be four-year terms. These staggered terms should help to preserve continuity among the Team, and the Team's interactions with the State of Oregon and Oregon Plan partners.

Personnel on our administrative and technical support staff are an essential part of the team and have been instrumental in the Team's ability to complete its work. Funding in the 2001-2003 Biennium included one administrative and technical support person, two technical support persons, one literature specialist, and one part-time clerical specialist. Budget cuts for the 2003-2005 Biennium forced IMST to terminate two support positions, the literature specialist and one technical support position. Support staff are OSU employees with the technical support persons serving as faculty members at OSU. The technical support staff have a broad range of knowledge, research experience, and technical expertise in terrestrial and aquatic ecosystems in the Pacific Northwest. The support staff is a critical component to the continuity of the Team as it undergoes transitions with new members and a new Team Chair (or Co-Chairs) each year.

External factors affecting the work of the IMST

In the past 2 ½ years, Team members have become concerned about how factors outside of the IMST have been negatively affecting Team operations and the effectiveness of the Team in serving the State of Oregon and the Oregon Plan. Loss of two staff positions because of budget reductions and lack of a complete Team because of failure to replace Team members have substantially reduced the Team's productivity. These concerns are discussed below.

- **Replacement of outgoing members and the appointment process**

The IMST works most efficiently with seven members. From January 1, 2002 through early February 2004, the seventh position vacated by Logan Norris went unfilled. From July 1, 2003 through early February, 2004 the two positions vacated by Katy Kavanagh and John Buckhouse went unfilled. The IMST only had four (4) members serving for an eight month period. This prevented the Team from meeting regularly, from completing

the temperature standards report and from conducting detailed reviews for state agencies. Two more members are scheduled to complete their appointments June 30, 2004. One person, Nancy Diaz, with the US Bureau of Land Management has been named to fill one slot and will join the Team July 1, 2004 however the other slot also needs a replacement.

The State does not appear to have a process to replace Team members in a timely fashion. In previous conversations with staff of the Governor's Natural Resource office under both former Governor Kitzhaber and Governor Kulongoski, the IMST has stressed the need to begin the replacement process one year in advance. This would help the State to ensure that they have time to discuss the current disciplinary composition of the Team, gather information on potential appointees and, to recruit the best possible scientists for the Team. The composition of the Team, the credentials of each member, and their ability to function in an unbiased and non-political manner as a group not only affects group dynamics but also the IMST's credibility.

The manner in which the State chooses members of the IMST does not appear to follow any prescribed format. From our perspective this has limited the pool of qualified applicants. In 2002, several forest scientists were approached to fill Logan Norris's position. More than one of these scientists expressed concern and disappointment to Team members in the way they were screened out. After they were asked if they were interested in the appointment and meeting with representatives from the offices of the Senate President and Speaker of the House, they were never informed of their selection or rejection. Two of these scientists stated that they would not consider future appointment opportunities with the Team because of their nonprofessional treatment.

In November 2003, the names of three people were announced as future members of the Team. At the same time, it was also announced which special interest groups strongly backed specific appointees. This announcement was made to the IMST during one of our public meetings and was restated publicly on more than one occasion. After these announcements were made publicly, one of the appointing authorities determined that they would not approve the appointment of one of the people. A new candidate was found to fill the vacancy. No appointments should be publicly announced until they are approved by all three appointing authorities. Politicization of appointments lowers the overall credibility of the Team and reduces the ability of Team members to work in an unbiased and non-political manner for the Oregon Plan and the State of Oregon. We hope this is not the intent of the appointing authorities, and that future appointments will be based entirely on the scientific and interpersonal strengths of the nominees relative to other Team members.

- **Operating budget constraints**

As we mentioned in the "Team Management" section, the IMST budget was drastically cut during the 2003 Legislative session. This decreased operating budget has meant that Team members are not able to devote as much time to serving the State and it has also meant cutting our technical support staff by 50%.

In conjunction with delays in appointing new members we are also having difficulty in projecting the use of our funds and covering the time and travel for new members. We have made these issues clear to the Governor's Natural Resource Office (GNRO) and Oregon Watershed Enhancement Board (OWEB), but the replacements were made

without consideration of the budget limitations imposed by reductions in the 2003 Legislative session. As it stands now, Team members present July 1, 2003 receive compensation for 25% of their FTE (excludes Carl Schreck who, as a federal employee, is ineligible for compensation). The three new members who joined the Team are compensated for roughly 12.5% FTE (about 20 hours a month). On July 1, 2004, Nancy Diaz, an employee with the Bureau of Land Management will be joining the Team, but there will be one position left unfilled. The longer it takes to fill this seventh position, the harder it is for the IMST to equally compensate all members.

