Independent Multidisciplinary Science Team (IMST)

State of Oregon

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Michael Carrier
Governor's Natural Resource Office
900 Court St. NE
Salem, OR 97301-4047

Virgil Moore
Oregon Department of Fish and Wildlife
3406 Cherry Avenue N.E.
Salem, OR 97303

Dear Mr. Carrier and Mr. Moore,

The Independent Multidisciplinary Science Team (IMST) has completed an unsolicited review of the draft document titled *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit* (dated September 20, 2006) and Appendix 2 (dated September 20, 2006), *Measurable Criteria for the Oregon Coast Coho ESU*. The IMST has undertaken this review as a follow up to its review of the State's Oregon Coastal Coho Assessment in 2005 that was requested by the Governor's Natural Resource Office.

The Team concentrated its review on Appendix 2, including additional sections (dated October 6) addressing the productivity criterion not included in the September 20th draft. Since updated versions of these documents have become available for public review, we wish to underscore that these comments apply only to the content of the drafts that were available to the IMST at the time of its review.

This letter along with attachments contains IMST's assessment of the State's Conservation Plan and associated measurable criteria for the Oregon Coast Coho Evolutionary Significant Unit (Coho ESU), as well as suggestions for how the State might strengthen the Plan. As part of our review, IMST has directed three recommendations to ODFW and the Oregon Plan Core Team. Recommendations issued by the IMST require formal responses from state agencies or entities as per ORS 541.409 (see Appendix B for details).

The IMST commends ODFW for drafting a detailed, science-based policy document that clearly articulates the State's conservation goals for the Coho ESU. The IMST recognizes that these documents represent a significant effort to integrate stakeholder opinion into the planning process. The document's organization and descriptions are appropriate for a broad audience, are for the most part convincing, and capture

relevant findings related Coho ESU recovery. Overall, the IMST feels that, in terms of Coho ESU management the State is headed in a direction supported by available science.

The IMST has identified several points where we feel the State could strengthen the Conservation Plan. These points are summarized briefly in this letter, and are developed in more detail in the attached review. The Team wishes to emphasize that even though the review identifies areas we feel need improvement, the overall Conservation Plan sets a new standard with respect to the establishment of measurable goals in salmonid recovery.

- The Conservation Plan's description of adaptive management does not sufficiently address all the needs of a complete adaptive management plan. The IMST commends ODFW for its efforts in monitoring and regular reassessment of Coho ESU status. What is missing is an actual adaptive management plan that includes a substantive description of actions to be taken in the event that the measurable criteria described in Appendix 2 are not met, and a discussion of the factors that may affect the effectiveness of those actions.

- A significant omission identified by the IMST is the lack of a higher-level (across agencies) analysis of proposed actions. The plan does not describe how various agency actions will be integrated into management of the Coho ESU, or how the State will determine if the sum of independent actions carried out by individual agencies meet the comprehensive goals of the Conservation Plan. There were no objectives directed along these lines, and no single agency has been identified that might undertake such an analysis and oversight. While the section pertaining to ODFW objectives are quite explicit and clear, those presented by other agencies with responsibilities to the Oregon Plan for Salmon and Watersheds, are not very explicit. The lack of an integrated look at objectives of key agencies introduces considerable uncertainty into the Conservation Plan.

In Appendix 2, ODFW proposes a measurement period of 12 years (approximately 4 coho salmon generations) for the measurable criteria. However, the longer period Pacific Decadal Oscillation and shorter period El Niño-Southern Oscillation occur at periodic, yet irregular intervals that could occur both within and beyond this measurement period. Such changes in ocean conditions can greatly affect coho salmon abundance positively or negatively and have the

potential to mask the effects of management actions in freshwater. Although annual monitoring gives early indications of short-term trends, multiple monitoring timeframes may be needed to sort out what is actually happening with the Coho ESU in light of ocean conditions, The rigor of the State's monitoring approach would be strengthened if it employed multiple measurement and evaluation timeframes.

- The Conservation Plan assumes freshwater habitat quantities and qualities are limiting Coho ESU productivity. This assumption is scientifically sound during periods when marine conditions and corresponding coho salmon survivals are moderate to good. The IMST feels, however, that this assumption may not be valid when poor marine conditions result in extremely low marine survival of coho salmon. The State's desired status for the Coho ESU, during times when marine conditions are poor, requires doubling abundance over that observed during the 1990's period of poor marine survival. The IMST believes that periodic unfavorable conditions in the California Current may create a marine bottleneck that will complicate freshwater recovery efforts. Lack of knowledge about how the Coho ESU will actually respond to various combinations of limiting factors in freshwater and marine environments creates uncertainty regarding the goal of doubling coho salmon populations during an extended period of poor marine conditions. The IMST believes that the inherent variability in the coho salmon life cycle (switching between spawning and recruitment dependency) may set the State of Oregon up to fail on some of its recovery goals.

- The IMST disagrees with the usefulness of the diversity criterion presented in Appendix 2. This criterion is not independent of the abundance criterion. Diversity is certainly important for persistence of an ESU but for this criterion to be truly independent, a quantitative link between abundance and heterozygosity must be established for the Coho ESU. The IMST does not believe that abundance is a good surrogate for within-population heterozygosity. The State could improve the independence and usefulness of this criterion by defining the aspect of diversity it wishes to monitor (e.g., life-history characteristics or allelic diversity) then working to develop scientifically defensible measures of that diversity.

In general, the IMST believes that the approach and measurable criteria described in the Conservation Plan are scientifically valid. The Team applauds The State of Oregon and ODFW on their rigorous efforts to

include stakeholder opinion in the planning process for recovery of the Coho ESU. The Team would be happy to answer any questions that this review may raise and hope these comments and suggestions are useful to helping increase the scientific rigor of the Conservation Plan.

Sincerely,

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Patti Smith, House Interim Ag. and Nat. Res. Committee

IMST Review of:

State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionary Significant Unit (September 20 and October 6, 2006 Drafts).

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Review Preparation

This review was prepared by the IMST based on an initial draft by an IMST subcommittee (Vic Kaczynski, Carl Schreck, Robert Hughes, Michael Harte). Susie Dunham was the IMST Research Assistant working on this review. The subcommittee held public meetings to discuss the draft documents and to prepare a draft review on September 27 and November 15, 2006. Jay Nicholas and/or Kevin Goodson (Oregon Department of Fish and Wildlife) discussed the preparation, goals, and intended use of the reviewed documents at the IMST's October 16 and November 16, 2006 public meetings. The draft review was discussed at the October 16 and November 16, 2006 IMST public meetings and unanimously adopted (M. Harte was absent from the final vote) at the November 16, 2006 IMST public meeting. M. Harte subsequently approved the draft by e-mail.

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INTRODUCTION

In this review, the Independent Multidisciplinary Science Team (IMST) provides technical comments on three draft documents produced by the State of Oregon (from here forward, referred to as "the State") for the Oregon Coast Coho Conservation Plan. The reviewed documents include the:

- **Conservation Plan** – *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit.* September 20, 2006 Draft.
- **Appendix 2** – *Desired Status: Measurable Criteria for the Oregon Coast Coho ESU Conservation Plan.* September 20 and part of the October 6, 2006 Drafts.

The IMST conducted an independent review of the draft document titled *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit [ESU],* from here forward referred to as the "Plan". The IMST previously reviewed the State's Oregon Coastal Coho Assessment in 2005 (IMST 2005) at the request of the Governor's Natural Resource Office (letters from Mike Carrier dated December 17, 2004 and February 1, 2005). The Team concentrated its current review on Appendix 2 (dated September 20, 2006), *Measurable Criteria for the Oregon Coast Coho ESU.* The Team received a revised Appendix 2 (dated October 6) and reviewed its productivity criterion, which was not included in the September 20th draft.

The Oregon Department of Fish and Wildlife's (ODFW's) part of the Plan is centered on monitoring and assessment of stocks within the "Oregon Coast Coho ESU", from here forward referred to as "Coho ESU" ("coho salmon" will refer to the species), to determine if they meet certain criteria that relate to the ESU's ability to persist and potentially thrive. These are discussed by ODFW in Appendix 2. Success of the Plan, of course, depends on the (1) quality of data derived from the monitoring and assessment efforts, (2) validity of the assumptions made in the models that will be used to assess population trends, (3) accuracy and precision of the models used, and (4) appropriateness of the criteria used. The IMST addresses these in its review of Appendix 2.

IMST comments in this review apply only to the three draft documents listed. Commenting on the other technical documents associated with the Plan was not possible within the Team's current work schedule.

The IMST concludes its review by issuing three formal recommendations (see Recommendations section). IMST considers recommendations important to accomplishing the overall mission of the Oregon Plan for Salmon and Watersheds. 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. Oregon Revised Statute (ORS) 541.409 requires that state agencies or entities (e.g. Oregon Plan Core Team) respond to recommendation issued by the IMST.

REVIEW OF THE COASTAL COHO CONSERVATION PLAN

This section constitutes the IMST's scientific review of the State of Oregon's draft Coastal Coho Conservation Plan *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionary Significant Unit* [September 20, 2006 Draft]. The Plan builds on decisions by state and federal agencies that the Coho ESU is viable, and describes policy actions to conserve the viability and improve Coho ESU productivity. The IMST congratulates the State on its extensive effort to synthesize biological information on the Coho ESU with stakeholder input during the two-year process that resulted in this Plan.

Overall, the IMST commends the authors on the ambitious nature of these conservation objectives. The Plan is impressive relative to what has been attempted before with respect to the establishment of measurable goals in salmonid recovery. The majority of this review focuses on places where the IMST believes it is critical that the draft be strengthened. This is not intended to reflect on the overall merit of the Plan. Rather, the IMST acknowledges that it is commenting on a draft Plan and intends this critical review to help the authors make the final Plan as rigorous and scientifically defensible as possible.

This IMST review begins with technical comments and concerns followed by general editorial comments. Technical comments cover topics related to the following assumptions that it appears are inherent in the Plan:

- The Coho ESU is viable;
- Freshwater conditions are limiting Coho ESU productivity;
- Improving freshwater habitats will improve Coho ESU freshwater survival;
- With improved freshwater survival, Coho ESU abundance will double during low marine survival periods;
- Existing regulatory programs and non-regulatory conservation work will be sufficient to achieve conservation goals.

Note: While the IMST was conducting this review, a more recent draft of the *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit* became available for public review (http://www.oregon-plan.org/OPSW/cohoproject/coho_proj.shtml). Some comments may not apply if relevant revisions are included in this newer version. Therefore, the IMST emphasizes that these comments apply only to the specific content of the September 20, 2006 draft of the Plan.

Technical Comments:

Major Strengths of the Plan: The Plan is a science-based policy document that clearly articulates the State's conservation goals for the Coho ESU. The document's organization and descriptions are appropriate for a broad audience, are convincing, and capture relevant findings from previous reports related to this issue (including: IMST 2002, 2005; Coastal Coho Assessment Overview, http://nrimp.dfw.state.or.us/OregonPlan/). Overall, the IMST feels that in terms of Coho ESU management, the State is headed in a direction supported by available science.

General Concerns about the Plan: The document contains many vague, unclear, or value-laden words that obscure the precise meaning. For example, on page 5 (near top) what do the terms "science-based" and "social consensus" mean? Also on page 5 under "Desired Status Vision", what is meant by the phrase "conceptual statement"? What is meant by "abundant numbers" (middle page 19), is this the number that will prevent listing, allow increased harvest levels, or some other management action? How "far" is "far more" (top page 20), an order of magnitude, two orders of magnitude? More explicit descriptions of these terms/statements would strengthen the Plan. Also, an explicit statement of the desired status goal would more clearly link the Plan to the criteria that will be measured.

From a science perspective, objectives are most useful when worded in such a way that one can readily determine when they have been met. The section pertaining to ODFW objectives are quite explicit and clear. In comparison to the ODFW objectives, those presented by other agencies with responsibilities to the Oregon Plan for Salmon and Watersheds, are not very explicit. Successful implementation of the Plan would be more likely if all key agencies provided explicit objectives.

The IMST suggests that the State be more definitive concerning what it means by a "conceptual classification" regarding the status of the Coho ESU (page 16). Likewise, "Conceptual steps of biological status" related to conservation (Table 2). The word "conceptual" does not inform the reader if the classification or status assignments are based more on knowledge or belief. Perhaps it would be simplest to replace the word "conceptual" with another word or phrase that more accurately depicts what is meant.

By design, the Plan contains minimal scientific support through citations because it is primarily a policy document. However, this sparse use of citations throughout the document leaves the reader wondering which assertions have the support of data or model simulations, which are expert opinion, and which are unsupported assumptions. Clarifying these different levels of confidence for the reader would help tremendously. In particular, highlighting assumptions and discussing consequences of potentially incorrect assumptions would strengthen the document.

Success of the Plan (page 13 on) is contingent on correct classification of the Coho ESU/SMU [evolutionarily significant unit/species management unit] and correct assignment of constituent populations into categories regarding independence. As pointed out in the earlier review of the State's Coho Viability Assessment (IMST 2005), some scientific discussion and/or analysis should be provided regarding the confidence level that the State has that its classification and assignments are correct and what the consequences would be if it is wrong.

The State also needs to put the Plan in the context of the Pacific Fisheries Management Council's Amendment 13 to the Pacific Coast Salmon Plan and the options therein. Commercial fishery harvest levels discussed in the Plan are taken from a revision to Amendment 13 that is not easily

obtained by members of the general public. This part of the Plan would be more transparent if the revised harvest matrix were included in the Plan and/or made available on a website and referenced in the Plan.

Higher Level Oversight and Adaptive Management: The Plan lacks a section describing how various agency actions will be integrated into management of the Coho ESU. Also, regarding scientific analysis of the Plan, one aspect the IMST found lacking is a higher level analysis across agencies. If all of the goals and objectives of the various agencies involved in the Plan are met, would this be sufficient to ensure that the goals of the overall Plan are met? In other words, do the sum of all of the parts add up to the desired whole? There were no objectives directed along these lines, and no single agency has been identified that might undertake such an analysis and oversight.

The overall success of the Plan relies on voluntary compliance (e.g., the private lands initiative) or on policy option packages that will be used to request funding for further action. The Plan would be strengthened if it proposed that the effects of higher, and lower, levels of expected voluntary actions would be evaluated for their effects on Plan success. For example, Yoder et al. (2005) reported that voluntary increases in conservation tillage were associated with a 10% improvement in median index of biotic integrity scores in Ohio agricultural rivers. What has been learned about the effect of voluntary land use changes on salmonid populations in Oregon? What are the possible consequences of doubling or halving expected levels of voluntary compliance or funding?

