Independent Multidisciplinary Science Team (IMST)

State of Oregon

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

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

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Doug Decker
Oregon Department of Forestry
2600 State St.
Salem, OR 97301

Louise Solliday
Oregon Department of State Lands
775 Summer St. NE
Salem, OR 97301-1279

Dear State Forester Decker and Director Solliday,

As part of the mission of the Independent Multidisciplinary Science Team (IMST), we offer scientific advice where we believe it will aid the State of Oregon in accomplishing Oregon Plan for Salmon and Watersheds objectives and to meet other natural resource management and conservation goals. We offer the remarks regarding the Elliot State Forest Management Plan (ESFMP) below in the spirit of enhancing the ability of the Oregon Department of Forestry (ODF) to meet its stated objective of incorporating the best available science in state forest management plans. We also hope this letter provides helpful input to the public comment process for the ESFMP.

Our conclusions are based on our 2010 review of portions of the August 2008 *Draft Elliott State Forest Habitat Conservation Plan* (HCP) and the *Draft Environmental Impact Statement: The Proposed Issuance of an Incidental Take Permit for the Elliot State Forest Habitat Conservation Plan, Volumes I and II* (DEIS). This review focused on the Riparian Management Area (RMA) standards and was conducted in response to a request from ODF and the Department of State Lands (DSL). Our complete review of that document can be found at http://www.fsl.orst.edu/imst/reports/Elliott_SF_2010.pdf.

Even though ODF and DSL have suspended efforts to obtain approval for a HCP, the management activities proposed for RMAs in the portions of the 2008 documents that we reviewed are identical to those in the current proposed ESFMP, and our review comments regarding the scientific basis of those management activities remain relevant. In addition, we reviewed the February 2011 *Science Review of the Oregon Department of Forestry's Proposed Species of Concern Strategy and the Board of Forestry's State Forests Performance Measures* published by the Institute for Natural Resources (INR), the March 2011 *ODF Staff Analysis and Response to Public Comments on the Draft 2010 Elliott State Forest Management Plan*, and the June 2011 *Draft Coos District (Elliott State Forest)*

Implementation Plan. We also received helpful clarifications from Mike Cafferata (ODF) and Jim Paul (DSL).

We emphasize that this letter focuses on the scientific underpinnings of the ESFMP, primarily the RMA strategy – in other words, is the plan based on best available science? In general, the lack of detail regarding how much, where, and what type of harvest (especially thinning intensity) is planned to occur in riparian areas makes it very difficult to determine what effects the ESFMP is likely to have on salmonids and watershed function. Without these specifics, and with relatively few studies of the effects of riparian thinnings, it is difficult for us to ascertain the basis for ODF and DSL's confidence that salmonids and other aquatic species will be sufficiently protected under the ESFMP.

The "Key Findings" and "Overarching Issues" from our 2010 review are appended to this letter (Attachment A). Below are some points of emphasis:

- The concerns about the analysis of effects regarding stream temperature, large wood recruitment, slope stability, and roads expressed in our 2010 review remain largely unaddressed. The ESFMP and the ODF staff response to the 2010 public comments present little new information to indicate the issues we raised were further evaluated or resolved.

  With regard to stream temperature, we recognize that publication of the RipStream study results (Groom et al. 2011) is a significant new contribution to understanding the effects of riparian zone thinnings on stream temperature, and supports the position that the RMA standards in the ESFMP can meet the "Protecting Clean Water" standard of 0.3ºC increase from a reach perspective. We commend the efforts of the scientists and managers involved with that study, and cite it as an example of the type of research that strengthens the scientific basis of the plans. We do caution that there are few studies that have tested riparian thinnings, and to quote from our 2010 review, "The fact that various research studies have shown different results for effects from the manipulation of streamside vegetation is critical to understanding the uncertainty surrounding the effects of implementing the Proposed Action". Further research and modeling to extend the RipStream results to watershed and basin scales, over a longer time period, and including a larger range of climate variability, would help gain an understanding of the spatial and temporal variation in stream temperatures, and would provide necessary insights into the likely effects of applying the RMA standards across landscapes.