Without a firm appointment process in place and guidance from the State it will also be difficult to adequately fund the Team in the future. The original team began with five university professors, one federal employee, and one contractor. In all proposed budgets including the one for 2003-2005, the Team has based salary estimates on these affiliations. The Team now has two university professors, one federal employee, and four contractors. The State needs to determine how to provide adequate and equal compensation for all members. And the GNRO and OWEB need to determine the appropriate level of compensation for contractors, who must budget each working hour to a specific work order number, in order to maintain consistency in contracts made with those Team members. We also suggest that the State determine a desired level of federal membership, particularly in the face of constrained budgets. IMST recommends at least one and preferably two federal employees.

Major Activities of the Team

Meetings

Team meetings were usually monthly (Appendix 1), and open to the public, consistent with the Oregon Public Meetings Law. Each meeting had a published agenda, minutes, and was audio recorded. Numerous Team subcommittee meetings were held throughout the year but were not open to the public. OWEB is the repository of records for the Team. The Team Chair is the custodian of the records and authorizes their release.

Representatives from several state agencies briefed the Team on current agency programs and proposed policy changes including:

- Debra Sturdevant, ODEQ, briefing on Oregon's and EPA's proposed revisions to the temperature standards and TMDL implementation
- Ed Bowles, ODFW, briefing on ODFW's draft Hatchery and Management Policy
- Kelly Moore, OWEB, briefings on the Oregon Plan Monitoring Program
- Charlie Corrarino, Mary Buckman, and Mario Solazzi, ODFW, several briefings on the Hatchery Research Center at Fall Creek
- Liz Dent, Institute for Natural Resources, briefing on draft Oregon Plan indicators
- Ken Bierly, OWEB, briefing on OWEB's restoration and acquisition priorities
- Lanny Quackenbush, ODF, briefing on ODF's proposed Riparian Protection Rules
- Jim Paul, ODF, presentation on ODF/DEQ Sufficiency Analysis

In support of work on the Team's project on eastern Oregon resources and salmonid recovery, several researchers from federal agencies and OSU made presentations on the ecology and management of natural resources in eastern Oregon including:

- Hiram Li, USGS and OSU, presentation on eastern Oregon watershed conditions
- Joe Ebersole, EPA Postdoc, presentation on eastern Oregon stream restorations
- Rick Miller, OSU, EOARC-Burns Experiment Station, presentation on western juniper ecology and expansion in eastern Oregon
- Bill Krueger, OSU, presentation on stream temperatures studies conducted in the Department of Rangeland Resources, OSU
- Boone Kauffman, OSU, presentation on riparian area ecology and management in eastern Oregon

Presentations and Briefings

The Team made numerous oral presentations and briefings. These included meeting with the State Ways and Means Committee, Senate Natural Resources Committee, and the House Agriculture and Natural Resources Committee. Team members also worked closely with the Oregon Department of Fish and Wildlife to arrange and facilitate a scientific workshop on the State's new Hatchery Research Center located in the Alsea River Basin (see following section).

Hatchery Research Center at Fall Creek Facility Design—A Scientific Workshop

In October 2003, the IMST organized and facilitated a scientific workshop on research and facility needs for Oregon's new Hatchery Research Center to be constructed at the site of the Fall Creek Hatchery in the Alsea River basin. Workshop participants, fisheries scientists from throughout the region, identified four principle research objectives:

1. Determine how naturally –produced fish change within and across generations when introduced to a hatchery environment;
2. Determine how hatchery-produced fish adapt to the natural environment;
3. Determine the consequences hatchery operations have on native fishes and aquatic systems; and
4. Determine if hatchery operations can be modified so that artificially produced fish can contribute to harvest and to the recovery of naturally produced salmonids.

All workshop materials and a workshop summary written by ODFW are available on the agency's website <http://www.dfw.state.or.us/HRC/HRC.html>.

Team Independent Projects

Major reports of the team are based on comprehensive reviews of the scientific literature, as well as input from State agencies and technical reviewers. We invite experts from state agencies and other organizations to make presentations at our monthly meetings during preparation of reports. Before the reports are finalized, we request detailed technical peer reviews by national experts and State agencies. This same lengthy procedure is also followed for some of our letter reports.

Major Reports

The Team worked on the following major reports during 2003.

- Klamath Basin. In April 2001, Governor Kitzhaber requested that the IMST review reports from the US Bureau of Reclamation, US Fish and Wildlife Service, and the National Marine Fisheries Service that preceded management decisions during the 2001 drought that led to decreased water availability for Klamath Reclamation Project irrigators. In 2003, the IMST completed its review of the federal biological assessments and biological opinions, other technical reviews, and pertinent scientific literature. The IMST issued a report on October 7,

2003 outlining the Team's findings on populations of shortnose and Lost River suckers in Upper Klamath Lake and coho in the Klamath River, and on the management of lake levels and river flow in the basin.