The section titled "Assessment of the Conservation Plan" indicates that achievement of the desired status will be accomplished in part because the Coho ESU currently is considered viable and that adaptive management has eliminated some adverse impacts. From a science perspective there is danger in any plan aimed at a conservation goal of long term sustainability if one starts from the premise that the Coho ESU is "viable". Is it "just barely viable" or is it "so viable that it is near its desired status"? Would answers to those questions affect which management actions would be necessary? In other words, what would the likelihood of meeting the conservation goals be if the Plan were enacted and the Coho ESU was, in reality, not viable at this time (akin to committing a type two statistical error)?

The IMST does not have the same level of confidence that the State of Oregon appears to have with declaring the Coho ESU viable (IMST 2005). However, accepting that the Coho ESU is viable, this Plan would be more complete if it also addressed how decisions will be made regarding relaxation or elimination of current restrictions, or outlined which management tactics are no longer required once the Coho ESU reaches its desired status. In other words, how will agencies identify actions that are "above and beyond" those needed to attain desired status? Such scientific analysis coupled with an economic analysis would be beneficial and promote the most prudent and cost-effective management strategies and tactics.

While the IMST certainly agrees that the impacts of commercial fishery harvest and hatchery programs have been reduced, it is unclear if any true "adaptive" management has occurred. The section titled "Application of Adaptive Management" (page 42) does not fulfill all the needs of a complete adaptive management plan. The IMST commends ODFW and the State for its efforts in monitoring and reassessment of Coho ESU status, but what is missing is an actual adaptive management plan. Walters (1986, 1997) describes the components necessary to achieve adaptive

management. Adaptive management calls for planning alternative management actions that can be instituted in response to observed (i.e., through monitoring) departures from expected results (e.g., Appendix 2 of the Plan). To achieve this, the Plan would need to outline what substantial changes will be made if the measurable criteria described in Appendix 2 of the Plan are not met.

A related issue arises in the section 'Prioritizing Conservation Investment'. This section is vague and noncommittal. It is difficult to understand how the funding priorities outlined will achieve the restoration goals.

The State appears to underestimate the complexity of landscape/habitat interactions, its ability to restore them, and to document the level of restoration achieved. For example, in a study in the Oregon and Washington Coast Range, habitat predictors of fish assemblage condition were found to change with natural differences in geology, stream size, and slope (Hughes et al. 2004; Kaufmann and Hughes 2006). Anthropogenic effects were revealed only after factoring out those natural differences. For cutthroat trout, Gresswell et al. (2006) reported that habitat is best viewed as matrices of suitable habitat patches connected through space and time by fish movement. The same is likely true for coho salmon, and human activities impeding movement among patches reduce persistence. In coldwater Wisconsin and Michigan streams, Wang et al. (2006) found that as disturbance increased in catchments and riparian areas, the relative importance of local/site factors on fish assemblages declined and that of catchment factors increased. This means that rehabilitation (or restoration) at the site scale is most effective in relatively undisturbed catchments, but that catchment-scale rehabilitation is necessary where entire catchments are degraded. These confounding habitat characteristics and rehabilitation measures are likely also true for coho salmon.

The State is relying on existing regulatory programs and long-term non-regulatory conservation work. What is the evidence that these measures will provide a sufficient quantity of appropriately distributed, high quality freshwater habitat that will buffer the Coho ESU through future ocean cycles, urbanization, and climate change? Given that coho salmon in Oregon are near the southern end of the species' range, climate change could have significant implications for this Plan. What is the evidence that existing regulatory programs and long-term non-regulatory conservation work will protect the Coho ESU in the face of urbanization and rural residential development? Have all the present, and future factors likely to limit productivity of the Coho ESU been addressed?

Freshwater Management of Coho Given Variable Marine Conditions: Throughout the Plan is the implicit sentiment that the State of Oregon has the ability to effectively manage the Coho ESU in the face of fluctuating ocean conditions. In fact, the Plan is predicated entirely on freshwater habitat protection and restoration. The IMST feels that the State has not fully acknowledged the level of variability in coho salmon survival it has the power to change (see Peterson et al. 2006; Appendix A of this review) by improving fresh water habitat. The IMST feels that, for the benefit of the broader public, ODFW needs to state more explicitly how fluctuations in coho salmon marine survival will affect its ability to be successful with this Plan. The IMST expressed similar concerns in the review of the State's Coho Assessment (IMST 2005). These concerns included:

- That 1990-1997 data on salmon populations do not clearly indicate a new equilibrium is reached under unfavorable ocean conditions;

- That the current understanding of how 'poor' ocean conditions can become and how long such conditions can persist is insufficient to use in population persistence models

Specific Comments: The IMST believes that the overall clarity of the Plan could be improved if more detailed descriptions or explanations were provided on the following topics:

- Page 4. The life history described here may be a bit simplistic. Juvenile coho salmon appear to also use estuarine environments for extended rearing periods (several months) before migrating back upstream to over-winter (Miller and Sadro 2003). In addition, coho salmon from the ocean have been known to enter the mouth of an estuary, presumably taking advantage of feeding opportunities in that ecotone. This has been observed at the mouth of Coos Bay; the phenomenon appears to happen at irregular times a few years apart and is exhibited by fish approximately 15 inches (37 cm) in length (Michael Gray, Personal Communication[1]). The significance of such life history variability is that population viability models that do not consider such variants may inaccurately estimate the importance of good freshwater habitat types during certain ocean conditions.
- Pages 7, 21, 23, 25 & 46. Which ecological processes/functions must be restored, and to what rates (compared with current rates)?
- Page 12. Are there citations for historical Coho ESU run sizes? One million coho salmon spawners and 4000 miles of spawning habitat equates to an average of 250 spawners per mile. This is very different compared to the distribution criterion of four spawners per river mile. Does 250 spawners per mile seem high? Would not historical disturbances in time and space result in naturally varying habitat quantities and qualities across the Coho ESU? The IMST feels there is no logical connection between the historical conditions and the number of spawners stated in the distribution and abundance criteria.
- Page 12. Substitute "winter habitat" for "stream complexity" if that is what is meant by stream complexity.
- Page 19. If hatcheries and commercial fisheries harvest have adverse effects on wild coho salmon (p. 7), briefly explain why hatchery production is continued to support harvest.
- Page 21. Some examples of future actions taken to minimize adverse stressors such as fisheries harvest (particularly ocean fisheries), nonnative species (particularly on the lake populations), and hatcheries (particularly on the Salmon and North Umpqua) would make the paragraph more informative. Hatcheries, harvest, and nonnative fish species are directly regulated by ODFW, unlike habitat, and it seems wise for ODFW to directly reduce those three limiting factors.
- Pages 20 & 21. Measurable ecological criteria and monitoring are needed for 1–8. It would also be helpful to include a table here listing the criteria for 1–5, instead of referring the reader to Appendix 2.
- Pages 23 & 41. Indicate that ocean habitat is a greater bottleneck than freshwater winter habitat or stream habitat conditions. Also note that ocean warming of 1–2 degrees for a

[1] Mike Gray, November 17, 2006. Oregon Department of Fish and Wildlife, Charleston, Oregon.

REVIEW OF APPENDIX 2: Desired Status

This section contains the IMST's review of the State of Oregon's draft Appendix 2: *Desired Status: Measurable Criteria for the Oregon Coast Coho ESU Conservation Plan* [September 20 Draft]. The IMST was subsequently asked to also review a new section "Criterion 3 – Productivity" in an [October 6, 2006 Draft] of Appendix 2. Therefore, the following review concerns the earlier draft except for comments pertinent to the productivity criterion. In the preceding section, the IMST reviewed the more general Conservation Plan that is the foundation for these criteria. The IMST commends the State for its efforts in integrating stakeholder opinion in the delineation of measurable criteria to determine the success of conservation efforts aimed at Coho ESU freshwater habitat.

The following review begins with a description of general concerns about the measurable criteria followed by specific comments relating to each of the measurable criteria included in both versions of Appendix 2. Because the heading numbers are different in the September 20 and October 6 documents the headers in this review are not numbered.

Technical Comments:

The ODFW measurable criteria are relevant to achieving the desired status for the Coho ESU and do appear measurable. The IMST fully supports the four critical considerations (listed on page 1) used to guide the development of these measurable criteria. Measuring six criteria for the independent populations will be a challenging undertaking.

General Concerns: The criteria appear to define end-point goals, but it is unclear if true endpoints will be measured or monitored or if measurements are actually "trends". In Appendix 2, trend analyses also are suggested to observe positive trends along the way. The IMST urges the State to look for negative trends also. The two measurable criteria (spawner trends and habitat conditions) for *truly* dependent populations will document trends. These criteria are sufficient if the State has high confidence that assignment to independent/dependent categories are robust (see comments on independent/dependent population assignments in IMST 2005). The success of the final Plan in achieving its goals depends on the independent populations meeting six criteria and dependent populations meeting two criteria. The IMST concurs that this approach is supported by the best available science.

The measurable criteria for independent populations include abundance, persistence, productivity, within-population distribution, diversity and habitat. Monitoring indicators typically are more effective if they are based on variables with relatively low levels of variability in the data sets. If too much variability in the data set exists then they don't make very good high level management indicators.

The IMST agrees with these multiple criteria except for the diversity and habitat criteria as written. The diversity and habitat criteria are not independent of the abundance criterion. Weighting these three criteria equally may result in an inflated estimation of success, especially when the Coho ESU varies markedly in size among basins and years.

A weakness identified for several criteria is that they are evaluated using a pass/fail system across a 12-year period. What is the scientific justification for using a categorical system rather than analysis of trends? This approach will potentially sum pass/fail evaluations across years

with both good and unfavorable marine survival years. It may be more useful to adjust the evaluation system for good, moderate, and unfavorable years. Some parts of the document begin to address this issue but other areas sections are overly absolute.

What is the scientific basis for the '6 times in any 12-year period' evaluation used in many of the pass metrics? Is the intention that benefits should be provided in more than 50% of the years or at some higher frequency? Also, the rationale behind the 12- year time frame requires better explanation. This timeframe may not be long enough to encompass the variability in most ocean cycles (Peterson et al. 2006). It is unclear if this is intended to relate to coho salmon generation time or life cycle. The scientific defensibility of relevant criteria would be strengthened if the measurement timeframe was increased to accommodate various ocean cycles.

Adult Abundance: The IMST has reservations about the goal of doubling the average abundance. This goal appears to focus on a measure of central tendency rather than on measures of variability that may matter more to salmon persistence.

To increase the margin of safety the State might also consider developing a measurable criterion that considers the low end of the abundance threshold. The average is likely not a suitable criterion because of the range of variability possible.

The discussion of 'false positives' seems circular. This section reads as if the habitat criterion will be used to determine if increased habitat is driving changes instead of ocean conditions. It reads as though the Plan authors are saying, freshwater habitat was rehabilitated and the Coho ESU abundance increased so the State plans to measure the rehabilitated habitat to determine if this is why more fish returned. This seems doubly circular when abundance is used to assess habitat. Again, given that ocean cycles are at scales of multiple decades, is 12 years long enough to determine if habitat rehabilitation is increasing Coho ESU numbers beyond that of ocean conditions?

The abundance goal of doubling the average escapement during extremely low (about 1% average) marine survival periods (e.g. to 101,000) is extremely ambitious. The science behind the goal is not well substantiated (see Appendix A). The low (4.4%) survival escapement goal of 371,000 is possible but also very ambitious. The IMST feels that the State may have underestimated the marine bottleneck in setting this criterion.

The "Spawners" label in Table 1 should probably be 'Escapements'.

Persistence: Several apparent anomalies exist in Table 4 that, if explained, would strengthen this criterion. What is driving model results close to 0 for some populations? What is happening when there are large differences between QET (Quasi-Extinction Threshold)=1 and QET=50 and why should QET=50 give a lower probability (e.g. Salmon River)? Why are persistence probabilities consistently lower for the Beverton-Holt model and how do the assumptions of this model differ from the others presented?

The quasi-extinction values (1 and 50) are not self-explanatory. What are these? It would help readers if "quasi-extinction" was defined.

Using the average of the 4 models may not be better than using one model. The IMST suggests that using the most conservative model (in terms of predicting number of spawners) would

reduce the likelihood of poorly informed management decisions. If multiple models are to be used collectively, then an average weighted by confidence in the respective models or a confidence interval would perhaps be more appropriate.

Productivity: This criterion was presented in the October 6th draft. The IMST agrees that it is wise for the State not to use a criterion for productivity at this time because of difficulty in measuring it. The Team supports the State's and ODFW's efforts to develop such a criterion in the future and to use an interim approach until this is achieved.

What would the productivity criterion contribute that the abundance criterion does not? Are the proposed evaluation thresholds for the Coho ESU as a whole or for each independent population within the ESU?

The State might consider the different assumptions and potential usefulness of calculating the Net Reproductive Rate (Birch 1948; Molles 2005) compared to recruit to spawner ratio (R/S) calculated from recruits produced from parent spawners. The Net Reproductive Rate requires estimates of freshwater and marine survivals and female egg numbers by cohorts (year classes). Poor marine survival years usually correlate with smaller adults with fewer eggs. A pass threshold would be a net reproductive rate of 1 or greater over some time period. A failure would be less than 1 over a time period. During periods of good and moderate marine survivals, net reproductive rates will be higher than 1 and during poor marine survival periods net reproductive rates will be less than 1. This is in fact the same as using R/S values. If the resultant reproductive rates and recruits per spawners are a problem, perhaps productivity as a criterion is not useful. The calculated net reproductive rates will speak for themselves and could indicate the innate potential to rebound in moderate to good marine survival periods from lows reached in poor marine survival periods.

The Appendix 2 authors make the case that R/S values must be standardized for both marine survival and spawner density but they are not clear how the interim measure using the shape of recruitment curves accounts for these factors.

Within Population Distribution: The goal of this criterion is to 'identify when a restriction in spawner distribution is greater than expected for a healthy population under given marine survival conditions'. The measure is dependent on data obtained during the recent period of poor marine survival. This constitutes n=1 unfavorable ocean condition events for each population. The reach data used in regression analyses are not independent because they co-vary with changing ocean conditions.

