

MEMORANDUM

TO: Water Resources Commission

FROM: Paul R. Cleary, Director

SUBJECT: Agenda Item F, February 14, 2003
Water Resources Commission Meeting

Response to the Recommendations of the IMST Lowlands Report

I. Issue Statement

At its October 10, 2002, meeting the Commission heard an overview of the Independent Multidisciplinary Science Team (IMST) report on the Recovery of Wild Salmonids in Western Oregon Lowlands (Lowlands Report). At that meeting, the Commission directed staff to formulate a response to the recommendations of the report and to provide an opportunity for public comment on the draft response prior to Commission consideration at its February 2003 meeting. This staff report provides a summary of comments received on the draft response and a proposed final response to the IMST. *The Commission is asked to endorse the final response to the IMST.*

II. Background

On July 15, 2002, the IMST completed its most recent report, Recovery of Wild Salmonids in Western Oregon Lowlands (Technical Report 2002-1). The Lowlands Report evaluates the importance of western Oregon lowlands to wild anadromous salmonids and the scientific basis for maintaining and enhancing these ecosystems. An executive summary of the report is provided as Attachment 1.

In the Lowlands Report, the IMST made 21 recommendations for the protection and restoration of western Oregon lowland ecosystems with four directed to the Department and one to the Commission. The Department is required to respond to the IMST recommendations by February 28, stating how the agency intends to implement each recommendation or why the agency cannot implement the recommendation. This requirement is set forth in ORS 541.409(3). The IMST will review the scientific adequacy of each response and forward its review to the Governor and the Legislature.

III. Discussion

A. Public Hearing and Comment Opportunity

The Department formulated a draft response to the IMST recommendations, publishing the response on the Department's website on January 2, 2003. Copies of the draft response were also available upon request. Notice of the opportunity to comment was sent to interested parties on the Department's mailing list. Written comments on the draft response were accepted through January 21, 2003. The Department received three written comments which are provided in Attachment 2. A public hearing on the draft response was held on January 21, 2003 in Salem. No testimony was received at the hearing.

B. Summary of Comments Received

Two commenters expressed concern over the limitations to streamflow restoration inherent in the prior appropriations doctrine. These limitations arise from the relatively junior priority dates of many instream water rights and the reliance on voluntary and incentive-based streamflow and conservation efforts. Commenters also requested that the Department halt issuance of all new water rights, either through elimination of Oregon's water code or through basin withdrawals.

The Department was also urged to develop a peak flow policy in response to the IMST recommendation to reestablish a more natural hydrograph. The Department is interested in resolving the role of peak flows in creating and maintaining salmonid habitat and in providing the biological clues for migration and spawning and has requested that the IMST add investigation of peak flows to its list of prioritized Oregon Plan research needs (Attachment 3).

In order to reestablish a more natural hydrograph, one commenter recommended that the Department push for higher minimum flows during the relicensing of Federal Energy Regulatory Commission (FERC) projects. We agree that the FERC process is an opportunity for natural resource agencies to collectively look for opportunities to address issues such as control of stream dewatering by diversions of water for the purpose of power production; proper management of high use areas to prevent or minimize environmental damage; and proper rate of release of water from storage projects to prevent undue river level fluctuations.

With regard to streamflow restoration, one commenter suggested that the Department require measurement of all water diversions. The Department has been actively working to improve our water measurement program. We have developed a statewide inventory of "significant diversions." We define significant diversions as all diversions of permitted and certificated water rights with conditions requiring measurement and reporting and diversions greater than

5 cfs or greater than 10 percent of the lowest monthly 50 percent exceedance flow on a stream. With the inventory complete, Department staff are now doing a compliance assessment of the water measurement device at each identified significant diversion, focusing assessment efforts in high priority streamflow restoration watersheds. To encourage water measurement, the Department has been looking to acquire funds for the Water Measurement Cost Share Revolving Fund. The Revolving Fund was established during the 2001 Legislative Session and authorizes the Water Resources Department to provide up to 75% in

cost share funds to assist with the installation, replacement, or substantial repair of water measurement devices. At the time that the Fund was created, the Legislature was unable to appropriate funds for it but the Department continues to look for opportunities to acquire funds.