- Temperature Standards. The EPA and the State of Oregon continue to negotiate temperature standards. In 2000, the Team held a scientific workshop for experts in stream water temperature and fish ecology to discuss the importance of vegetation and other physical changes to stream temperature and how cold-water fishes respond to elevated temperatures. The report was reviewed by regional and DEQ scientists. The IMST will release a technical report on temperature standards in 2004.
- Monitoring. As required by Senate Bill 924, the IMST evaluates the Oregon Plan Monitoring Program regularly. During 2002 the Team reviewed and commented on the Program's proposed strategy document. The Oregon Watershed Enhancement Board has since adopted the strategy. The Team is working with the Monitoring Program Manager to conduct a review of the program's progress in 2001– 2003 and expects to issue a formal review in 2004.
- Urban and Rural Residential. The IMST urban land use project focuses on populated areas within the state. Four focus areas are water quality, water quantity, aquatic and riparian habitat structure, and fish passage. The goal of this project is to define the scientific basis by which urban lands can be managed to help accomplish the goals of the Oregon Plan. We expect to release this report in early 2005.
- Eastern Oregon Resources. The geographic scope of this project is the region east of the Cascades, primarily in the mid-Columbia and Snake River systems. The scientific basis for this project employs a conceptual model that incorporates biological (i.e. vegetation) and physical (i.e. hydrology) ecosystem components. Scientific research indicates that when these components are largely intact, high quality salmon habitat is sustained or eventually rehabilitated. Land and water uses that degrade these components perturb landscape processes, diminish habitat capacity and site potential, and ultimately impede salmon recovery. We expect to complete the project by 2005.

Final Team Products

The Team produced written products and provided verbal advice and comments to agencies during the period covered by this report. The Team issued one technical report and one letter report. Technical and letter reports are available on the IMST web site at <http://www.fsl.orst.edu/imst>. Products released by the Team include the following:

- *April 7, 2003 – Letter report to ODFW evaluating the agency's draft Hatchery Management Policy. The review was requested by ODFW.*
- *October 7, 2003 – Technical Report 2003-1. A report evaluating the technical basis for 2001 federal biological assessments biological opinions concerning management of fish species in the Klamath Basin. Recommendations were made to the State of Oregon, ODFW, and Oregon Water Resources Department.*

Catalog of IMST Recommendations and Responses

The primary means of communicating results of the Team's work is through written reports. IMST recommendations are based on our assessment of the best available science as it pertains

to salmonid and watershed recovery and the management of natural resources. Recommendations are directed to one or more agencies or entities that have the ability to implement, or to affect changes in management or regulation that are needed for implementation. The IMST looks beyond an agency's *current* ability to implement the recommendations because current legal, regulatory, or funding situations often require change. The IMST believes that if an agency agrees that a recommendation is technically sound and would aid the recovery of salmonid stocks and watersheds, the agency would then determine what impediments might exist to prevent or delay implementation and work toward eliminating those impediments. The Team also assumes that each agency has the knowledge and expertise to determine how best to identify and eliminate impediments to implementation, and to determine appropriate time frames and goals needed to meet the intent of the recommendation. In addition, the IMST recognizes that an agency may already have ongoing activities that address a recommendation. Our inclusion of such an "overlapping" recommendation should be seen as reinforcement for needed actions.

Senate Bill 924, which created the IMST, specifies that agencies are to respond to the recommendations of the IMST, stating "(3) If the Independent Multidisciplinary Science Team submits suggestions to an agency responsible for implementing a portion of the Oregon Plan, the agency shall respond to the Team explaining how the agency intends to implement the suggestion or why the agency does not implement the suggestion. The Team shall include any agency responses in its report to the Joint Committee on Salmon and Stream Enhancement". Once agency responses are received, the IMST reviews the scientific adequacy of each response and whether further action or consideration by the agency is warranted. IMST reviews of responses are forwarded to the Governor and the State Legislature. State agencies are expected to respond to IMST recommendations within six months after a report is issued. In past years, the Oregon Plan Manager has worked with agencies to ensure that responses were received in a timely matter.

The Team established a catalog of recommendations and the status of responses to these recommendations to simplify tracking compliance with Senate Bill 924. The catalog is available to the State upon request. Since 1998, the IMST has made 137 recommendations in 15 technical and letter reports. The Team has received responses to 82% of recommendations. No responses have been received for remaining the 18% of the recommendations.