With respect to the SVB (not defined by the Appendix 2 authors) statistic: Given the nonrandom distributions of many biological populations, what are the biological implications of assuming a random distribution in the regularity ratio? Can this tell us anything about the expansion or reduction of population boundaries and why those distributional changes might be occurring? Also, what does SVB stand for?

What would the consequence(s) to Coho ESU viability be if the occupancy threshold is not biologically viable?

In Table 5: How do the occupancy goals compare to the last period of unfavorable ocean conditions? Is there a biological explanation for rivers where the adjusted R^2 is low (e.g., Coquille, Salmon, Nestucca)?

Assuming the minimum 4 spawners per mile and 4,000 miles of spawning habitat, this yields 16,000 spawners. This is a low number of spawners and likely insufficient to make use of all available habitat in Coast Range streams. Is this lower than "minimum"? Perhaps the minimum number of spawners per mile needs to be more than 4. There seems to be a lack of connection between the abundance and distribution goals and the habitat improvement goal.

Distribution of 4 spawners/mile gives an abundance value but would be more appropriately stated as 'a minimum of 4 fish in every mile of spawning habitat'. As written the criterion doesn't really address the issue of spatial distribution. It also does not address the issue of the distribution of good spawning habitat and its relation to fish. Currently, it simply measures fish per mile of stream and doesn't account for how fish are distributed through the spawning habitat.

Diversity: IMST disagrees with the usefulness of the diversity criterion as presented. This criterion is not independent of the abundance criterion and does not describe how past hatchery and commercial fishery harvest practices have changed genetic variability in present Coho ESU populations. What are the spatial genetic and life history variability patterns in the Coho ESU throughout its range and how might they relate?

Diversity is certainly important for persistence of the Coho ESU. Perhaps some weighting factor could be applied to this criterion so that it could be included in the evaluation matrix. However, for this criterion to add novel information, a quantitative link between abundance and heterozygosity must be established. The IMST does not believe that abundance is a good surrogate for within-population heterozygosity. The criterion does not provide a science-based description for why abundance adequately monitors heterozygosity. The independence and usefulness of this criterion would be greatly improved if the State first defined the aspect of diversity it wished to monitor (e.g., life-history characteristics or allelic diversity). Subsequently, the State could develop scientifically defensible measures of that diversity.

Habitat Conditions: Overall, this criterion appears scientifically defensible, but the IMST questions some of the specifics of the criterion as currently stated. The IMST has already noted that the stream mile goals are tentative and may be refined with monitoring results, part of adaptive management. The IMST questions the assumption that smolts during unfavorable ocean conditions are only produced from high quality habitat. This assumption can be evaluated with further monitoring. IMST is concerned that habitat condition is measured only by another abundance metric. Some physical habitat metrics (large wood density, residual pool volume, summer temperatures, excess fines) also seem warranted. It is quite possible that smolt production varies among basins depending on ocean conditions; i.e., all basins may not respond in the same amount or even in the same direction to the same ocean. It also may be important to examine basin or sub-basin scales of variability to detect meaningful change. For example, fish IBI scores were affected by differing basin geologies, areas and slopes (Kaufmann & Hughes 2006). Basin lithology explained 75% of the variation in cutthroat abundance (Gresswell et al. 2006). Most variation in pool size was explained by basin area, while large wood density was

negatively related to percent sedimentary rock (Burnett et al. 2006). Gallo et al. (2005) reported that watersheds with 0.1 road mile per stream mile or 1-3 crossings per stream mile were in poor condition.

In Table 7, Footnote 1, could read:

" Spawner goal @ 1.1% marine survival (Table 2) times 0.03/0.011."

Footnote 2 might be easier to understand if written as:

"Spawner Goal @ 3% marine survival times 1.15. 15% is the maximum … etc."

Footnote 4 might need similar language (times 1.15).

Criteria for Dependent Populations: The IMST agrees that dependent populations are important and they need to be conserved. The Team agrees with the trend criteria (spawners and habitat conditions) and feels that the surveys described as beginning in 2006 will contribute significantly to our knowledge of coho salmon.

How can the authors explain the observation on page 17 (September 20 draft) that a similarity of trends of dependent and independent populations within a stratum is expected and is consistent with the defined population structure of the Coho ESU? The IMST suggests that the only common factor is the condition of the California Current in those years.

Editorial Comments on September 20 draft:

Page 9. Define QET in the title for Table 4.

Pages 10-11. Criterion 3, not "4", also please define SVB.

Page 11. line 19, key into, not "a key into"

Page 23. pairing, not "paring"

Page 28. by where, not "by the where"

Page 34. construct a curve, not "construct of curve"

RECOMMENDATIONS

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 (see Appendix B for further discussion on development of IMST recommendations). The IMST considers each recommendation important to accomplishing the mission of the Oregon Plan for Salmon and Watersheds. Under Oregon Revised Statute 541.409, state agencies and entities (e.g., Oregon Plan Core Team) are required to respond to IMST recommendations (see Appendix B for information regarding formal responses, desired format, and evaluation of responses by IMST).

Recommendation 1. The IMST recommends that ODFW ensure that the adaptive management component of the *State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionary Significant Unit* be developed consistent with current science literature on adaptive management. In particular, we recommend incorporating:

- **action plans for responding to departures from predicted trends in measurable criteria (and thus, conditions of the Coho ESU), both positive and negative; and**
- **a monitoring and analysis framework that is sufficiently robust to detect changes in those measurable criteria early enough for the State to respond if necessary.**

Adaptive management is viewed as a scientifically valid and prudent approach for managing lands and resources in situations where new strategies are being tried (Walters 1986; 1997), such as the Plan. The Plan recognizes this by proposing an adaptive approach to conservation of the Coho ESU. In "active adaptation", the adopted management strategy is viewed as a hypothesis to be experimentally tested, and if it does not yield the desired or predicted results, an alternative strategy can be pursued (Walters and Holling 1990). Ideally, adaptive management sets a scientifically rigorous framework for this process to unfold and for making decisions as information and understanding accumulate.

Recommendation 2. The IMST recommends that the Oregon Plan Core Team assess the degree to which individual agency contributions to the Plan may be effective in meeting the Plan goals.

The Plan lists numerous current and proposed agency actions that are presumed to collectively support the goals of the Plan. However, there is no provision for determining the relative contributions of individual actions, nor the consequences to Coho ESU population status if proposed actions do not actually occur. This is especially true of actions that depend on factors beyond agencies' control, such as actions or inaction by private landowners, or the receipt or elimination of additional funding. In addition, there is no ability to determine how well agency actions will be integrated, and what their collective effects are likely to be. Ideally, an evaluation of potential agency contributions to Plan effectiveness would be carried out using predictive modeling and currently available data (Van Sickle et al. 2004; Stanfield et al. 2006). Finally, there is little evidence of close collaboration among agencies, such as shared survey sampling designs, common stressor and response indicators, open-access databases, or inter-agency

research and monitoring. This hinders assessing the relative effectiveness of various rehabilitation actions on habitat and Coho ESU populations (e.g. Gallo et al. 2005). Modeling and closer inter-agency collaboration would improve the State's ability to prioritize among actions, address possible consequences of insufficient accomplishments, and at the end of the monitoring cycle, ascertain which actions were or were not most supportive of Coho ESU conservation goals.

Recommendation 3. IMST recommends that ODFW employ multiple measurement time frames (e.g., 3, 6, 12, 24, & 48 years) and formally evaluate and model Coho ESU abundance trends across those times. Modeling should include both long-term increases and decreases in ocean productivity.

ODFW currently monitors Coho ESU life histories by basin and proposes a measurement timeframe of 12 years (approximately 4 generations) in the Plan. However, the long-period Pacific Decadal Oscillation and shorter period El Niño-Southern Oscillation occur at periodic, yet irregular intervals (Pearcy 1992; Ware and Thompson 1991). Such changes in ocean conditions greatly affect coho salmon abundance positively or negatively through nutrient, prey, and predator abundances (Peterson et al. 2006). Therefore, management actions (habitat rehabilitation, hatchery and commercial fishery harvest levels) may be masked by co-varying, long-term ocean conditions (Pearcy 1992; Lawson 1993; Spence et al. 1996; Peterson et al. 2006). Although annual monitoring is essential for early trend detection, trends will occur in multiple timeframes, and many of the most important trends occur on the scale of multiple decades.

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APPENDIX A

The Marine Bottleneck: As in the State's *Viability Criteria and Status Assessment of Oregon Coastal Coho*, it appears to the IMST that this Conservation Plan also assumes that a "low abundance paradigm" applies to Coho ESU population dynamics and that the Coho ESU can survive extended periods of adverse ocean conditions in the California Current similar to those observed between 1990 and 1997. The State of Oregon apparently reached these conclusions through the use of population dynamics models that include both freshwater and marine survivals. It is unclear to IMST whether mixed effects predictive models were used or not. Population models that include all life history stages will generally predict that and increase in the survival of one life stage can overcome reduced survival in another life stage. Also, the ODFW habitat model predicts that varying marine survivals result in use of varying amounts of freshwater habitats. The State of Oregon appears to have concluded from these results that improving and expanding Coho ESU freshwater habitats can improve freshwater survivals enough to overcome periods of low marine survivals. An opposing hypothesis is that conditions in the California Current (food supplies and predators) are limiting Coho ESU productivities during periods of low marine survivals and that increasing freshwater habitat quality and quantity cannot overcome the marine bottleneck. How the Coho ESU will actually respond to various combinations of these limiting factors creates uncertainty regarding the goal of doubling Coho ESU populations during an extended period of unfavorable marine conditions. This does not mean that the IMST believes that freshwater habitat is irrelevant. High productivity during moderate to good ocean years can provide important societal benefits and may provide a buffer against poor survival when ocean conditions are unfavorable. However, the success of freshwater recovery actions will be measured using fish numbers during periods of unfavorable ocean conditions. The inherent variability in the coho salmon life cycle (switching between spawning and recruitment dependency) may set the State up to fail on some of its goals.

From about 1975 to 1998 the northeast Pacific Ocean was warming (Kaczynski 1998, National Marine Fisheries Service 1998, Peterson et al. 2006). Major current changes began in 1976 (Bernal and McGowan 1981; Chelton et al. 1982; McLain 1984; Pearcy 1992; Barry et al. 1995; Graham 1995; Roemmich and McGowan 1995). The California Current slowed and weakened, stratification grew stronger and shallower, upwelling decreased, and nutrients for phytoplankton in the mixed photic zone decreased. As the northeast Pacific warmed, there were invertebrate species shifts northward (e.g., Barry et al. 1995; Hooff and Peterson 2006). Phytoplankton and zooplankton production in the California Current decreased as the waters warmed (Peterson et al. 2006). Marine birds and mammals were seriously affected and many marine fish and invertebrate species shifted their distributions northward (McGowan et al. 1998). Norton and Mason (2005) reported that log transformed sardine landings were closely related to accumulated sea surface temperature anomalies at La Jolla, California ($R^2 = 0.90$). They concluded that 40 to 50% of the variance in 39 other fish and invertebrate landings could be explained by physical variables in the California Current, primarily sea surface temperatures. The variability of the abundance of 29 species was correlated with the variability of abundance of sardines. Climate-scale changes in the fish and invertebrate assemblages occurred from 1930 to 2000 (Norton and Mason 2005). Zooplankton production in the California Current declined over 70% from 1975 to 1995 with similar declines in larval fish biomass (McGowan et al. 1998). Roemmich and McGowan (1995) calculated up to 80% reduction in zooplankton biomass in this period. Per classical ecological

theory (Odum 1959), a 70% reduction in zooplankton results in a 70% decline in predators dependent upon them, such as juvenile coho salmon in the California Current. An 80% reduction would result in a food supply that could only support 20% of the prior predator biomass (such as coho salmon). And the preferred prey (large amphipods) of juvenile coho salmon declined 80% being replaced by smaller less preferred copepods (McGowan et al. 1998). The body size of coho salmon surviving this period reflected these food reductions. Average weight of troll-caught coho salmon was 8.2 pounds from 1970 to 1975 while average weight from 1976 to 1991 was only 6.2 pounds (dressed weight corrected to whole weight in September from Pacific Fisheries Management Council catch data records). Wells et al. (2006) showed that size variation of coho salmon stocks south of Alaska (Washington, Oregon, California) was synchronous and negatively correlated with warm ocean conditions and weak North Pacific high pressure during ocean residence.

The adverse marine conditions reduced coho salmon survivals. From 1965 to 1975, the average coho salmon marine survival was 6.7% (Nickelson, T. 1994 personal communication[2]). From 1976 to 1990 the average coho salmon marine survival was about 3.2% (Kaczynski 1998). Figure 3 of Amendment 13 and Welch et al. (2000) had the same basic estimates as all estimates came from OPIA hatchery release, catch and return data. From 1991 to 1997 the average survival was only about 1.2% (same sources). Applying classical food chain dynamics, a 70% reduction in the coho salmon food base should result in a marine survival of about 2% (from 6.7%). An 80% reduction should result in a marine survival of about 1.3%. The observed average marine survival from the 1991 to 1997 period was 1.2% (and was as low as 0.5%), which was close but less than predicted by the reduction in the food base alone. From 1999 to 2005, the average survival was about 2.6%, with a low of 0.5% in 2005 and a high of 4.5% in 2000 (Peterson et al. 2006). A change in the predators of juvenile coho salmon, such as a shift northward of Pacific mackerel that was also observed in this period, could easily account for the additional decline in coho salmon survival.

Applying the conservative calculation of the net reproductive rate (Birch 1948; Molles 2005) and using an average 3% freshwater survival as seen in 5 streams in western Oregon and Washington and 2,500 eggs per female the Oregon Coast average (1,250 female eggs; ODFW 1982), Kaczynski (1994) calculated that 2.7% smolt to adult marine survival was necessary to maintain the coho salmon population. This is a net reproductive rate of 1 (1 daughter replacing 1 female in the course of 1 generation; directly analogous to 2 recruits per spawner pair, a ratio of 1). Coho salmon survival was so poor in 1976, 1983, 1984, 1986, 1989, and 1991 to 1997 (smolt entry years) that populations probably declined naturally even without the added fishing mortalities that occurred. If the California Current gradually warms with global warming, conditions for marine survival may worsen in the future. California and Oregon coho salmon populations could contract as has been observed in other species.