One commenter recommended requiring minimum flows as a condition of any water right extension in order to maintain or increase streamflow. For a large number of extension requests, by administrative rule, the Department is required to consider competing demands for water including habitat needs of endangered, threatened, and sensitive species; special water use designations established since permit issuance; and the amount of water available to satisfy other affected water rights and scenic waterway flows (OAR Chapter 690, Division 315).

With regard to the need for a long-term water management plan, one commenter requested that the plan include a vision and implementation method for protecting and restoring streamflows. The Commission and Department are initiating a dialog with stakeholders to discuss approaches for long-term water supply management in Oregon (see February 13, 2003, Commission Work Session Agenda Item II). Streamflow restoration will be an important element of this discussion.

In response to comments, the Department changed the draft response to clarify its recommendations for the management of Detroit Lake; to add streamflow restoration tools available during drought declarations; and to recognize the need to consider water use efficiency, the elimination of waste, and streamflow restoration as part of a long-term water management plan. The proposed final response to the recommendations of the IMST Lowlands Report is provided as Attachment 4. Language added in response to comments is shown in bold with deleted language stricken out.

IV. Recommendation

The Commission is asked to endorse the final response to recommendations of the IMST Lowlands Report in Attachment 4.

Attachments:

WRC Agenda Item F

February 14, 2003

Page 4

1. Executive Summary of the Final Lowlands Report
2. Written Comments Received
3. Letter to OWEB Executive Director Regarding Peak Flows Investigations
4. Proposed Final Response to the IMST

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**Recovery of Wild Salmonids
in Western Oregon Lowlands**

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

Technical Report 2002-1

July 15, 2002

Members of IMST

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
Kathleen Kavanagh, Forest Resources Department, University of Idaho
William Percy, College of Oceanic and Atmospheric Sciences, Oregon State University
Carl Schreck, Department of Fisheries and Wildlife, Oregon State University

Citation: Independent Multidisciplinary Science Team. 2002. Recovery of Wild Salmonids in Western Oregon Lowlands. Technical Report 2002-1 to the Oregon Plan for Salmon and Watersheds, Governor's Natural Resources Office, Salem, Oregon.

EXECUTIVE SUMMARY

This report discusses major characteristics of western Oregon's lowland rivers, streams, and estuaries that the IMST finds to be important to wild salmonids. We describe how landscape scale factors – landscape structure, landscape function, disturbance regimes, and landscape scale biological processes – historically supported salmonid populations in western Oregon lowlands. The report also covers human modifications to these ecosystems that impact salmonids. We assess how lowland land use practices may have altered lowland systems so that the landscape's ability to support healthy salmonid populations was reduced. Finally, we discuss how functioning lowland ecosystems might be protected and restored.

The geographic scope of this report is the lowland portion of Oregon west of the crest of the Cascade Range. This area stretches from the lower Columbia River south to the Siskiyou Mountains and includes estuaries, coastal lakes, and alluvial rivers and valleys that provide potential habitat for wild salmonids. In addition to major rivers, this report covers the many small tributaries and streams in western Oregon lowlands.

Science Questions

IMST addresses five science questions in this report. The answers to these questions form the basis for our findings and conclusions, and for specific recommendations to state agencies and entities.

Question 1. How important are western Oregon lowlands and estuaries to the production and recovery of salmonids?

Question 2. How have conditions in western Oregon lowlands changed from conditions prior to EuroAmerican settlement?

Question 3. What is the scientific basis for maintaining and enhancing fish habitat in western Oregon lowland ecosystems with respect to water quantity and flow modifications, fish passage, and water quality?

Question 4. What is the scientific evidence for the importance of vegetation within riparian areas in enhancing ecological processes and functions critical to salmonid recovery in western Oregon lowland ecosystems?