- There appears to be an assumption that the RMA standards in conjunction with the stand structure targets in the ESFMP are sufficient for protecting coastal coho salmon. Insufficient research, analysis, and documentation are presented to support this assumption, and there are significant uncertainties surrounding it, as noted in our earlier review.

- While in general we find the overall framework of structure-based management to be consistent with current landscape ecology science, the ESFMP gives little specificity with regard to where, when, and what type of stand management would occur. This suggests a lack of attention concerning how landscape structure affects key processes and functions (for example, connectivity). We agree with the INR that this lack of spatial and temporal detail at multiple scales impairs the accurate portrayal of effects to both terrestrial and aquatic species. Furthermore,

the basis for the assignment of target landscape structural categories, and to what extent they reflect reference conditions, is unclear. This makes it difficult to evaluate to what extent the landscape that will result from implementing the plan is consistent with the habitat needs of various species.

- The ESFMP contains some general underlying assumptions that are not well-supported. An example is the assumption that the amount of *change* in a parameter (for example, stream temperature, or the amount of older forest) reflects the amount of *effect* to species; this is incorrect in many instances, for example where thresholds or critical locations in the landscape are important in species response (such as reproduction and migration).
- Scientific literature citations are very sparse, and it appears some relevant, current information and methodologies were not incorporated in developing the plan. Both the 2010 IMST review and the 2011 INR report gave details about this.
- Uncertainties around predicted outcomes are not well-described in the plan. The likely consequences of implementing the ESFMP cannot be fully understood without such an evaluation. For example, how might new climate normals (e.g., altered precipitation, flow, temperature, and fire regimes) affect riparian stands and aquatic biota? Such an assessment is a necessary precursor to developing an appropriately focused and rigorous monitoring and adaptive management plan.
- We recognize that ODF is planning to undertake development of a monitoring and adaptive management plan, and commend that effort. Until these plans are completed and implemented, there is insufficient attention to rigorous long-term monitoring in the ESFMP as a means to understand and reduce uncertainty and improve model predictions. Admittedly, there always seems to be too few resources for monitoring, yet insufficient monitoring can lead to much more costly management corrections.

In light of our findings, we make the formal recommendations shown below. 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 considers each recommendation important to accomplishing the mission of the Oregon Plan for Salmon and Watersheds. These recommendations were approved by vote of the IMST with one member, Vic Kaczynski, absent, and one member, Clint Shock, abstaining; Dr. Kaczynski later expressed concurrence with the recommendations. Under Oregon Revised Statute 541.409, state agencies and entities (e.g., Oregon Plan Core Team) are required to respond to IMST recommendations (see Attachment B for information regarding recommendations and formal agency responses).

IMST Recommendation 1. IMST recommends that ODF, Oregon Department of Fish and Wildlife (ODFW) and Oregon Department of Environmental Quality (ODEQ) continue to collaboratively strengthen the research, monitoring, analysis, and documentation of issues of greatest concern with regard to the ESFMP RMA strategy (stream temperature, stream substrate size, large wood recruitment, slope stability, and road effects).

IMST Recommendation 2. IMST recommends that ODF make greater use of spatially explicit modeling based on empirical data at multiple scales to evaluate likely effects of the ESFMP.

IMST Recommendation 3. IMST recommends that ODF complete and implement detailed, rigorous monitoring and adaptive management plans for the ESFMP, building on the designs and indicators of ODFW and ODEQ to maximize their interpretability and usefulness. Both implementation (was the plan implemented as expected?) and effectiveness (did the activities have the intended effect?) monitoring should be included.

By its nature, a review is intended to find weaknesses. By identifying some areas we feel need improvement; we do not mean to imply lack of confidence in ODF staff members, who have exhibited a high level of expertise and professionalism in our interactions with them. We further recognize that state natural resources agencies, especially ODFW, ODEQ, and ODF, have efforts underway to address some of the issues we have raised. We offer our comments not in ignorance or disagreement with these efforts, but to underscore their importance.