What Freshwater Survival Rates Might Be Necessary To Overcome Low Marine Survival Rates?
Ignoring the marine bottleneck and assuming that increasing freshwater survival can overcome poor marine survival rates, how much of an increase in freshwater survival would be required? This can be calculated by applying the net reproductive rate.

[2] Nickelson, Tom., Oregon Department of Fish and Wildlife. Personal communication to V. Kaczynski in 1994.

The net reproductibe rate is 1 when marine survival is 2.7%, freshwater survival is 3% and the mean number of female eggs per female is 1,250. Given a marine survival rate of 1.1% in the Plan and a doubling of escapement (net reproductive rate equals 2), what freshwater survival rate would be required? 1,250 female eggs per female are probably too high when productivity in the California Current is low as was observed from 1976 to 1998. coho salmon weights in September dropped from 8.2 to 6.2 pounds from 1970 to 1975 versus 1976 to 1991. This was roughly a 24% weight drop. Egg numbers in coho salmon are proportional to length and weight (Shapovalov and Taft 1954). Would female egg numbers drop 24% to 950? Let us use 1,000 female eggs per female, as this appears reasonable for this example (and can be refined if needed). So:

$$R = 2 = (0.011)\ (X)\ (1{,}000)$$

$$11(X) = 2$$

X = 0.18 or 18% freshwater survival would be needed in one generation (with more good freshwater habitats in the future) to meet a goal of 101,000 spawners.

Eighteen percent freshwater survival for coho salmon has never been seen to the knowledge of the IMST. Achieving an average 18% freshwater survival for coho salmon in any generation during a very low marine survival period is highly improbable. The goal of doubling the escapement abundance at extremely low (1.1%) smolt to adult survival does not appear feasible.

A similar analysis can be done for a 371,000-escapement goal at 4.4% average marine survival. The average escapement during such a period is estimated by dividing 371,000 by this average escapement-- this is the net reproductive rate to use in the example to derive the needed boost in freshwater survival. Using the actual escapements in Table 3 of Appendix 2 for low survival years, the average escapement is 140,000. Thus the net reproductive rate needed is 2.65. So:

$$R = 2.65 = (0.044)\ (X)\ (1{,}250)$$

$$55(X) = 2.65$$

X = 0.048 or 4.8% average survival would be needed in one generation with more good freshwater habitats to meet a future goal of 140,000 adult coho salmon.

4.8% egg to smolt survival is within the range reported in the literature (Sandercock 1991). Achieving this average for coho salmon during a low or moderate marine survival period is a very ambitious goal. Achieving the 371,000-escapement goal might be possible over time as the net reproductive rate should be about 1.8 (growing) assuming just 3% freshwater survival.

With the data available at this time, we cannot evaluate the freshwater survivals needed to meet the 10.3% and 15% marine survival escapements. Have these survival levels been seen since 1970? If these survival levels were estimated before 1970, then it would be appropriate for Appendix 2 to discuss the reliability of the estimates.

Table 3 in Appendix 2 exhibits great year-to-year variability in Coho ESU abundance and some decade-scale trends in observed returns (survivals). These are important observations. Year-to-year changes in the freshwater environments of the Coho ESU likely cannot explain the variability and trends. This variation is better explained by year-to-year changes in the California Current (Kaczynski 1998). This reinforces the hypothesis that the marine environment is controlling productivity of the Coho ESU in poor marine survival years. Appendix 2 should address whether any of the total escapements in Table 3 reflect the present productivity potential

of the freshwater habitat for the Coho ESU. It is doubtful that improved changes in the freshwater environment can significantly improve productivity of the Coho ESU in unfavorable ocean years. The lake populations are anomalous in their returns.

Clearly, the marine environment appears to be controlling Coho ESU productivity during low survival periods. This is not to say that the freshwater environment is unimportant. Without it, the Coho ESU cannot persist. During moderate to highly productive ocean years, high Coho ESU productivity can result and produce substantial coho salmon returns. Improvements in riparian areas and stream conditions can benefit water quality and other species. It is likely that riparian and freshwater habitat improvements, increased the Coho ESU freshwater survivals, and larger populations during moderate to good ocean survival periods might make the Coho ESU more resilient going into a poor ocean survival period (e.g., Nickelson and Lawson 1998).

APPENDIX B: Recommendation Background

The IMST creates several types of reports[3]. 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[4].

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 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.

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[3] 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.

[4] 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

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).

Jennifer Grace

From: Bronwen Wright [bronwen@pacrivers.org]
Sent: Friday, December 15, 2006 4:47 PM
To: PLAN Coho
Subject: PRC Comments on Oregon Coastal Coho Recovery Plan
Attachments: PolicyCommentsCohoRecov.pdf; ATTACHMENT A.pdf; ATTACHMENTB.pdf

Attached please find PRC's Comments on the Oregon Coastal Coho Recovery Plan, including two attachments. A hard copy will also be sent via first class mail.
Thank you,
Bronwen

--
Bronwen Wright
Policy Analyst
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bronwen@pacrivers.org

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15 December 2006

Oregon Fish and Wildlife Commission
c/o Kevin Goodson
Oregon Department of Fish and Wildlife
3406 Cherry Avenue, NE
Salem, OR 97303

Re: PRC Comments on Oregon Coastal Coho Recovery Plan

Dear ODFW and Members of the Fish and Wildlife Commission:

Please accept this letter in comment on Oregon's Coastal Coho Recovery Plan, now under consideration pursuant to the Native Fish Conservation Policy. These comments review science-based issues raised in a separate submission that we urge the Commission to consider seriously. We further address policy-related aspects of the recovery plan.

I. SUMMARY OF SCIENCE-RELATED ISSUES

With respect to the critical underlying scientific issues, we bring your attention to comments submitted under separate cover by expert aquatic ecologists Dr. Chris Frissell, Gary Carnefix, Jack Williams and Peter Moyle, "Comments on the Science Underlying Oregon's Proposed Coho Restoration Plan," 15 December 2006 (19 pp).

We encourage you to consider the key messages from these comments:

> The likely success of Oregon's Coastal Coho Recovery Plan is seriously jeopardized by the state's continued failure to recognize and address weaknesses in the Coastal Coho Status Assessment upon which the recovery plan is based.

> The flaws in the underlying Status Assessment have translated into the Recovery Plan's faulty assumptions that: (1) existing freshwater habitat conditions are good enough to keep coho from going extinct, (2) existing regulatory standards are adequate, and (3) the restoration and improvement of freshwater habitat conditions is not a matter of great urgency.

> A key unsupported scientific assumption concerns the ability of coho to survive and rebound from adverse conditions at low population numbers through rapid dispersal and recolonization. In fact, the population model that Oregon relies on ignores and is inconsistent with available, real-world observations about the true extent and persistence of local coho extinctions.

> Oregon's recovery plan fails to recognize the importance of conserving local breeding populations (e.g. the small stream or reach level), a problem that also pervades the current

federal approach to salmon conservation, which emphasizes larger aggregations of populations, or "ESUs."

> Oregon's recovery plan is also colored by the unsupported and unrealistic assumption that future environmental conditions never will get any worse than those seen in recent decades. Given global climate change trends and new information about ocean conditions, such as evidence of "dead zones," this assumption is unjustified. A full examination of likely future conditions may indicate that Oregon coastal coho will need more high-quality habitat than is available to them in order to get through future bad episodes.

> The Recovery Plan fails to recognize the critical need for an assessment of freshwater habitat condition and trend. Instead, the plan relies on the unfounded premise that because present-day land use practices improve over historical ones, habitat must be improving. This premise fails to account for the persistent legacy of past practices, of which roads are a prime example.

> The Recovery Plan sets unrealistic expectations that the proposed monitoring will provide information adequate for managers to detect changes in coho population status and trend, and to adjust policies accordingly. There is no basis to find that the benefits of Oregon's proposed incremental management changes will be discernible from biological monitoring without long periods of potentially irreversible harm, with progressive loss of habitat, population diversity, and productive capacity. The scientific literature supports a more cautious approach.

> The quantitative targets in the Plan, including the poor ocean condition "doubling" goal and the spatial resolution of the Plan's spatial distribution criterion, may be inadequate and/or in conflict with what we know about the functioning and scale of local population and habitat dynamics.

II. POLICY COMMMENTS

A. The Recovery Plan is not Sufficiently Specific about how Proposed Recovery Actions will Achieve Plan Goals, and about how Progress Towards Meeting Goals will be Assessed.

The recovery plan in its current form does not clearly describe a road map to recovery. We note that the NFCP requires this recovery plan to identify and describe strategies and actions that address limiting factors. *See e.g.* OAR 635-007-0502 and -0505(5)(e). Although the plan references current regulatory programs, proposes more focused targeting of resources, and proposes voluntary programs and initiatives to secure increased and/or new funding, the plan is short on details about how certain key measures actually will address limiting factors.

For example, the Private Lands Initiative will be a GRNRO-led multi-agency program described as a, "powerful means of increasing the level of investment in effective voluntary habitat-improvement work on private lands in areas where the greatest benefit to coho salmon is likely to be achieved." Plan at 6. But it is unknown 1) whether the HIP/HAP/CWHIP areas are valid, as work has yet do be done on validation, and 2) when needed actions can be accomplished by voluntary means and on what timeline.

B. Existing and Proposed Policies Applicable to Management of Nonfederal Forestlands do not Provide Adequate Certainty for Recovery of Oregon Coastal Coho and Freshwater Habitat

Pacific Rivers Council has been consistently critical of Oregon's Forest Practices Rules over the last eight years. We continue to believe it is a mistake for Oregon to set regulatory standards that are not demonstrably adequate to protect aquatic species and water quality at levels that prevent violations of the federal Endangered Species Act and the Clean Water Act. In our view, the ODF and industry desire for "regulatory certainty" (e.g. Plan Appendix 3, last page of ODF Private Forests Section) cannot be met unless federal sufficiency is squarely on the table.

We have opined on the deficiencies in Oregon's forest practices rules numerous times in various state and federal forums for nearly a decade. (A partial list of testimony and documents appears as Attachment A to this letter). PRC finds that the patent inadequacy of Oregon's Forest Practices Rules undermines the state's unfounded assumption that current habitat levels and trajectories are consistent with avoidance of coho extinction. A comprehensive review of issues of concern are included in July 2005, comments on Oregon's Final Coho Assessment, which comments are appended in their entirety as Attachment B.

In sum, PRC contends that:

> Riparian protection is inadequate with respect to buffer size and vegetation removal limitations, particularly on small fishbearing streams where 20-foot no cut buffers meet basal area minimums, and on nonfishbearing streams where buffers are not required. These shortcomings are particularly important for coho salmon. We bring to your attention the recent publication based on Oregon coastal streams:

> > Wigington, P.J. Jr., JL Ebersole, ME Colvin, SG Leibowitz, B. Miller, B Hanses, HR Lavigne, D. White, JP Baker, MR Church, MA Cairns, and JE Compton. *Coho Salmon Dependence on Intermittent Streams,* Fron Ecol Environ 2006 ; 4(10):513-518.

> High risk sites that have the potential to deliver to streams should be targeted for vegetation retention.

> The actual magnitude of regulatory improvements to forest practices over the last decade has been minimal, and there is no rational basis to conclude that they are adequate to remove actual on-the-ground and in-the-stream threats to coho.

> Significant changes to the regulatory structure have actually weakened state oversight of private logging. State Forester approval of harvest plans has been eliminated via HB3264 in the state's attempt to evade federal ESA Section 9 take enforcement, gutting the state's ability to exercise effective oversight of logging through the approval and conditioning of written plans.

> Wet-weather hauling rules have been implemented, but the extent to which these will reduce sedimentation to streams is unknown.

> State Forester authority to direct minimal tree-retention in debris flow tracks is not likely to provide significant conservation benefit.[1]
> Over the last decade, although EPA and NOAA Fisheries have attempted to resolve technical issues and advise proposed changes to forest practices, both agencies have repeatedly declined to sign off on the sufficiency of the current program to meet either water quality standards or to prevent unacceptable take of coho salmon.

The effectiveness of current practices to control sediment-related water quality impacts is further called into question by a recent publication based on research in Washington State.

> Rashin, Edward B., Casey J. Clishe, Andrew T. Loch, and Johanna M. Bell. *Effectiveness of Timber Harvest Practices for Controlling Sediment Related Water Quality Impacts,* Journal of the American Water Resources Association, pp. 1307-1327 (October 2006).

This research finds that the sediment and geomorphic effects of clearcut logging on unbuffered nonfishbearing streams were significant and inconsistent with water quality standards. Both ground-based and cable yarding on clearcut units without stream buffers leads to chronic sediment delivery, extensive streambed siltation, and direct physical disturbance of the streambed and banks, and clearcutting leads to longer-term sediment effects. *Id.* at 1315. The paper also indicates that BMPs which allow logging within steep inner valley slopes, selective logging of buffers in areas with a high density of unbuffered tributaries, and yarding in buffers do not protect water quality. *Id.* at 1314. The paper validates the ability of stream buffers that exclude most ground disturbance to prevent 95% of sediment delivery to streams from erosion that occurs outside a 10 meter (33 foot) buffer, and validates the need for buffers on nonfishbearing streams – which Washington has partially accomplished. *Id.* at 1324.

Importantly, the paper concludes, "to be consistent with the beneficial use provisions of water quality standards, forestry BMPs should recognize the intrinsic aquatic resource values of headwater streams, in addition to their influence on downstream waters." *Id.* at 1327.

PRC urges the state to include as part of its recovery plan new regulatory measures that attach increased riparian vegetation retention requirements to high intrinsic potential areas and other priority areas for coho salmon, perhaps as part of the resource site protection program already included in the Forest Practices Act. We further urge the ODFW to consult closely with ODF and DEQ on the development of nonregulatory measures, such as wood placement, that are being designed to link to tradeoffs with regulatory requirements, and in the design of "restoration thinning" projects in the near stream area.

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[1] Discretionary retention of 2 trees per acre at some tributary junctions will not significantly change the ecological impacts of debris flows to the benefit of fish and will allow continued resource degradation that cannot be adequately mitigated by making smell debris-flow streams a monitoring priority. See e.g. NMFS and AFS Testimony on HB2163, April, 2001 Before the Senate Committee on Natural Resources, Agriculture, Salmon, and Water.