Question 5. What general actions are needed in the western Oregon lowlands to facilitate recovery of salmonid populations?

Overall Findings

Based on our scientific review of the answers to these five questions, the IMST finds that:

- Lowland river systems and estuaries provided diverse and productive habitats for rearing juveniles, spawning adults, and migrating juvenile and adult salmonids.
- Lowland ecosystems of western Oregon have been greatly altered during the past 150 years by human disturbances resulting from a variety of land uses. The basic processes by which water and sediment move from uplands – via streams, rivers, and estuaries – to the ocean have been highly altered.

- Alterations in flow regimes in western Oregon lowland streams have contributed to alterations in water quantity, hydrographs, and channel and floodplain form and function, negatively affecting salmonid habitat.
- Fish ladders, small dams, culverts, tide gates, irrigation diversions, and some fish hatcheries still block salmonid passage in many streams in the western Oregon lowlands.

In general, salmonids need cold, oxygenated, clean, clear water. Excessive temperature, sediment, inorganic and organic nutrients, and anthropogenic chemicals (including pesticides) impair water quality and impact salmonids.

Riparian vegetation provides many important ecological functions to aquatic systems: habitat diversity, organic matter inputs, large wood input, regulation of channel morphology and streamflow, hydrologic connectivity, temperature mediation, sediment interception, and nutrient uptake.

Key elements to a landscape approach to salmonid recovery include (1) considering landscape scale biological processes such as metapopulation structure, (2) landscape scale research, modeling and planning, (3) inventory and assessment, (4) prioritization, (5) monitoring and adaptive management, and (6) selecting projects that maintain and restore landscape scale processes.

Overall Conclusions

The quality and quantity of native salmonid habitat in lowland rivers, streams, and estuaries has been significantly reduced since EuroAmerican settlement. Recovery of wild salmonids requires habitat that is functional across the landscape. For example, management of lowland riparian zones in conjunction with those on adjacent uplands is needed to maintain the dynamics of riparian structure and function across the landscape. Other areas that need to be addressed both within and beyond the boundaries of the western Oregon lowlands include roads and sediment, large wood, fish passage, pesticides, and nutrient inputs to streams. We conclude that management practices must be considered on a large spatial scale, among agencies, and across different land uses.

Protection of intact, functional aquatic habitats should be the first priority for salmonid recovery efforts. Many land use practices in lowlands can be changed to halt and reverse the degradation of streams, floodplains, and salmonid habitat. Restoration of structure and function of lowland systems – including the geomorphic, hydrologic, and biological processes that create and maintain salmonid habitat – can have beneficial effects on salmonids and on lowland ecosystems in general. Because vegetation and large wood within riparian areas contribute important hydrologic and biologic functions to lowland rivers and estuaries, they should receive protection and be restored toward their historic level of function within river networks.

Addressing salmonid recovery in western Oregon lowlands presents tremendous challenges for a number of reasons, including high human population density, diverse land ownership, and significant reduction in salmonid habitat quality. Creative thinking is needed to move forward in the face of these challenges. In particular, solutions that will work across boundaries of land ownership, agencies, and ecosystems are needed.

Recommendations

Based on the findings and conclusions for these five science questions, the IMST makes the following 21 specific recommendations. The aim of these recommendations is to help Oregon move toward effective protection and restoration of aquatic and riparian ecosystems, and toward reestablishing healthy salmonid populations.

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. It should be noted that the IMST looks beyond an agency's *current* ability to implement the recommendations because current legal, regulatory, or funding situations may need to change. It is the belief of the IMST 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.

In the Recommendations section, each recommendation is accompanied by a brief explanation, illustration of the recommendation's context, and/or possible suggestions for implementation.

Recommendation 1. The Core Team of the Oregon Plan for Salmon and Watersheds should develop and implement a landscape approach to manage salmonid habitat in western Oregon lowlands.