We hope these comments are helpful to ODF's and DSL's efforts to arrive at a scientifically sound management strategy for the Elliott State Forest and its resources. We will be happy to work with agency staff members to clarify these recommendations, and to assist in moving forward in the directions we describe. We hope to continue to be able to provide ODF constructive comments at key junctures, and hope ODF staff will continue to keep us informed of their efforts to address the issues relevant to protection of salmon and watersheds.

Sincerely,

Nancy Molina
IMST Co-Chair

Carl Schreck
IMST Co-Chair

cc with encl:
Sen. Dingfelder
Rep. Jenson
Rep. Clem
Rep. Cannon
Richard Whitman, GNRO
Roy Elicker, ODFW
Dick Pedersen, ODEQ
Mike Cafferata, ODF
Jim Paul, DSL
Lisa Gaines, INR

Excerpt from the October 6, 2010 IMST Review of the *Draft Elliott State Forest Habitat Conservation Plan* and *Draft Environmental Impact Statement: The Proposed Issuance of an Incidental Take Permit for the Elliott State Forest Habitat Conservation Plan* (August 2008 *drafts*)

Key Findings

The general findings, followed by topic area findings, of the IMST are:

- We find that the basic framework of the HCP is consistent with recent science based approaches for sustaining ecological structure and function at a landscape scale, although the IMST did not review the science underpinnings of the overall forest management strategy for the HCP
- For the four topic areas reviewed by IMST (i.e., stream temperature, large wood recruitment, slope stability, and roads), we found that in some instances multi-scale analyses would have provided a better basis for understanding the effects of the Proposed Action. A landscape approach is by nature coarse-grained, and greater specificity at finer scales in some cases provides more robust information. We therefore suggest that a multi-scale approach, that more explicitly tiers finer-scale analyses to the overall landscape strategy would strengthen the confidence in the conclusions regarding the effects of the Proposed Action.
- At times, the effects discussion for the Proposed Action assumes, without sufficient supporting analysis, that small increments of change will have insignificant impacts. Depending on where and when they occur, small changes in stream temperature or landslide risk are not necessarily trivial.
- The DEIS does not clearly differentiate when conclusions are based on professional opinion or modeling rather than empirical evidence. In some cases this lack of description masked the fact that some of the models used may not be appropriate to the Oregon Coast Range.
- The documents reviewed lack sufficient discussion of uncertainty of conclusions, possible alternative outcomes, and variability in data and modeling results. Without this discussion, there is undue confidence in the conclusions of the analyses. Although there is provision for adaptive management, if the predicted results of the Proposed Action do not occur, there is no clear plan for monitoring trends, or for changing course if it found to be necessary to do so.
- A discussion of the lack of scientific consensus on management of riparian areas (e.g., buffer widths, desired conditions, and disturbance) at reach and watershed scales would provide needed context to the draft HCP riparian area management guidelines. The fact that various research studies have shown different results for effects from the manipulation of streamside vegetation is critical to understanding the uncertainty surrounding the effects of implementing the Proposed Action.
- The use of literature to assess the effects of the Proposed Action and alternatives could be improved. Additional relevant research has been published since the draft HCP and DEIS

were written. In some cases, the documents cite literature that is not especially relevant to the Elliott State Forest. And many resources were cited that were difficult or impossible to find because they were either unpublished reports, conference abstracts, or lacked adequate citation information.

Stream Temperature

- There is little empirical data on the effects of riparian area thinning on stream temperature, especially at larger scales. While ongoing studies such as ODF's RipStream study and the Density Management Study on federal lands are beginning to provide useful information, a significant body of literature already available on this topic is not incorporated into the draft documents.
- The sparse documentation of the effects analysis methods for stream temperature made it difficult to evaluate. There are weaknesses in the approach used for modeling stream temperature in the DEIS, which undermine the confidence in the conclusions. The View-to-Sky model has potential problems for application in Oregon, and the overall structure of the analysis, relying on a logic train rather than an explicit analysis for determining the effects of the Proposed Action, also has weaknesses. Other models more widely used in Oregon such as the HeatSource model are available, may provide a greater degree of rigor, and be more amenable to the use of local data. Where different models would produce different conclusions than those in the DEIS is unknown.