C. Water Quality and Private Agricultural Lands: Current Rules Are Inadequate and Lack Specificity

The state concluded in its assessment that modest improvement in riparian vegetation is likely to accrue on agricultural lands under current rules, acknowledging that considerable uncertainty exists regarding specificity of improvement. We find that the Agricultural Water Quality Management Program in Oregon in conjunction with DEQ technical assistance and incentives for voluntary action does not comprise an adequate salmon conservation program for agricultural lands.

Over the last decade, Oregon has made significant progress in recognizing and addressing the water quality and salmon habitat impacts of agricultural land use, and all 39 major Oregon watersheds now have Agricultural Water Quality Management Area Plans and implementing rules. PRC recognizes that these plans and rules represent hours of community involvement, and a major advance in public understanding and commitment to bringing agricultural practices in line with the needs of aquatic ecosystems. However, we also have significant concerns about the extent to which the program is capable of preventing continued harm to coho salmon and maintenance of degraded habitat conditions.

1. Rules are Difficult or Impossible to Enforce due to Excessively Vague and/or Subjective Compliance Criteria.

A cursory review of a few of the basin rules for agricultural water quality management reveals that despite the intent of these rules to be "enforceable," the basin rules' descriptions of how compliant and noncompliant conditions shall be determined are extremely vague and overly dependent on subjective judgments, and are undermined by open-ended exemptions.

For example, subjective judgment is required to interpret vague criteria such as those in the Umpqua, where "[m]inimal breaks in shade vegetation for essential management activities are considered appropriate." What is a "minimal" break? What is an "essential" management activity? On the Mid-Coast, agricultural activities "must allow for the establishment and development of riparian vegetation consistent with site capability" and to "provide" riparian functions. However it is not clear what "consistent with site capability" means, or what level of shade, streambank stability, or sediment/nutrient filtration is expected. OAR 603-095-2240(2)(a).

Another example of standardless standards is provided by the North Coast rule on road-related erosion. While we support the intent of the rule in addressing sediment delivery from roads, the rule is not adequate to prevent harmful impacts because it merely requires road design and maintenance to "limit contributing sediment to waters of the state." OAR 603-095-0840 (5)(b). Without further specificity on the "limit" intended, this rule appears virtually meaningless. We note that the Mid-Coast rules are far more informative about erosion in general, and that they describe relatively specific conditions representing unacceptable erosion, including the appearance of sheet erosion and visible active gullies. See OAR 603-095-22640(5).

Some exemptions are too open-ended. For example, livestock watering and crossing at streams is limited "to the amount of time necessary" in the North Coast, and all "accepted water dependent agricultural uses" are allowed so long as they "minimize impacts on stream stability" in the Coos/Coquille. In the Mid-Coast, the basin rule adds no guidance at all: all access for livestock is allowed, unless it violates the rule requiring compliance with the provisions of the operative statute. But the statute simply states a general prohibition on "pollution" and "discharges" that reduce quality below standards.

2. Agricultural Water Quality Management Rules Don't Protect All Streams Affecting Coho Salmon, or all Streams to Which the Clean Water Act Applies

It is not clear that these rules protect all streams to which water quality standards technically apply, making them an inadequate compliance mechanism for water quality standards. For example, the Umpqua rules describe "unacceptable condition" of riparian vegetation as a problem only "along a perennial stream." In Curry County, riparian vegetation conditions that provide bank stability and shade are not required on "[s]treams that do not support native trout and are inaccessible to anadromous fish because of barriers at their junction with the Pacific Ocean."

We again refer to the conclusion of the recent paper by Rashin et. al. which notes that the Clean Water Act recognizes the intrinsic aquatic resource values of headwater streams. (Rashin et. al. 2006 at 1326). So should Oregon's BMPs for all land uses.

3. Management Standards Focus on too Narrow a Definition of the Riparian or "Near Stream Management Area"

The agricultural rules pertain only to vegetative conditions within the "near stream management area," which is defined as 25 feet from a perennial stream (e.g. OAR 603-095-0010(27)) -- an area which does not come close to capturing the area within which land use practices influence stream systems. This definition further excludes the nonperennial stream network from vegetation standards completely, despite the close ecological connection between upstream and downstream reaches. This narrow buffer is reduced further by defining the stream channel as ending at the "streambank" or ordinary high-water mark, rather than at the end of the channel migration zone which would be ecologically appropriate.

A wealth of literature validates our concern over this narrow definition of the near-stream management area and its inherent inadequacy to mitigate for the adverse impacts from large-scale agricultural management on aquatic ecosystems. A 25-foot buffer is potentially capable of significant benefit for bank stability and partial benefit for sediment/nutrient filtration and shade, but it is wholly inadequate to mitigate for changes in the hydrologic regimes and to provide adequate riparian large wood sources.

4. Some Standards Simply Set Too Low a Bar.

For example, numerous basin rules imply that stream systems on agricultural lands can't be expected to meet condition targets after large storm events, which are more intense than a 25-

year storm event. We believe that Oregon's expectations for resilience from natural disturbances on managed agricultural lands are too low to be consistent with healthy conditions for coho and other aquatic species.

The agricultural rules do not make land managers responsible for adverse conditions that are revealed after large storms, i.e. greater than a 25-year event. This approach does not recognize that watershed resilience is an excellent indicator of successful watershed restoration. It is possible to recognize the pulses of sediment and the potentially extreme geomorphic changes that naturally accompany storms without laying undue blame or pointing fingers at managers, but it is also possible to assess the extent to which conservation strategies are inadequate to protect ecosystems functions by assessing the impacts of large storm events.

We suggest that management measures applicable to agricultural lands should be designed such that it is possible to describe some reasonable expectations that would apply even after larger storm events, e.g. 100-year storms.

D. Changes in Federal Land Management Could Undermine Effectiveness of Aquatic Conservation Strategy on BLM and Forest Service Lands; Funding and Leadership for Roads Restoration a Key Concern

The most recent draft of the recovery plan correctly recognizes that federal lands management is a cornerstone of coho recovery, despite the fact that federally managed lands are only 20% of currently occupied habitat. This is true both because of the extent to which federal lands currently serve as refugia for salmon displaced from otherwise more attractive lowland habitats, and because of the influence of headwater streams on downstream reaches, specifically the important role headwater streams play for coho. (Wigington et. al. 2006).

The good news is that initial monitoring demonstrates that watershed conditions are improving overall within the range of the NWFP; the bad news is that the signal is weak or nonexistent at the watershed level. PRC suggests that the extent to which the watershed restoration goals of the plan are being met through adequate federal leadership and funding should be addressed in Oregon's recovery planning effort. (*See e.g.* Reeves, G.H., J.E. Williams, K.M. Burnett, and K. Gallo. 2006. The Aquatic Conservation Strategy of the Northwest Forest Plan. Conservation Biology 20:319-329.).

We further note, with alarm, that the BLM is in the process of revising their land use plans for all of the public lands in western Oregon. Protection of smaller stream systems was a critical component of the ACS, but the current draft EIS for the BLM's land use changes analyzes three action alternatives, two of which would "apply new criteria for designating the width of riparian management areas" and would likely result in much less riparian zone protection that is required under current BLM plans pursuant to the Northwest Forest Plan. In fact, all 3 action alternatives being considered by the BLM would greatly diminish the protection for these streams. This appears to be new information that is not completely considered in Oregon's draft plan.

The NWFP ACS recognizes that the most important components of watershed restoration include "control and restoration of road-related runoff and sediment production," and that "[w]atershed restoration is designed to address past disturbances by treating roads

(decommissioning, upgrading, modifying drainage, etc.)." One of the ACS's nine objectives is to "maintain and restore the sediment regime under which aquatic ecosystems evolved,"[2] an objective that can only be accomplished if federal land managers make road restoration a priority; maintain not only roads used for timber haul, but the entire road system; and monitor roads after work is completed to ensure that adverse effects are fully minimized.

Unfortunately, although this work has progressed in some Oregon forests and BLM districts, only a fraction of the road restoration work identified to date has been accomplished. For example, in the Five Rivers watershed of the Alsea Basin in Oregon, the Forest Service and partners have completed only about one-third of the projects detailed in the landscape management plan for the area, and other watersheds in the Alsea have received far less attention; and a projected $14.4 M are still needed for high priority work in the Alsea Basin.[3]

It is encouraging that roads impacts are the focus of much of the watershed restoration work that is being accomplished. During 2003-2005, Congressional Earmark and other funding was available for fish passage restoration at 90 road-stream crossings in Oregon and Washington, restoring 159 miles of habitat.[4] In the Pacific Northwest Region (6) of the Forest Service, approximately 60% of available funds for restoration is being spent on roads.[5] However, 60% of a small and shrinking pie is not a big slice.

It is important to footnote this discussion with the observation that PRC staff field assessments of projects completed in recent years indicate that even where substantial investment has been made by federal agencies under various authorities, design and execution of projects are commonly inadequate to mitigate the many important road impacts.[6] This outcome seems to reflect both limited expertise in design and implementation of projects, and an institutional bias toward investing in practices that improve road surfaces for traffic or improve streams crossing for fish passage, while neglecting obvious opportunities to decouple road drainage from the stream network and reduce failure risk at stream crossings and other hazard sites. Hence from a watershed resource point of view, a large portion of the reported road treatments can be considered ecologically ineffective. Besides problems of professional capacity, implementation failure reflects a lack of clear objectives and performance standards in current policy governing road management.

PRC is currently evaluating Oregon's roads program and will share our review once it is complete.

III. CONCLUSION

Oregon's draft plan is a step in the right direction because it calls for restoration of coho populations and sets out specific measurable criteria that must be achieved. However, the actions set forth to meet these goals are inadequate. The coho deserve more. The draft coho plan

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[2] Northwest Forest Plan Record of Decision at B-11.

[3] Bahls, Peter. Alsea Basin Case Study, April 2004 (on file with Pacific Rivers Council).

[4] USDA-FS, "Restoring Fish Passage and Road-Stream Crossings: 2005 Accomplishment Report," (2005).

[5] David Heller, Regional 6 Fisheries Director, Personal Communication, 9/10/2006.

[6] PRC, Photo Reconnaissance of Roads Restoration in the Biscuit Burn Area, Draft Report, 2006. http://www.pacrivers.org/DRAFT_Biscuit_photo_summary.pdf

suffers from a serious flaw that results in an underestimation of the need for more specific, immediate actions to conserve and restore the coho. The claim that Oregon's current land use regulatory framework will protect coho populations and their habitat from further decline and degradation is not supported by the best available scientific data. This claim is premature and places the risk of error on imperiled coho populations. Certainly, the state and private landowners have engaged in a large number of conservation and restoration actions since the implementation of the Oregon Plan. However, it is critical that the state demonstrate the effectiveness of these measures on the ground. Coho are not out of the woods yet.

Respectfully submitted,

Mary Scurlock
Senior Policy Analyst

cc: Mike Carrier, Governor's Natural Resources Office

ATTACHMENT A
PRC COMMENTS REGARDING OREGON FOREST PRACTICES

1. PRC Letter to Board of Forestry (April 27, 2006) (regarding roads performance measure) (2 pp);
2. PRC Letter to Board of Forestry (April 27, 2006) (regarding private forestlands expectations and Measure 37) (3 pp);
3. PRC Testimony to Board of Forestry (April 17, 2006)(regarding stream protection rules proposal) (10 pp);
4. 14 Conservation groups including PRC Letter to Board of Forestry (August 8, 2005) regarding 2006 Board of Forestry Priorities (2 pp)
5. PRC Testimony to the Environmental Quality Commission (February 6, 2004) (11 pp);
6. PRC Testimony to Board of Forestry (October 24, 2003) (regarding a statewide and non-regulatory measure, a rule change pertaining to western Oregon, three nonregulatory measures for western Oregon, and two rule changes pertaining the Eastern Oregon) (5 pp)
7. PRC Letter to Governor Kulongoski (September 23. 2003) (regarding, inter alia, linking rules with ESA standards)
8. PRC Testimony to Board of Forestry (September 3, 2003) (regarding green trees and snags, and extension of the RMA) (10 pp)
9. PRC Testimony to Board of Forestry (June 4, 2003) (regarding industry representatives' rationalization for backing away from certain FPAC recommendations) (3 pp)
10. PRC Testimony before the Oregon State Senate Rules Committee (May 13, 2003) regarding HB 3264 (10 pp)
11. PRC Letter to State Senators (May 8, 2003) regarding HB 3264 (6 pp)
12. PRC short letter to Senator Kate Brown (5/3/03) regarding HB 3264 (1 p)
13. PRC Letter to Senate Agricultural and Natural Resources Committee (May 1, 2003)(regarding request to oppose HB 3264)
14. PRC Letter to Members of the House of Representatives (April 17, 2003) regarding request to oppose HB 3264 (2 pp)
15. PRC Letter to House Agricultural and Natural Resources Committee (April 8, 2003) regarding request to oppose HB 3264 (6 pp)
16. PRC Letter to Board of Forestry (March 24, 2003) (regarding prior approval rules and high landslide hazard logging) (6 pp)
17. PRC Letter to Board of Forestry (January 24, 2003) regarding temporary rule to remove the requirement for written plans for logging on high-risk sites
18. PRC Testimony to Board of Forestry (January 9, 2002) regarding inadequacy of existing rules and changes based on FPAC majority recommendations (3 pp)
19. PRC Letter to DEQ and ODF staff Regarding Stream Temperature Sufficiency Analysis (March 7, 2001) (6 pp);
20. PRC Letter to EQC and Board of Forestry (December 10, 2000)(regarding statewide forestry rules sufficiency analysis for stream temperature) (6 pp)
21. PRC Testimony to Board of Forestry (July 28, 2000) regarding legal deficiency of FPAC recommendations and request for compliance with ESA and state water quality standards (1 pp)

22. PRC and Audubon Society of Portland letter explaining rationale for declination to support FPAC recommendation (July 26, 2000) (7 pp)
23. PRC letter to FPAC (December 15, 1999) regarding IMST satisfaction package (1 pp)
24. PRC letter to EPA, NMFS, and FWS (July 13, 1999) regarding requested involvement in FPAC (2 pp)
25. PRC, "Preventing Salmon Extinction: Forest Practices Guidelines," (June 16, 1999) (Management Measures to Prevent Private Forestry Practices from Impeding the Recovery of Native Coastal Anadromous Salmonids in Washington, Oregon and California) (44 pp).