Recommendation 2. The Core Team of the Oregon Plan should develop and implement a statewide riparian policy and plan that provides for proper function and condition of riparian areas in Oregon.

Recommendation 3. The Core Team of the Oregon Plan should develop a statewide policy and plan for the management of large wood in and near streams and estuaries.

Recommendation 4. The Oregon Watershed Enhancement Board (OWEB) should develop strategic priorities for protection and restoration activities in western Oregon lowland streams, rivers, and estuaries to enhance salmonid recovery.

Recommendation 5. The Division of State Lands (DSL) should reconnect main river channels to off-channel areas and floodplains to increase available lowland habitat for salmonids.

Recommendation 6. The Oregon Department of Fish and Wildlife (ODFW) should determine fish abundance and establish fish-habitat relationships in western Oregon lowland rivers, streams, and estuaries.

Recommendation 7. The Oregon Watershed Enhancement Board (OWEB) should implement a long-term systematic monitoring strategy to evaluate the status and trends of salmonid populations, the capacity of habitat to produce salmonids and support diverse salmonid life histories, and the effectiveness of protection and restoration. The

strategy should represent the diversity of land uses and aquatic ecosystems in western Oregon lowlands.

Recommendation 8. The Oregon Department of Agriculture (ODA) and the Department of Environmental Quality (DEQ) should establish the effects that land use activities in western Oregon lowlands have on salmonid populations and habitat quality.

Recommendation 9. The Oregon Department of Agriculture (ODA) should improve the technical strength of their program under the Oregon Plan and expand its scope to address salmonid habitat requirements.

Recommendation 10. The Oregon Water Resources Department (OWRD), in cooperation with other agencies, should reestablish a more natural hydrograph (timing and magnitude) on an experimental basis in river systems where flow modification is occurring as a result of storage operations.

Recommendation 11. The Oregon Water Resources Department (OWRD) should maintain or increase streamflow where water withdrawals and/or impoundments presently limit salmonid distribution, productivity, or migration.

Recommendation 12. The Water Resources Commission should develop and implement a strategic plan for the long-term management of water in western Oregon.

Recommendation 13. The Oregon Water Resources Department (OWRD) should coordinate with the US Geological Survey (USGS) to establish and maintain hydrologic gaging stations on stream and river systems critical to salmonid recovery where data are not currently available.

Recommendation 14. The Oregon Department of Agriculture (ODA) should reduce sedimentation from agricultural practices in western Oregon lowlands.

Recommendation 15. The Oregon Department of Agriculture (ODA) and the Department of Environmental Quality (DEQ) should prevent adverse pesticide impacts on aquatic systems.

Recommendation 16. The Oregon Department of Agriculture (ODA) and the Department of Environmental Quality (DEQ) should prevent adverse eutrophication impacts of aquatic systems.

Recommendation 17. The Oregon State University (OSU) Agriculture Experiment Station (AES) and the OSU Cooperative Extension Service (CES), working with other state agencies involved in research, should increase understanding of how rural land use activities in the western Oregon lowland systems interact with and affect salmonid recovery.

Recommendation 18. The Division of State Lands (DSL), Oregon Water Resources Department (OWRD), Oregon Department of Fish and Wildlife (ODFW), and Oregon Department of Transportation (ODOT) should reestablish and maintain natural fish passage for juveniles and adults in lowland stream systems.

Recommendation 19. The Division of State Lands (DSL) and Oregon Department of Fish and Wildlife (ODFW) should protect and restore hydrologic function and salmonid habitat in freshwater and tidal wetlands.

Recommendation 20. The Department of Land Conservation and Development (DLCD), in conjunction with Oregon Department of Fish and Wildlife (ODFW), should improve and protect salmonid habitat in Oregon's estuaries.

Recommendation 21. The Oregon Department of Fish and Wildlife (ODFW) should prevent loss of salmonids because of water diversion.