Accountability to the Oregon Plan

The Catalog of Recommendations and Responses established by the Team shows the status of responses to IMST recommendations, but does not evaluate the adequacy or appropriateness of the responses in terms of accomplishing the mission of the Oregon Plan. The characteristics of a good response are:

- It includes a clear statement that the agency (a) accepts or agrees with the recommendation or (b) that it rejects or disagrees with it. There should be no middle ground between the two positions. In some cases, agencies may be reluctant to agree or accept a recommendation because they see significant difficulties in implementing it. The Team feels that if a recommendation is sound, the agency should indicate what impediments may exist to prevent or delay implementation and then work towards eliminating those impediments.
- It makes clear what the agency intends to do to work towards implementation of recommendations they accept, or (as required by Senate Bill 924) that they explain why the agency rejects the recommendation.

At Team meetings, the Team has evaluated the responses received from agencies. Four general categories were used to evaluate responses: adequate, intermediate, inadequate, and indeterminate.

- Adequate means that the IMST supports the decision reached by the agency.
- Intermediate means that the decision will decrease the likelihood of accomplishing the goals of the Oregon Plan in a timely manner, but not doom it to failure. We note our concerns but stop short of suggesting the recommendation be reconsidered.
- Inadequate means that the IMST feels the decision by the agency will seriously detract from achieving the goals of the Oregon Plan, and the IMST strongly suggests that the decision be reconsidered.
- Indeterminate means that we can not tell what the agency decided to do with the recommendation, or that we do not have enough information to fully evaluate their response.

This year, as in previous years, the adequacy of responses received has been good. In our opinion, the majority of the responses have been adequate, with few being intermediate or inadequate. In a few cases, an agency indicated that they did not clearly understand the meaning of the recommendation. In these cases, we expect the agency to alert the IMST to the problem and to request clarification. However, a large number of responses have been indeterminate, in that they did not provide the Team with sufficient information to determine what the agency decided to do with the recommendation or how the decision may affect the success of the Oregon Plan. The record of adequacy of agency responses to Team recommendations is available from the IMST upon request.

Team Web Page

The IMST continued to maintain a web page to facilitate public access to information about the IMST, including the Team's Charter, products, and calendar of activities. The web address for the IMST web page is <http://www.fsl.orst.edu/imst>.

IMST Literature Database

Accomplishing the mission of the IMST requires ready access to scientific literature relevant to various projects and reports of the Team. As a direct result, a central IMST literature database has been established and is maintained by technical support staff. The primary purpose of the literature database is to support the work of the Team. We feel that it may also be useful tool to Oregon Plan partners. The goal of a distributed database is to provide a functional product containing accurate citations of scientific and technical literature related to the recovery of salmonid populations and habitats. The primary audience is technically oriented individuals, who read and utilize information from IMST Technical Reports, and who are involved in management, research, and monitoring of salmonid recovery efforts.

The termination of the Team's Literature Specialist position in 2003 because of budget constraints prevented progress on making the database publicly available. We are working toward making this database available to Oregon Plan partners and the public through our web site.

IMST's Future Workload

Each year, the Team develops a work plan for completing some projects that are underway (see above) or that we anticipate initiating in the current biennium, and for providing scientific review of ongoing or proposed programs or policies that relate to the Oregon Plan. We anticipate this review function to be a significantly larger component of the work of the Team through the 2003-2005 Biennium.

During its first seven years, the IMST worked on several independent projects presumed beneficial to the Oregon Plan. These independent projects have included a review and compilation of available scientific and technical information on how major land uses, commercial harvest management, predation on salmonids, and management of hatcheries affect salmonid recovery. The last of the major land use projects (urban and rural residential, and eastern Oregon resources) are in progress and expect to be completed in the current biennium.

In 2002, the Team considered new project topics that could be undertaken during the 2003-2005 Biennium. During public meetings the Team discussed what additional technical areas could aid the work of the Oregon Plan but for which there has been no technical review on how they affect salmonid recovery. The Team came up with 43 topics at its June 2002 meeting. This list was forwarded to OWEB and the GNRO for their input. Based on that input, at its July 2003 meeting, the Team chose the following three topics as possible projects to begin work on during the 2003-2005 Biennium:

- Ecological interactions among co-occurring species in the ecosystem (salmonid/non-salmonid, native/non-native, fish/non-fish);
- Effectiveness of salmonid conservation and restoration activities; and
- Historical framework for fish/vegetation distributions and densities, qualities of data, and technical limitations.

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

Appendix 1. Public Meetings Held by the IMST in 2003

January 15, Team meeting, Corvallis, OR

February 19, Team meeting, Corvallis, OR

March 11-12, Team meeting, Corvallis, OR

April 16, Team meeting, Corvallis, OR

May 13, Team meeting, Corvallis, OR

June 24, Team meeting, Corvallis, OR

August 18, Team meeting, Corvallis, OR

September 30, Team meeting, Corvallis, OR

October 21-22, Scientific workshop, Corvallis, OR

November 6-7, Team meeting, Corvallis, OR