ATTACHMENT B

PACIFIC RIVERS COUNCIL

protect the best, restore the rest

July 28, 2005

Chief
NOAA – National Marine Fisheries Service
Protected Resources Division
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232
Email: FinalCohoAssessment.nwr@noaa.gov
Fax: 503-230-5441

Re: Oregon's Final Coastal Coho Assessment

COMMENTS OF PACIFIC RIVERS COUNCIL

I. SUMMARY

A. Viability Assessment

Reliance by NOAA Fisheries on Oregon's viability model as the basis for a no-list decision is an invitation to controversy and litigation.

Oregon's viability assessment is biased toward data sets certain spawning reaches where redd counts were conducted multiple times, resulting in data that fail to account for the extent of local extinctions. Reaches with deteriorating water quality or lack of fish or redds were dropped from the protocol. Oregon is essentially counting strong coho populations, and making conclusions about habitat adequacy based on the productivity of habitat that comprises but a fraction of the habitat that historically supported coho. The true measure of robust populations and their resilience is their ability to re-populate vacated habitat, not solely the increase in numbers within surviving populations. It is in fact just this process of local and unremitting attrition of range that jeopardizes the species. This is a serious, major oversight in the state's analysis. Although Oregon's data show that in some streams where coho remain, they can bounce back when ocean conditions improve, the state's analysis fails to demonstrate any such recovery in streams where coho once existed but do not today--a central theme of the primary data presented in Pacific Rivers Council's original coastwide petition for listing over ten years ago.

Oregon's conclusion that coho are viable is based on the assumptions that genetic fitness of the overall population has not been compromised since the 1990s population crash and that future freshwater and marine habitat conditions cannot get any worse. However, there is ample reason to believe that both of these assumptions are incorrect. First, the genetic fitness of the surviving population is largely unknown, but may have been greatly compromised as local populations with unique life histories have gone extinct as part of the overall population decline. Second, the future condition of freshwater and marine habitat is largely unknown but appears to be headed for the worse given current regulatory protections, population growth, and development trends.

B. Efficacy of Conservation Efforts

The assessment lacks a sound basis for its contention that habitat deterioration has stopped due to current conservation efforts. As the IMST points out in its comments (at p. 30), ODFW's 2005 monitoring report shows no consistent trends in habitat condition over the past ten years.

Nonfederal forestlands are of particular significance to the Oregon Coast ESU. The regulatory standards applicable to forest practices at the time coho were previously listed have not significantly changed since, and NOAA has repeatedly found that Oregon's Forest Practices Rules inadequate to prevent threats to coho from logging-associated freshwater habitat degradation before and since the prior listing. Barring significant changes – which do not appear at all likely – the rules are not rendered more effective by virtue of the state's unfounded declaration that coho are viable. This kind of circular logic to preserve the status quo cannot credibly be relied upon by NOAA.

In sum, Oregon's viability assessment and evaluation of state conservation efforts does not provide NOAA Fisheries with an adequate basis to find that coho salmon do not warrant listing. It is only when a state conservation plan actually removes the threats to a species through implementation of its provisions that the agency can legally determine the listing is not warranted. There is no rational basis upon which to base such a finding at this time.

II. RESPONSE TO SELECTED KEY CONCLUSIONS REGARDING ESU VIABILITY

Conclusion 1: "The Coastal coho ESU is viable, that is, coho populations generally demonstrate sufficient abundance, productivity, distribution and diversity to be sustained under the current and foreseeable range of environmental conditions. In fact, the ESU retains sufficient productivity and is supported by sufficient habitat to be sustainable through a future period of adverse ocean, drought and flood conditions similar to or somewhat more adverse than the most recent period of poor survival conditions (late 1980s and 1990s)."

This finding is not supported. PRC concurs with the IMST that the viability assessment:

- would be strengthened by a more balanced discussion of the strength and weaknesses of the methods used.
- relies on new assumptions about low abundance which have not been thoroughly reviewed scientifically nor tested.
- relies heavily on a single model in making its conclusion about risk of extinction or persistence relies on, and that a more rigorous approach would include all available scientific information.
- does not clearly describe the status of coastal coho and the conditions that affect the future trends for these fish and the habitats that support them.
- relies on a circular central argument that "the ESU is viable; hence the habitat must be adequate. Therefore, the habitat must be adequate because the ESU is viable." This leads to a false sense of security about delisting the coho ESU. A more accurate statement

would be: "the ESU might be viable, in spite of the fact that the habitat is quite marginal."
- includes conclusions that are not sufficiently supported, excludes some relevant information and is inattentive to the significance of critical uncertainties.

Furthermore, Oregon's claims regarding abundance are based upon an inaccurate reference point. The reference point for historical abundance does not start in the 1990s (as in ODFW's draft viability report) or in the 1950s (as in the final report). For example, graphing reconstructed estimates of historical abundance starting in the 1890s for the Alsea basin clearly shows that the recent abundance upswing is still far below historic numbers. Furthermore, the upswing is already dropping – last year's coastal coho return was less than half of the peak return of 2002. (Peter Bahls, Northwest Watershed Institute, July 25, 2005).

As an illustration, if the historical abundance graph were divided into colors for each unique life history or important subpopulations, we would likely see many smaller populations going extinct as the overall populations shrinks. After the 1990s drop to lowest numbers on record, the population as a whole is now probably at its lowest ever fitness for freshwater and marine survival. ODFW argues that because the coho made it through the downswing in the 1990s, they are resilient and will make it through the next one. But this outcome is not realistic if, as is likely, the overall fitness of the population has dropped.

A fundamental problem is that Oregon's viability assessment is biased toward data sets that reflect coho only in certain spawning reaches in which redd counts were conducted multiple times, which data fail to account for the extent of local extinctions. Reaches with deteriorating water quality or lack of fish or redds were dropped from the protocol. Oregon is essentially counting strong coho populations, and making conclusions about habitat adequacy based on the productivity of habitat that comprises but a fraction of the habitat that historically supported coho. The true measure of robust populations and their resilience is their ability to re-populate vacated habitat, not solely the increase in numbers within surviving populations. It is in fact just this process of local and unremitting attrition of range that jeopardizes the species. This is a serious, major oversight in the state's analysis. Although Oregon's data show that in some streams where coho remain, they can bounce back when ocean conditions improve, the state's analysis fails to demonstrate any such recovery in streams where coho once existed but do not today--a central theme and the primary data presented in Pacific Rivers Council's original petition for listing over ten years ago.

The PRC et al. petition of 20 August 1993 raised issues regarding the collapse of locally-adapted populations and local extinctions. For example, the petition suggested that:

> in-basin factors (for example, freshwater habitat) play a major role in triggering declines of individual spawning populations, and . . . [that] individual tributaries support relatively discrete populations that respond semi-independently to environmental change. This pattern is characteristic of coho populations elsewhere in their range, suggesting that declining abundance of the species is a cumulative effect of unremitting decline and extinction of thousands of local populations. (PRC et. al. Petition at p.7)

The petition also addressed local extinctions and the "stratified random" surveys of coho spawner abundance begun by ODFW in 1990. The petition asserted that:

> Since the random surveys were conducted in habitat thought to support coho salmon historically, the data indicate that the standard surveys and models used in coho management (Pearcy et al. 1992) greatly underestimate the extent of vacant habitat. This quite likely reflects a cumulative trend of local population extinctions. (PRC et. al. Petition at p. 9)

Conclusion 2: "During and after the recent period of poor marine survival, coho populations generally demonstrated adequate resiliency to resist continued downward population trends, and demonstrated the ability to rebound dramatically as marine survival conditions improved."

It is not a fair characterization to claim that coho populations "generally" demonstrated the aforementioned responses when 7 of the 21 independent coho populations failed at least one of the viability criteria.

Conclusion 3: "The mechanisms for this response are most likely a combination of inherently strong density-dependent recruitment coupled with sufficient high quality habitats to sustain productivity during periods of adverse environmental conditions. This reasoning does not imply that habitat conditions are optimum for the species nor that habitat is currently sufficient to achieve broader Oregon Plan recovery goals for the ESU."

The state has provided inadequate evidence to support a claim that coho have sufficient high quality habitats. The state used some data in its analysis of density-dependent recruitment; however the data do not support the claim that sufficient high quality habitats exist. This is merely an assumption. In fact, the habitat might be quite marginal, and the "demonstrated resiliency" may be explained by other mechanisms, which helped the coho survive periods of adverse environmental conditions, <u>despite the lack of sufficient high quality habitats.</u>

Conclusion 6: "The possibility that a number of adverse environmental conditions could converge and create a catastrophic threat to ESU viability is real. The convergence of the worst marine survival conditions in the last five decades, drought and extreme floods all occurred in the 1990s. Although the impacts were dramatic the ESU remained viable through this period and rebounded quickly once conditions moderated. Oregon concludes that the life cycle of the species, its population dynamics and structure, and its broad geographic distribution all provide protection and reduce the likelihood that catastrophic events or convergence of multiple adverse environmental conditions would result in this ESU not being viable in the foreseeable future."

As stated above, there is no rational basis is there to conclude that the ESU would survive worse conditions than we just came through. We reiterate the IMST's observation of the draft assessment – the final assessment is overly dismissive of the likelihood that the convergence of multiple factors might actually occur over the long term, i.e. it does not adequately account for

the potential consequences of multiple factors affecting coho. This problem is not overcome by the presentation of persistence modeling in the final assessment – as discussed elsewhere in these comments, the model does not accurately reflect population response due to inherent biases.

Conclusion 7: "The assessment that Oregon coastal coho are viable and likely to persist into the foreseeable future is predicated on the assumption that freshwater habitat and marine survival conditions in the future will generally correspond with environmental conditions and variability evident in the past several decades. If survival associated with marine or freshwater conditions trend moderately downward into the future, then the assessment should be revisited and adjusted accordingly."

Even if it were safe to assume that habitat conditions will remain approximately the same as over the past several decades (i.e. status quo), it is a highly questionable assumption that this level of habitat is adequate to support viability. As stated above, Oregon's definition of viability appears to be predicated on a constrained, post-disturbance view of coho occupation that accepts and permanently "locks in" local extinctions and the depopulation of formerly occupied and now converted or unproductive habitats.

Furthermore, the viability assessment's reliance upon the assumption that habitat conditions will not get worse over the next 100 years ignores the high likelihood that habitat conditions will degenerate for at least the following reasons:

- Global climate change may adversely affect coho habitat.
- Increased habitat degradation is likely to result from human population expansion and increased development. Riparian areas and floodplains that were in poor shape are being even further degraded by residential development, riprapped banks, and tree clearing. Also, population growth increases demands on water and transportation systems that will directly and indirectly impact habitat in the Coast Range. Implementation of Measure 37 will not help this situation, and already is leading to exemptions from existing land use and environmental regulations and a virtual moratorium on the implementation of stronger environmental policies.
- Logging of state forest lands of the North coast is likely to continue to accelerate. For over 60 years, the North coast has been in recovery and now is being opened up to logging. Proposals in the state legislature right now appear likely to lead to unsustainable levels of harvest.
- Oregon's forest practices rules do not adequately protect coho and their habitat (see below). The existing rules are inadequate for riparian and slope protection, and are far below Washington standards, which should be seen as a minimum floor for ESA sufficiency. Significant adverse impacts persist from the extensive forest roads system.
- The "legacy" wood currently in streams and delivered to streams form landslides is rotting out, so streams may be losing wood over time, even with minimal tree buffers.
- Protection of federal lands into the future is uncertain. The Aquatic Conservation Strategy protections have been seriously reduced and protection may be removed from BLM lands. There is still too little money for addressing erosion from thousands of miles of un-maintained road: there are 2000 miles of un-maintained roads in the Siuslaw National Forest alone.

- Habitat restoration is in the very early stages. For example, in the Alsea Basin of the Mid-Coast, no comprehensive fish passage assessment has been conducted. Furthermore, a limiting factor analysis has not been conducted in any of the 60 of 217 high priority 6th field watershed in the Alsea Basin (although 5 are underway). Most of the work identified in federal studies has not been completed yet. At least $14 million in anticipated needs for further assessment and restoration is needed.

Likewise, the viability assessment's assumption that marine survival conditions will not get worse over the next 100 years also is flawed for at least the following reasons:

- Climate change can cause further loss of ocean productivity.
- The ocean's ability to support salmon is being further impacted by net-pen salmon production, which is harvesting the lower end of the food chain in the Pacific Ocean.
- Increased pollution and oil spills due to increased population growth, and potential new developments, such as President Bush's proposal for offshore net pens, would further reduce ocean habitat.

Conclusion 8: "Diligence in ongoing conservation efforts, coupled with an ongoing commitment to monitoring and evaluation for adaptive management, will ensure that viability is maintained. Improving viability to better meet recovery goals and Oregon Plan objectives will likely require additional conservation efforts focused on key limiting factors. Oregon and NOAA Fisheries, in collaboration with stakeholders, are currently developing this expanded conservation plan. A draft is scheduled for completion by the end of 2005."

As stated above, we do not accept the viability finding, so do not agree that viability will be maintained by conservation efforts. Nor do we agree that viability will be attained by such efforts.

III. PRC RESPONSE TO SELECTED KEY CONCLUSIONS REGARDING THE EFFICACY OF OREGON'S CONSERVATION EFFORTS

Conclusion 1: "Historical land, water and fish management activities that were the major contributing factors for the legacy of coho declines have been stopped."

This vastly overstates the case for land and water impacts. Agriculture continues on diked and tidegated lowlands no longer suited or available as coho habitat. Water still is over-appropriated on many streams, posing a primary risk factor for certain populations. Intensive timber harvest continues at high levels on private lands, with adverse impacts to coho and their habitats, as reflected in the report's findings of pervasive problems with lack of stream complexity and water quality.

Conclusion 2: "State and federal laws established during the 1950s through 2004 (Splash damming eliminated, gill-netting eliminated in coastal rivers, federal Clean Water Act, federal Endangered Species Act, Oregon Forest Practices Law, Oregon Fill and Removal Law, PFMC Harvest Matrix Amendment 13, Native Fish Conservation Policy, Salmon and Parks

Initiative, etc) establish a far more protective management environment than existed previously."

It is true that law and policy have changed much since the 1950s. However, aside from harvest and hatchery changes, the legal and policy context has not changed significantly since coho salmon were listed in 1998. Of particular note are the Northwest Forest Plan, which was in place at the time, and the Oregon Forest Practices Act, which has not significantly changed for the better since the coho were listed – at which time they were found to be seriously lacking by NMFS (see below).