February 14, 2003

William Percy
Stan Gregory
Interim Co-Chairs
Independent Multidisciplinary Science Team
Department of Forest Science
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Subject: Report on the Recovery of Wild Salmonids in Western Oregon Lowlands (Technical Report 2002-1)

Dear Co-Chairs:

This letter provides the Water Resources Commission (WRC) and Department (WRD) responses to recommendations in the IMST report on the Recovery of Wild Salmonids in Western Oregon Lowlands (Lowlands Report). Four recommendations of the report were directed to the WRD and one to the WRC. Our response to each recommendation is presented below.

“Recommendation 10. Water Resources Department (OWRD), in cooperation with other agencies, should reestablish a more natural hydrograph (timing and magnitude) on an experimental basis in river systems where flow modification is occurring as a result of storage operations.”

In considering this recommendation, it is important to recognize that restoring natural hydrographs in these systems, even on an experimental basis, could have significant consequences on development currently sited or planned within floodplains. Therefore, implementation of this recommendation would have to be conducted at all levels of government, local, state, and federal, and would have to consider multiple public interests.

More specifically, WRD lacks the statutory authority to implement this recommendation. Restoring the natural hydrograph on mainstem systems such as the Rogue, Willamette, and Columbia rivers would have to be accomplished by the US Army Corps of Engineers (Corps) which controls releases from federal reservoirs on these systems. However, under existing laws, WRD can provide input on how the Corps manages these facilities. For instance, every year WRD works with other state agencies and provides a coordinated set of recommendations for consideration by the Corps as they develop a plan for the annual operation of the Willamette and Rogue Basin reservoirs. In this advisory capacity, WRD could work with the Corps to attain more natural hydrographs via recommendations related to timing of storage and release of water.

However, the Corps is limited by federal requirements to operate certain reservoirs for flood control, and WRD is limited to an advisory role, so that its recommendations to the Corps are not binding. WRD's advisory capacity is further constrained by state law. For example, Senate Bill 620, passed by the 2001 Oregon legislature, requires WRD to encourage the Corp to place Detroit Lake as the highest priority recreational use lake in the Willamette Basin reservoir system. Management as a recreational use lake would affect the timing and amount of water released from Detroit Lake and is just one example of existing statutory ~~limitations related to~~ **guidance that may influence efforts to reestablishing** a natural hydrograph in this system.

In addition to providing input on the management of these storage systems, WRD will continue to provide the data necessary to understand and describe the historical hydrographs of these systems. In fact, understanding the water resources of the state is one of the core strategies for promoting our agency's mission to serve the public by practicing and promoting wise long-term water management. WRD currently provides hydrographic information in a statewide database available on its website (www.wrd.state.or.us). The data are presented as flow duration curves for natural streamflow, which are statistical estimates of expected natural streamflows based on historical gaging station data.

“Recommendation 11. Water Resources Department (OWRD) should maintain or increase streamflow where water withdrawals and/or impoundments presently limit salmonid distribution, productivity, or migration.”

Current efforts of the Water Resources Department under its existing statutory authority are consistent with this recommendation. Under Oregon water law, there are several approaches to maintaining streamflow in areas occupied by salmonids. Under the WRC's administrative rules, issuance of new surface water rights is constrained throughout the state by the needs of salmonids listed under the Endangered Species Act. Another tool for maintaining streamflow is the establishment of instream water rights. The Departments of Fish and Wildlife (ODFW), Environmental Quality (DEQ), and Parks and Recreation (ODPR) are state agencies that can apply for instream water rights for fish protection, minimizing the effects of pollution, or maintaining recreational uses, respectively. Once issued, these instream water rights are held by WRD as trustee for the people of the State of Oregon.

Instream water rights and public interest review of new water right permits are useful approaches to maintaining streamflows. Instream water rights identify flow levels on a month-by-month basis and are usually set for a certain stream reach. However, instream water rights are not guarantees that a certain quantity of water will be present in a stream. When the quantity of water in a stream is less than the instream water right, WRD can require junior water right holders to stop diverting water. But under Oregon law no water right, including an instream water right, can affect a use of water with a senior priority date. Therefore, instream water rights cannot increase streamflows and do not guarantee minimum streamflows in stream reaches.