Large Wood Recruitment

- The analysis of potential large wood recruitment appears weak and has several possible flaws that should be examined at a closer level. The analysis relies on an unpublished paper examining wood recruitment in young, commercial forests in the Washington Cascade Mountains. Some modeling results were taken from the Elliott watershed analysis (Biosystems *et al.* 2003) and incorporated into the DEIS analysis which also appear to have several analytical flaws that were not disclosed in the DEIS.
- Several assumptions used in the large wood recruitment analysis (e.g., influence on thinning on windthrow rates) appear to be based on professional opinion rather than empirical evidence. The use of professional opinion was not disclosed in the DEIS.

Slope Stability:

- The aggregation of impacts at the extent of the Elliot State Forest as a whole may lead to an imprecise estimation of impacts of increased timber harvest on soil and slope stability for individual watersheds, basins and Type N and Type F streams.
- The creation of a landslide initiation risk index and its interpretation results in potentially misleading statements regarding the perceived small increase in risk of landslides and debris flows from increased timber harvests under Alternatives 1 through 3.
- Overall, limited quantitative analysis, use of limited literature, potentially inaccurate statements about the change in landslide risk, and use of a landscape level of analysis means that few scientific supported conclusions can be drawn about the effectiveness of proposed management measures to control the negative sediment related impacts of harvest on fish and their habitats under any of the alternatives presented.

Roads:

- Although the increase of roads on steep slopes over the next 50 years will be only four miles, the assumption that following best management practices in the draft HCP and the *Forest Roads* Manual will mean minimal impacts on fish and their habitats is not based on any primary analysis or scientific literature.

Overarching Issues

Need for Multi-scale Analysis

ODF has adopted a landscape level approach to managing state forests. The inclusion of such features as emulating natural forest vegetation patterns, diversity of structural elements in a dynamic mosaic, and biological refugia, all with the goal of creating ecosystem resiliency, are consistent with the principles and current "state of the science" of landscape ecology. We did not evaluate whether or not the specifics of the Proposed Action (e.g., the amounts and distribution of age classes and structural stages though time, placement of reserve areas) are consistent with the intrinsic ecology of the Elliott State Forest, nor did we assess the likelihood that implementing the Proposed Action will result in the desired future conditions. Nevertheless, we commend ODF for taking this forward-thinking approach to management state forest lands in Oregon.

The landscape level approach appears to rely on the agency's interpretation of IMST's earlier reports (see IMST 1999, 2002). The IMST still believes that maintaining the integrity of aquatic and riparian structures and processes across the landscape is an important management goal, and agrees that the overall draft HCP does attempt to do so; however, the analysis included in the DEIS (or at least how it was presented) is not sufficient to conclude with certainty that the goals of the draft HCP would actually be met, or that monitoring and adaptive management are sufficient to make course corrections when necessary. While a landscape level approach is desirable, the IMST cannot, without better documentation of effects at finer scales, determine whether or not that the specific approach that ODF is proposing will succeed in protecting and enhancing riparian conditions and processes or salmonids on the Elliott State Forest.

A landscape approach does not preclude the use of watershed or stream reach approaches. The landscape is not homogeneous and many environmental or ecological processes operate at a continuum of scales; therefore, both broad and local scale approaches can and should be used in concert. For example, Oregon Coast Range-specific literature on landslide initiation and debris flows suggests that spatial heterogeneity may make landscape level approaches not appropriate for developing of management measures to protect aquatic habitat. For examples of watershed level analyses see Benda *et al.* (2007) and Miller & Burnett (2007).