Improvement over historical practices does not automatically lead to a conclusion that practices are adequate to ensure the survival and recovery of coho. As discussed below with regard to forest practices, history belies the statement that Oregon possesses "a willingness and capacity to modify management programs." (Final Assessment, Part I at 36).

Conclusion 3: "Implementation of the Oregon Plan beginning in 1997 demonstrated a substantial effort by the state to expand and strengthen an already considerable programmatic conservation and restoration effort – designed to improve the status and prevent any future deterioration of this ESU's viability."

Oregon's efforts are exemplary. Whether they justify a no-list decision, however, depends on their adequacy to remove threats to the viability of coho salmon in the foreseeable future. There is ample evidence in the record of the original coho listing that baseline standards for forest practices and agricultural practices allow ongoing harm to coho and its habitat, and that water allocation policies have not been significantly improved to alleviate harm to coho where instream flows are a significant problem.

Conclusion 4: "Fishery harvest rates over the last decade have been maintained by management action at extremely (unprecedented) low levels compared to the prior four decades. Hatchery programs and impacts are at the lowest levels during the past four decades. Conservative regulation of fishery and hatchery impacts is required by state and federal policies that will continue to protect and strengthen future ESU viability.

We agree.

Conclusion 7: "Reduced adverse impacts from hatchery programs across the ESU in the last two decades may not have been fully reflected in populations that were most adversely affected by historical practices. Such positive expression of current management practices may occur in the next decade or so."

This may be true, but we cannot rely now on data that is not yet available.

Conclusion 8: "New regulatory and programmatic action by DEQ, ODA, and ODF has been implemented; this action should further improve water quality and habitat supporting the ESU."

The actual magnitude of regulatory improvements is minimal, and there is no rational basis to conclude that they are adequate to remove actual on-the-ground and in-the-stream threats to coho. We note that programmatic actions such as the development of TMDL goals or SB1010 Plan objectives alone do not demonstrably lead to management changes necessary to meet these targets, however laudable.

> **Negligible Beneficial Action has been Taken by the Oregon Department of Forestry While Significant Negative Regulatory Change Has Occurred -- Forestry Programs do not meet PECE Evaluation Criteria for Efficacy**

Positive regulatory change by ODF since 1994 has been minimal with regard to private forest lands, and significant changes to the regulatory structure have actually weakened state oversight of private logging. It is true that wet-weather hauling rules have been implemented, and that these should reduce by some unknown extent, sedimentation to streams. It is also true that legislation has been enacted authorizing rules that would allow State Forester direction of minimal tree-retention in debris flow tracks, but such rules would not provide significant conservation benefit[1], and in any case have not yet been implemented.

However, significant negative rules changes have occurred in that State Forester approval of harvest plans has been eliminated in the state's attempt to evade Section 9 take enforcement via HB3264, gutting the state's ability to exercise effective oversight of logging through the approval and conditioning of written plans.

The fact is that no on-the-ground improvements detectible by coho salmon have yet been demonstrated on private forest lands. Although ODF refers to "active" engagement with EPA and NOAA Fisheries "to resolve technical issues and advise proposed changes to forest practices" the assessment neglects to mention that both agencies have repeatedly declined to sign off on the sufficiency of the current program to meet either water quality standards or to prevent unacceptable take of coho salmon.

The patent inadequacy of Oregon's Forest Practices Rules undermines the state's unfounded assumption that current habitat levels and trajectories are consistent with avoidance of coho extinction.

> **History indicates that salmon- and water quality-sufficient forest practices reform intended as part of the Oregon Plan for Salmon and Watersheds since 1997 are unlikely ever to occur**

It is evident that there is a long history of discussion over the adequacy of the state's rules to protect the needs of salmon, including water temperature, associated with the listing of Oregon's coastal coho salmon. As part of the listing process, NMFS (NOAA Fisheries) assessed the

[1] In any case, discretionary retention of 2 trees per acre at some tributary junctions will not significantly change the ecological impacts of debris flows to the benefit of fish, and will allow continued resource degradation which cannot be adequately mitigated by making smell debris-flow streams a monitoring priority. See e.g. NMFS and AFS Testimony on HB2163, April, 2001 Before the Senate Committee on Natural Resources, Agriculture, Salmon, and Water.

inadequacy of existing regulatory mechanisms, as required under ESA, finding that Oregon's regulation of private forest practices was inadequate:

> The Oregon Forest Practices Act (OFPA), while modified in 1995 and improved over the previous OFPA, does not have implementing rules that adequately protect coho salmon habitat. In particular, the current OFPA does not provide adequate protection for the production and introduction of large woody debris (LWD) to medium, small and non-fish bearing streams. Small non-fish bearing streams are vitally important to the quality of downstream habitats. These streams carry water, sediment, nutrients, and LWD from upper portions of the watershed. The quality of downstream habitats is determined, in part, by the timing and amount of organic and inorganic materials provided by these small streams (Chamberlin *et al.* in Meehan, 1991). Given the existing depleted condition of most riparian forests on non-Federal lands, the time needed to attain mature forest conditions, the lack of adequate protection for non-riparian LWD sources in landslide-prone areas and small headwater streams (which account for about half the wood found naturally in stream channels) (Burnett and Reeves, 1997, *citing* Van Sickle and Gregory, 1990; McDade *et al.*, 1990; and McGreary, 1994), and current rotation schedules (approximately 50 years), there is a low probability that adequate LWD recruitment could be achieved under the current requirements of the OFPA. Also, the OFPA does not adequately consider and manage timber harvest and road construction on sensitive, unstable slopes subject to mass wasting, nor does it address cumulative effects.[2]

Seeking to avoid listing of Oregon coastal coho salmon, Oregon Governor John Kitzhaber developed the Oregon Coastal Salmon Restoration Initiative. In April 1997, a Memorandum of Agreement ("MOA") between Oregon and NMFS that "NMFS will work with Oregon and the Department of Forestry over the next six months to develop adjustments NMFS believes are required in Oregon forest practices to provide a high probability of protecting and restoring aquatic habitat on Oregon forest lands which are important for Oregon coastal coho." MOA, § 7(f)(1). The MOA further provided that "Oregon shall make every effort to ensure that the Board of Forestry, or the Legislature consider the proposals promptly, and make a decision on the proposed changes in a timely manner and shall make any necessary changes no later than June 1, 1999." MOA, § 7(f)(3). In May 1997, NMFS withdrew its proposal to list Oregon coast coho salmon as threatened, concluding that the species would not become endangered during a two-year time frame allowed for Oregon to adopt improved habitat measures. While NMFS expressly found that the current forest practice rules do not "adequately protect coho salmon habitat,"[3] it relied on Oregon's promise to adopt new rules that would provide such protection.[4]

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[2] 62 Fed. Reg. at 24,596.

[3] 62 Fed. Reg. at 24,607-08, at 24,596,

[4] "Under the April 1997 MOA between NMFS and the Governor of Oregon . . ., NMFS will propose to Oregon additional forest practices modifications necessary to provide adequate habitat conditions for coho. If these or other comparable protections are not adopted within 2 years, NMFS will act promptly to change the ESA status of this ESU to whatever extent may be warranted." Id. at 24,607-08.

In accordance with its agreement with Oregon, NMFS recommended changes to Oregon's regulation of forest practices in February 1998.[5] Specifically, NMFS recommended riparian buffers on all streams with buffers in the coast range of 150-200 feet on fish-use streams, 100-135 feet on perennial nonfish-use streams, and 50-100 feet on intermittent nonfish-use streams. NMFS also recommended prohibiting forest practices on landslide-prone locations with a high or medium potential for delivery to streams. With respect to cumulative effects, NMFS endorsed short-term "precautionary management - i.e., the application of conservative measures to avoid individually small effects that may add to an already adverse circumstance or cumulate over time and eventually reduce salmon survival. In the longer-term, cumulative effects should be addressed as part of effective watershed analysis . . . ."[6] Oregon did not implement NMFS' proposal.

After the coho listing, Governor Kitzhaber issued Executive Order No. 99-01 modifying the framework for implementing what had become known as the Oregon Plan for Salmon and Watersheds in light of the coho listing. The Executive Order reaffirmed the role of the Independent Multidisciplinary Science Team ("IMST"), which had been established by the Oregon Legislature to provide independent scientific oversight of the Oregon Plan for Salmon and Watersheds.[7] With respect to Oregon's forest practice rules, the IMST concluded that "current rules for riparian protection, large wood management, sedimentation, and fish passage are not adequate to reserve depressed stocks of wild salmonids."[8]

The Executive Order directed the Board of Forestry to "determine, with the assistance of an advisory committee, to what extent changes to forest practices are needed to meet state water quality standards and to protect and restore salmonids." More specifically, the Executive Order directed that: "the advisory committee will make recommendations to the Board at both site and watershed scales on threats to salmonid habitat relating to sediment, water temperature, freshwater habitat needs, roads and fish passage. Based on the advisory committee's recommendations and other scientific information, the Board will make every effort to make its determinations by June 1999."[9] The Board then convened the Forest Practices Advisory Committee on Salmon and Watersheds ("FPAC") to recommend changes in ODF's regulation of forest practices.

The FPAC committee made modest recommendations to improve some aspects of forest practices on private lands in Oregon, but these did not purport to stop the State Forester from authorizing logging operations that take coho or salmon under the ESA nor did it claim to fully address water quality standards. The FPAC's final report candidly admits that: "[t]he effort did not attempt to specifically address sufficiency for particular federal laws or regulations, such as the federal Endangered Species Act or Clean Water Act."[10]

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[5] NMFS, A Draft Proposal Concerning Oregon Forest Practices at 67 (Feb. 17, 1998).
[6] Id. at 64, 57 and 91.
[7] Oregon Senate Bill 924 (1997 Or. Laws, ch. 7); Executive Order No. 99-01, at 1(k).
[8] IMST, Recovery of Wild Salmonids in Western Oregon Forests: Oregon Forest Practices Rules & the Measures in the Oregon Plan for Salmon & Watersheds, Technical Report 1999-1, at 2 (1999).
[9] Executive Order No. 99-01, at 3(c).
[10] Report of the Ad Hoc FPAC on Salmon & Watersheds to the Oregon Board of Forestry at 2 (Aug. 2000).

> **The current stream protection rules are not demonstrably adequate to meet current water quality targets set as Load Allocations for shade, which targets are designed to meet water quality standards for temperature under the state's Total Maximum Daily Load program.**

A significant proportion of the streams known to be impaired in Oregon are on private forestlands. For example, in the Nehalem basin, about 57% of stream miles impaired for temperature are on private lands. On the Siletz, the proportion is 65% for temperature, 32% for sediment and 48% for habitat modification. In the Coquille Basin, 49% of temperature-impaired miles are on private forestlands and on the Coos it's up to 70%. (from DEQ data compiled during drafting of Sufficiency Analysis, March, 2002 and Mary Scurlock Personal Communication with Tom Rosetta, ODEQ).

Many effects from forest practices, such as sedimentation, large wood depletion, hydrologic change and decreases in stream shading, are cumulative within watersheds. The current Oregon forest practice regulations and State Forester approvals authorize logging operations that degrade water quality and salmon habitat. The state's own shade study and three federal agencies support the contention that the current stream protection rules do not provide adequate assurance that stream shade targets will be met.

As recently as February 2001, NMFS, FWS and EPA jointly concluded that: "The evidence is. . . overwhelming that forest practices on private lands in Oregon contribute to widespread stream temperature problems and degraded salmonid habitat conditions" and that a "substantial body of scientific literature demonstrat[es] that Oregon forest practices likely adversely affect water quality and threatened species of salmonids . . . ."[11]

These concerns have been specifically raised numerous times by EPA in its letters approving TMDL load allocations for shade, but because of the agency's limited authority to formally "approve" implementation plans, these concerns have been brushed aside by the designated management agency for forestry, the Oregon Department of Forestry. For example, in July 2001, with regard to Tillamook Bay, the agency stated "Available data demonstrate that forest management under the Oregon Forest Practices Act reduces shade significantly below the levels necessary to achieve the load allocations [for temperature.]" [12]

As a more recent example, EPA stated in August of 2003:

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[11] EPA, FWS, NMFS, 2001. Letter from Dan Opalski, Director, EPA Oregon Operations Office, Environmental Protection Agency; Kemper McMaster, State Supervisor, USFWS and Michael Tehan, Oregon Branch, Habitat Conservation Division, NMFS to Dick Pedersen, Manager, Watershed Management, Oregon Department of Environmental Quality and Ted Lorensen, Forest Practices Program Director, Department of Forestry f the State of Oregon (Feb. 28, 2001) (3 pages) (transmitting 28 pages of comments on the state's draft temperature sufficiency analysis entitled "Review of the December 2001 Draft Sufficiency Analysis: Stream Temperature")

[12] EPA, 2001 (a). Letter from Randall F. Smith, Director, Office of Water, Region 10, to Stephanie Hallock, Director, ODEQ, Re: Approval of Temperature and Bacteria TMDLs for the Tillamook Bay Watershed (July 31, 2001) (citing shade study findings that OFPA rules allow management that reduces shade significantly below the levels necessary to achieve load allocations and stating expectations that the Forest Practices Rules and BMPs will be revised and improved to meet TMDLs)

> The preponderance of monitoring, assessment, and research efforts demonstrates that Oregon's existing forest practice rules will not adequately protect water quality or recover fisheries. The December 2000 DEQ/Oregon Department of Forestry (ODF) Temperature Sufficiency Analysis found that there are water quality impairments due to forest management activities even with Forest Practice Act (FPA) rules and BMPs in place. An October 2002 DEQ/ODF Temperature Sufficiency Analysis indicates that for some medium and small streams, current riparian management area prescriptions for western Oregon may result in short-term temperature increases. In addition, data from the DEQ/ODF CWA Section 319 shade study demonstrates that harvest allowed under FPA in RMAs [riparian management areas] can significantly reduce shade below the levels necessary to achieve the North Coast Subbasins temperature TMDL load allocations.[13]

Moreover, these problems also have been repeatedly flagged during review of Oregon's Coastal Zone Management Program. In January 2003 NOAA Fisheries and the Environmental Protection Agency informed the lead Oregon agencies for coastal zone management (the Department of Land Conservation and Development and the Oregon Department of Environmental Quality) that Oregon's Forest Practice program still needs strengthening to attain water quality goals and meet CZMA requirements. This communication reiterated the deficiencies raised in the 1998 program review:

> These areas include protection of medium, small, and non-fish bearing streams, including intermittent streams; protection of areas at high risk for landslides; the ability of forest practices to address cumulative impacts of forestry activities; road density and maintenance, particularly so-called "legacy" roads; and the adequacy of stream buffers for the application of certain chemicals.