Other tools must be utilized to restore streamflows in reaches where water quantity limits fish recovery. WRD promotes voluntary streamflow restoration through water use efficiency and

conservation programs and water right leases and transfers. These streamflow restoration tools are effective approaches to putting water back instream. In 2002, there were 182 active leases, instream transfers, and allocations of conserved water with 390 cfs protected instream, representing a 250% increase in streamflow restoration actions since the Oregon Plan was adopted in 1997. **There are also tools for protecting water instream during drought conditions. For example, in areas where the Governor has declared a drought, a water right holder can enter into a temporary drought instream lease agreement to convert a water right or a portion of a water right to an instream water right.**

As your report mentions, other actions can contribute to achieving this recommendation. One such action is identifying and prioritizing streams where salmonid productivity is limited by streamflow and where flow restoration is most critical to salmonids. WRD has identified watersheds statewide with the highest potential for streamflow restoration, and has partnered with ODFW to combine assessments of streamflow needs for fish with streamflow restoration potential—to produce priorities for streamflow restoration in river basins. Watershed councils, soil and water conservation districts, conservation groups and others are encouraged to use these priorities to guide their flow restoration efforts. WRD watermasters also focus their flow restoration efforts and other Oregon Plan activities in these high priority areas.

Understanding ground water and modeling watersheds can also aid in streamflow restoration. WRD works with the US Geological Survey (USGS) in cooperative studies mapping and assessing ground water resources, including determining whether there is a hydraulic connection between surface water and ground water. In some systems where a hydraulic connection is verified and surface water is fully appropriated, new ground water rights may not be granted or mitigation may be required. This process can provide protection of instream water rights and scenic waterways.

As part of this recommendation, you encourage WRD to incorporate the role of wetlands into its water availability models and to coordinate with other agencies to restore wetlands. To the best of our ability, our water availability model incorporates the role of wetlands. In terms of wetlands restoration, WRD does not have management authority over wetlands within the state. Therefore, other state agencies responsible for wetland restoration and permitting such as OWEB and DSL are better suited to address wetlands restoration under this recommendation but WRD works cooperatively with these other agencies.

“Recommendation 12. The Water Resources Commission should develop and implement a strategic plan for the long-term management of water in western Oregon.”

The Commission and Department agree that there is a need for a strategic long-term water management plan for Oregon. Such a plan would be instrumental in identifying opportunities for addressing instream flow deficiencies while addressing water use efficiency and future population demands for water. The Commission and Department are actively evaluating approaches for long-term water supply management in Oregon, and the Commission **sought** ~~will be seeking~~ input from stakeholders at its meeting in February 2003.

However, a number of difficult policy questions must be addressed before moving ahead with a long-term water management effort such as: What is WRD's role in planning for and implementing long-term water management? What local planning and management activities are currently taking place? What is the role of other state natural resource agencies? What agencies/entities are best suited for assessing future water demands? What is the role for local government and watershed councils? Is the appropriate governmental structure in place to allow such a coordinated effort? How will such a planning and implementation effort be funded? **How can streamflow restoration, water conservation, and elimination of waste be incorporated into a long-term water management plan?**

Notwithstanding these difficult policy issues, the Commission and Department agree with the IMST that a strategic long-term plan would benefit the state. While WRD is involved in a considerable number of water management activities (supply and demand forecasting, agency coordination, land use/water use coordination, Oregon Plan, basin planning, Willamette Basin Reservoir Study, ground water studies, Senate Bill 93 Task Force on Water Supply and Conservation, and water supplier water management and conservation plan development), these activities and other state and local activities are not strategically coordinated under a statewide long-term plan.

Given the varied challenges facing the state, long-term water management will need to include a diversified tool-kit including surface and ground water storage, conservation and efficiency and water right transfers. Any effort will also need to involve the numerous stakeholders and be grounded in local issues and needs. The Department and Commission welcome the opportunity to engage in a dialog about how to move forward with a long-term water management vision and how to fund such an endeavor.