Presentation of Uncertainty

The IMST finds that there is significant uncertainty arising from both the state of the science and the analytical methods used in the analysis of effects of timber management on stream

temperature, large wood recruitment, slope stability, and fine sediments from roads. These uncertainties are not fully discussed in either the DEIS or the draft HCP. The result of this is a portrayal of a greater level of assurance in the effects analysis than we believe is warranted. In general, the DEIS provides little information on the variation associated with the data or model predictions that are provided in the figures and tables. Without knowledge of variation, there is no way for the IMST to judge the scientific accuracy and precision of conclusions made by the authors from these data and model predictions. Additionally, the DEIS and draft HCP do not clearly identify when professional opinion is used rather than empirical evidence (see discussion on Liquori (2004) and Andrus & Froehlich (1988) on pages 19–20 of this review). Within the documents, opinion and research-based conclusions are not always sufficiently differentiated.

The documents as written leave the impression that authors of the DEIS are exceptionally confident in conclusions derived from professional opinion and modeling. This leaves the reader with an overly-optimistic impression that proposed management actions will be funded, implemented, monitored, and will result in achieving desired future conditions in aquatic and riparian ecosystems on the Elliott State Forest. The IMST believes that there are numerous uncertainties, of various degrees, associated with the contentions presented in the DEIS and draft HCP. These uncertainties may be statistical in nature (e.g., quantitatively determined 95% confidence bounds around an estimate of current abundance or productivity) or may simply reflect the confidence the authors have in parameter values determined by expert opinion or modeling efforts. Where practical, uncertainty should be documented

Adaptive Management Planning

The draft HCP (Section 11.2, page 11-12 and elsewhere) makes adaptive management a key forest management practice. For example on page 11-12 the HCP states:

> *Long-term, landscape-scale forest management is challenged by the dynamic, natural system within which it is conducted (the forest) and the limited scientific knowledge and modeling capabilities available to inform decision-making. These uncertainties can be addressed through the ongoing application of adaptive management. … In recognition of the uncertainties inherent in the proposed management strategies, the HCP will be implemented using an adaptive management approach; thereby allowing the ODF to evaluate and modify strategies to ensure the continued achievement of the HCP's conservation objectives."*

While we fully support the notion of adaptive management, it is difficult for the IMST to assess the strength of the case that the draft HCP will achieve stated objectives if the document only refers to adaptive management but does not provide an actual strategy for monitoring, evaluation, and implementation. In general, the Plan's adaptive management approach assumes that if and when a situation arises where alternative actions may be required an appropriate 'plan-B' will be formulated. This assumption and approach represent weak points in ODF's ability to make a strong case that the draft HCP will lead to improved riparian and aquatic ecosystem conditions. Additionally, the draft HCP and DEIS indicates that monitoring and evaluation will inform the adaptive management process, however, there is no mechanism or monitoring plan described to demonstrate if adequate monitoring will occur over the life of the final HCP. Nor do the documents indicate that there is adequate baseline data available for future

assessments. Based on the Elliott watershed analysis (Biosystems *et al.* 2003) and the DEIS, we are not confident that an adequate baseline exists for ODF to be able to detect environmental changes in the forest. An explicit adaptive management plan should include a detailed description of how trends will be tracked by the agency, and the specific criteria and endpoints that the agency will use to determine when population or environmental trends have significantly diverged from desired status such that a new status assessment or suite of actions would be implemented, and specification of management actions given probably scenarios.

Citations and Studies Used in the Analysis

The body of literature on buffers, stream temperature, large wood recruitment, sediment delivery from landslides and debris flows associated with logging, road construction and buffer strip efficacy has become larger and more diverse since the draft HCP and DEIS were completed. For example, recent extensive peer-reviewed work by Burnett *et al.* (2006), Burnett & Miller (2007), and Miller & Burnett (2007) is specific to the Oregon Coast Range and therefore germane to the draft HCP. Importantly, this newer work (e.g. Benda *et al.* 2007; Frattini *et al.* 2010) provides an analytical basis for the analysis of slope stability at the basin and reach level that should inform the DEIS and draft HCP. Other recent references are cited in the body of this review.

IMST's first step in this review was to identify and locate references used in the draft HCP and DEIS to determine the applicability of the information to the documents and the impacts analyses. In several instances the draft HCP and DEIS authors cited references that were not available for review. Workshop abstracts were cited that did not include sufficient detail to determine the applicability of the research to DEIS analyses. Some were not listed in the reference list and their applicability to the DEIS could not be determined. Others reported on research from regions very dissimilar to the Oregon Coast Range and the applicability of these to the draft HCP or to the DEIS analyses was not established by the documents' authors. IMST did not have resources to check all references listed in the draft HCP or the DEIS, however, Appendix A lists references that we did check as part of the IMST's overall review and could not confirm.

Independent Multidisciplinary Science Team (IMST)
Recommendation preamble for use with reports and correspondence
Adopted by the IMST on January 25, 2006

The IMST creates several types of reports[1]. The largest reports are created in response to the IMST's continuing evaluation of the State's science needs necessary to pursue the mission and goals of the Oregon Plan for Salmon and Watersheds (Oregon Plan). These reports are generally topic-oriented and often called "landscape-level reports". An example of this type of report is Technical Report 2002-1, *Recovery of Wild Salmonids in Western Oregon Lowlands*. The landscape-level reports present IMST's independent evaluation of the state of the science regarding the resources being considered and support the evaluations with a comprehensive scientific literature review. These reports also receive extensive peer and technical review[2].

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

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

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

[1] All three types of reports are an undertaking of the entire Team, although subcommittees often are assigned leading responsibilities; subcommittee composition is based on Team member expertise and interest with topic areas. Minority opinions may be appended or incorporated within any IMST report.
[2] Although technical reports may be subject to technical and peer review, release of draft documents is restricted by the IMST in order to insure accuracy of content prior to release to a wider audience. IMST's policy is stated in the Team's Charter and Operating Guidelines: http://www.fsl.orst.edu/imst/charter.pdf

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

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

Formal Responses to Recommendations

Oregon Revised Statute (ORS) 541.409, which created the IMST, specifies that agencies are to respond to the recommendations of the IMST, stating "(3) If the Independent Multidisciplinary Science Team submits suggestions to an agency responsible for implementing a portion of the Oregon Plan, the agency shall respond to the Team explaining how the agency intends to implement the suggestion or why the agency does not intend to implement the suggestion". State agencies are expected to formerly respond to IMST recommendations within six months after a report is issued.

Once formal responses are received, the IMST reviews the scientific adequacy of each response and determines if further action or consideration by the agency (or entity) is warranted. Ultimately, each recommendation response is assigned to one of four general categories:

- **Adequate** means that the IMST supports the decision of the agency
- **Intermediate** means that the IMST does not fully support the agency decision because the decision will decrease the likelihood of accomplishing the goals of the Oregon Plan in a timely manner, but not doom it to failure. IMST notes its concerns but stops short of suggesting that the recommendation be reconsidered.
- **Inadequate** means that the IMST feels the decision by the agency will seriously detract from achieving the goals of the Oregon Plan, and the IMST strongly suggests that the decision be reconsidered.

- **Indeterminate** means that IMST cannot tell what the agency decided to do with the recommendation, or lacks sufficient information to fully evaluate the response.

IMST believes that the key characteristics of a good response are:

- It includes a short, clear statement that the agency (or entity) (a) accepts or agrees with the recommendation or (b) that it rejects or disagrees with it. In some cases, an agency (or entity) may be reluctant to agree or accept a recommendation because it sees significant difficulties in implementing it. However, IMST believes if the recommendation is sound, then the agency (or entity) should work towards eliminating the impediments to implementation that it sees.
- It provides short, clear descriptions of what the agency (or entity) intends to do to implement recommendations it accepts (including how it might remove impediments) or, as required by ORS 541.409, that it provides specific reasons why it rejects the recommendations. Discussion betweens agency or legislative staff and Team members at IMST meetings should also help clarify agency (or entity) and IMST perspectives, and most importantly, advance the mission and goals of the Oregon Plan.

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

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

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