“Recommendation 13. The Water Resources Department (OWRD) should coordinate with USGS to establish and maintain hydrologic gaging stations on stream and river systems critical to salmonid recovery where data are not currently available.”

As stated in your report, monitoring streamflow at gaging stations is important for numerous resource management and scientific inquiries, including determining long-term trends in streamflow, assessing effectiveness of streamflow restoration efforts, and developing watershed hydrological models. The Department gathers and provides quality assurance on a variety of surface water data including gage flow at over 200 surface water gaging stations and miscellaneous measurements of surface water flow at various locations throughout the state. While this network of gaging stations is considerable, streamflows in some areas of the state where salmonids occur are not sufficiently monitored.

Considerable effort is expended by Department staff in maintaining existing gaging stations and in collecting and analyzing these data. Increasing and, in some cases, maintaining these data efforts is challenging given state budget limitations and recent reductions in other funding commitments. For instance, the USGS and WRD have a cooperative program whereby the USGS operates gaging stations and provides 50% of the cost. The number of gages operated

under this program has decreased from over 100 in 1988 to a current level of five stations due to state funding reductions and budget limitations.

Each legislative session, the Department has requested funds to operate gaging stations in both the USGS program and the state program, but the legislature has been unable to provide these funds. The five stations currently operated in the USGS program are funded through outside cooperators that provide funds through WRD to the USGS. With diminishing state funding available for these streamflow gaging efforts, the Department continues to look for opportunities to partner with others to maintain or increase our gaging stations statewide.

“Recommendation 18. The Division of State Lands (DSL), Water Resources Department (OWRD), Oregon Department of Fish and Wildlife (ODFW), and Oregon Department of Transportation (ODOT) should reestablish and maintain natural fish passage for juveniles and adults in lowland stream systems.”

Throughout the state, Department staff work with willing water right holders to maintain or reestablish fish passage in streams. Through the Oregon Plan, WRD, DSL, and ODFW have coordinated to assist water users in replacing over 60 push up dams with alternative diversion structures. By changing this practice, the need to bring heavy equipment through the riparian area is decreased, if not eliminated, and channel morphology is also maintained. These efforts have generally occurred as opportunities have arisen to work with interested water right holders and in response to funding availability.

Efforts to restore fish passage will always be dictated in part by funding sources and availability and landowner participation. However, developing a strategic plan to eliminate fish passage barriers, as you suggest in your report, would help our agency direct limited staff resources to areas with the greatest need for restoration. Our agency would be interested in working with other natural resource agencies to develop this type of plan.

Beyond these interagency efforts, WRD promotes other tools for eliminating fish passage barriers through its existing statutes and rules. For instance, the Department promotes the transfer of surface water points of diversion to ground water appropriations under ORS 540.531. These transfers provide several benefits to fish and riparian areas including minimizing disturbance of riparian areas and eliminating fish passage barriers.

Other tools for eliminating fish barriers include water right substitutions. A water user may substitute use of a supplemental ground water right for use of a primary surface water right, provided that no other water rights are injured by the change (ORS 540.524). This provides an opportunity for water users with existing surface water rights and groundwater rights to eliminate points of diversion on surface waters, thereby providing benefits to fish and water quality. The Department can also condition approval of a point of diversion transfer to require a proper fish screen or by-pass device if requested by ODFW (ORS 540.525; OAR 690-015-0073).

WRD is committed to supporting salmonid recovery efforts and values the IMST's input and the thoughtful scientific evaluation provided in the Lowlands Report. We look forward to continued

dialog on our agency's role in salmon recovery and watershed restoration in Oregon's western lowlands as well as other areas of the state.

Sincerely,

Dan Thorndike, Chair
Water Resources Commission

Paul R. Cleary, Director
Water Resources Department

c: Governor's Natural Resources Office