The January 10, 2003 comments specifically find that these concerns have not been fully addressed and that the state's current Forest Practices Act program will not attain water quality targets (TMDLs). The agencies recommended that basin specific rules be developed immediately to address water quality limited basins under the state's basin-specific rules provisions at OAR 629-635-0120, but this has not occurred.

We note that ODF has continued to avoid directly addressing the question of whether its rules are TMDL-adequate. The "sufficiency analysis" was not structured to evaluate the specific magnitude or type of rule change necessary to meet those objectives. Such an assessment would be possible using available models and a more carefully designed and implemented data collection program. The analysis presented thus far primarily serves only support the conclusion that the current rules are not adequate. However, One point of progress appear to be the ODEQ's request to ODF that the forest practices rules be more explicitly linked to TMDL

[13] EPA, 2003. Letter from Randall F. Smith, Director, Office of Water, Region 10, to Stephanie Hallock, Director, ODEQ, Re: Approval of Temperature and Bacteria TMDLs for the North Coast Subbasins (August 20, 2003) (reiterating hope that watershed specific practices will be created to ensure OFPA rules meet TMDL targets)

adequacy. A cursory analysis comparing the shade study data on post-harvest shade with the TMDL targets that have been set in numerous basins indicate they are not adequate. Further, the data underlying the sufficiency analysis also indicate the approximate magnitude of the improvement in FPA rules that may be needed to meet water quality standards. For example, ODF/ODEQ found that stream shading levels along small fish-bearing streams subjected to harvest under FPA rules were significantly lower than those along similar, but unharvested streams. The underlying data suggest that median basal area values for the riparian trees left along the harvested streams were more than 2.5 times the minimum allowed under current rules. This means that the small stream sites in the study showed significant reductions in shading (and presumably increases in stream temperature) even though they were harvested less aggressively than allowed by current rules. It also suggests that increasing the FPA vegetation retention requirement along these streams by a factor significantly more than 2.5 would be needed to protect small fish-bearing streams against significant shade reductions and, presumably, increases in stream temperatures.

In sum, as of July 2005, the Board of Forestry has not yet revised its forest practice regulations to fully protect listed coho salmon or meet water quality standards, nor have even the modest regulatory changes recommended by the FPAC committee been adopted. Since 1997, the most substantive rule change that has occurred is the rule governing wet-weather hauling. Although four minor rule changes made it part-way through the ORS 527.714 process, further work has been deferred pending information related to Measure 37. All progress to implement the legislative authorization for leave-trees along debris flow tracks on Type N streams has been deferred indefinitely. (*See e.g.* April 29, 2005 Board of Forestry Agenda Item 6, Attachment 5, page 2).

> **NOAA Must Rely on Acts, not Aspirations**

PRC reiterates NMFS comment that NMFS, EPA, and U.S. Fish and Wildlife Service (USFWS) have stated that current BMPs do not fully protect water quality or provide riparian functions important to water quality and fish. Oregon still does not adequately acknowledge this uncertainty, nor the fact that EQC adopted revised water quality standard for temperature in 2003 and that if the BMPs were not meeting all of the water quality standards before (as stated in the sufficiency analysis), it is unclear how they could they be meeting the new standards, which in some areas are more stringent.

The final Oregon assessment essentially dismisses the federal agencies' input by disputing its basis and stating that further information is needed from the agencies to support a rule change under Oregon Law. This argument appears to have devolved into an unproductive standoff, with Oregon digging in its heels to defend the status quo.

The ODF further argues that "It is a misrepresentation of the Sufficiency Analysis findings to say that it states that "BMPs were not meeting all of the water quality standards" by quoting actual langauge from the report. We note that the sufficiency analysis' actual data strongly support the finding that the BMPs are not adequate -- despite the ODF's successful attempt to water down the language of the final report's conclusions and the recommendations. It is significant that

earlier drafts of the sufficiency analysis – based on the same data – very clearly stated the following conclusions:

> Stream shade is consistently found to be reduced at FPA treated areas when compared to control areas. . . The data collected by ODF in 1999 demonstrates that FPA treatments do cause a measurable increase in pollutant loading from forestry, as a non-point source of pollution. System potential is not attained in this case. (Draft Sufficiency Analysis, April 2000, page 5).

> **IMST Consistency Should be the Floor for Stream Protection Rules**

The IMST's recommendations constitute a sufficient basis upon which to base minimum regulatory changes, which changes would make progress towards achieving the levels of protection deemed adequate by NMFS in its 1998 proposal. In order to be fully consistent with the Team's 1999 recommendations, the rules must provide equivalent riparian protection to all perennial streams.[14] The team found current Conifer Retention Targets inadequate, calling for more certainty that large trees will be retained through large tree retention and higher basal areas requirements:

> "During harvest, disproportionately removing the larger diameters from the RMA should not be allowed. The size class distribution and density of conifer-dominated riparian forest should eventually reflect that of an older forest (160 years and greater)." (IMST Report Addendum 1, 11/3/99 and IMST at 44-45).

In contrast, the current targets are loosely based on the goals to attain 140-year old forest characteristics halfway through the next rotation and to not include large-tree safeguard.

The team specifically recommended that "minimum retention on small and medium streams should be at least what is now required on large fish-bearing streams (IMST at 45) (i.e. 100 ft2/acre) The Team further also recommended that at least the same protection should be provide to nonfish bearing perennial streams as for those that bear fish. We note that even the large-stream retention targets allow harvest down to well under a third to a quarter of the conifer basal area that is characteristic of truly mature riparian forests.

Yet, even at their zenith several years ago, ODF proposals consistently fell short of IMST recommendations in at least the following ways:

> (1)They do not treat non-fish bearing streams the same as fish-bearing streams when determining buffer-width protection, nor do they provide a 50-foot buffer on a portion of the non-perennial network. (Recommendation 3, page 43.) Nonfish streams would not

[14] "Within existing RMAs, the width is adequate for recruitment of large wood but the density of large conifers is not, especially on small streams." (IMST at 32) (Note, however, that to extent that current widths do not include the entire floodplain, they are not adequate, as per IMST at 31).

receive commensurate protection and none of the non-perennial network receives any significant riparian protection under any rule change or voluntary measure currently being considered.
(2) There is no increased protection for 100-year floodplains and islands. (Recommendation 4). The languishing 50-year CMZ protection proposal (Rule Concept #5 in BOF parlance) would be voluntary and does not ensure that the full floodplain will be protected.
(3) There is no increased basal area and tree-retention requirements for medium and small streams regardless of fish presence. (Recommendation 5).
(4) There is no enhanced certainty of protection for core areas. (Recommendation 7).
(5) Trees are not retained on "high risk slopes" and in likely debris torrent tracks to increase the likelihood that large wood will be transported to streams when landslides and debris torrents occur. (Recommendation 13).
(6) There is no method proposed for evaluating the effectiveness of management practices on landslide-prone slopes (Recommendation 14).
(7) There is no stated goal of "emulation of the historic range and distribution of conditions at the landscape level." (Recommendation 1).

> **Management of Unstable Areas Should not Contribute to Alteration of Landslide Regime – Rate, Timing, and Content of Slide Materials are all Relevant**

PRC recommends that areas at high risk of shallow-rapid slides and which are likely to deliver to stream channels be designated as unsuitable for timber harvest.

Logging and roadbuilding on areas at high risk for both shallow-rapid and deep-seated landslides increases the frequency of slides and changes their natural timing and characteristics, causing significant degradation of aquatic ecosystems. Landslides degrade aquatic habitat by increasing sedimentation and changing stream structure, thereby disrupting and impairing essential behavioral patterns of native fishes, such as spawning, rearing, feeding, and sheltering. Injury and mortality of fish also are likely. Specifically, the adverse impacts of mismanagement on landslide-prone sites include:

- Direct kills of adult and juvenile salmon and trout from entrainment or entombment in landslide masses;
- Indirect fish kills from displacement by debris-charged flood waves into lateral areas off the main stream channel, where, isolated from mainstream habitats, fish die when floodwaters recede or when consumed by mammal or bird predators;
- Blockage of upstream habitat by landslide debris, preventing or reducing successful passage of adult salmon and trout to important spawning areas;
- Stream temperature increases beyond tolerance levels for salmon and trout from scour of standing riparian trees in debris flow tracks, reduction of canopy cover and widening of stream channels, all of which leads to excessive stream warming;
- Prolonged duration and magnitude of slide-related sediment pulses beyond levels under which native aquatic species evolved and which are inconsistent with their continued survival and recovery;

- Increased overall landslide rate to levels higher that those under which native aquatic species evolved and which are inconsistent with their continued survival and recovery.

Yet, ODF contends that current science does not support the benefits of leave areas on high risk sites to prevent harm from in-unit slides – despite a strong consensus in the scientific research that logging of unstable slopes dramatically increases the occurrence of landslides and that such logging changes the nature of in-stream effects of slides. Experts also agree that there is no available evidence to support the contention that partial logging of unstable slopes or state-of-the-art roadbuilding techniques will prevent the increased risk of failure and associated harm to aquatic ecosystems. Relevant risk include not only of increased incidence but of the changes causes by logging slide sites and the ensuing differences in stream impacts.

> **Threats from Roads on Nonfederal Forestlands are not Sufficiently Addressed**

Roads are well-known to have pervasive, multiple, and often overwhelming effects on freshwater ecosystems (Furniss et al. 1992, Trombulak and Frissell 2000, Gucinski et al. 2001). Roads have many physical and biological effects that can severely and permanently harm streams and their biota. The many mechanisms by which roads exact this harm are reviewed in Trombulak and Frissell (2000) and Gucinski et al. (2001). Roads are an important cause of accelerated landsliding on many slope types (Gucinksi et al. 2001, Montgomery 1994). However, across the range of types of forest lands in Oregon's Coastal Coho ESU, the more prevalent and critical cause of harm to streams is the diversion of runoff and acceleration of erosion by upland or riparian roads, and the subsequent transfer of that sediment via road drainage systems and its injection into surface waters at stream crossings (Hagans et al. 1986, Frissell 1992, Wemple et al 1996, Frissell et al. 1997). Such effects elevate sediment levels both chronically and episodically. Most existing forest roads were not built to standards designed to prevent these effects, and in fact complete prevention of these effects is impossible (Trombulak and Frissell 2000). Adverse effects can be reduced to varying degrees through careful road location, design, and execution (e.g., Madej et al. 2001, Weaver et al. 1994, Furniss et al. 1991). In most cases, substantial reduction of sediment generation and delivery from existing roads cannot be accomplished via simple generic application of "Best Management Practices (BMPs) (Espinosa et al. 1997, Trombulak and Frissell 2000), but only through considered evaluation of road locations and conditions, followed by substantial modification or obliteration of specific road segments based on their environmental harm balanced against specific management need (Switalski et al. 2004, Gucinski et al. 2001, Luce et al. 2001, Madej 2001, Wemple et al. 1996, Weaver et al. 1994).

Net road density (expressed in units such as miles of road per square mile of drainage area) has proven to be an effective indicator of the ecological impact of roads in watersheds, and has been shown in several studies to correspond approximately linearly to in-stream conditions and biological success. General observed relationships between road density and fish population and habitat status hold true regardless of variation among road segments in their condition, design, location, and presumed level of impact (Trombulak and Frissell 2000). For example, from the Federal Register Notice that listed bull trout as a threatened species [Federal Register: November 1, 1999 (Volume 64, Number 210)][Rules and Regulations][Page 58909-58933]:

> Bull trout were less likely to use highly roaded basins for spawning and rearing, and if present, were likely to be at lower population levels (Quigley and Arbelbide 1997). Quigley et al. (1996) demonstrated that when average road densities were between 0.4 to 1.1 km/km^2 (0.7 and 1.7 mi/mi^2) on USFS lands, the proportion of subwatersheds supporting ``strong" populations of key salmonids dropped substantially. Higher road densities were associated with further declines.

In additional published research, Baxter et al. (1999) showed that bull trout populations among a group of Montana streams showed the capacity for recovery (via increases in spawning population counts over time) only in streams draining watersheds with low road densities. Streams in areas of road density greater than about 2-3 mi/mi^2 showed little or no capacity for recovery even where other factors in the life cycle of the fish (e,g,, harvest, migration survival) had improved. This is clear and direct evidence of habitat limitation associated with forest practices in headwater areas, and it strongly supports the hypothesis that forest road density is a useful measure of habitat condition. *Failing to cap or reduce road densities to relatively low levels threatens salmonid populations with extinction and clearly curtails their ability to recover.*

Yet the Oregon Plan includes *no provisions to restrict future increases in road density, nor any that ensure that future road density will decrease to levels necessary to foster recovery.* Oregon appears to assume that the implementation of forest practices under current state standards will eliminate all effects of roads, but this assumption is unrealistic and indefensible. Even the most ideal practices (short of the ideal of not building a road in the first place) can only reduce the adverse effects (Espinosa et al. 1997, Trombulak and Frissell 2000, Madej 2001, Switalski et al 2004), and where road density is moderate to high, even fully-compliant roads will cause some sustained level of impact, including increased peak flows and mobilization and delivery of sediment in excess of natural levels. Unless there are standards that mandate or encourage reduction of road density and cap road density where it is currently low *to structurally reduce the spatial extent of the road network infrastructure on a large scale*, continued loss of habitat and take will occur on an ongoing basis, over sustained times periods, and in virtually all watersheds.

Road work which is necessary for a harvest operation must comply with the FPA, yet roads which were constructed prior to the FPA requirements are described as 'legacy roads' and all reconstruction work conducted on these older roads is voluntary. The failure to adopt any provision to force repair of these abandoned/orphan roads could offset or severely limit any possible benefit derived from landowners' efforts to bring in-use roads up to standards. We note that the exemption from FPA standards for older roads does not exclude landowners from liability for harm caused by orphan, abandoned, and unmaintained roads under the ESA, Clean Water Act, and other pertinent authorities. Oregon needs to analyze the impacts occurring from the failure to properly restore, maintain, or "put to bed" orphan roads. PRC contends that in many watersheds, the impact from orphan and unmaintained roads alone may be sufficient to jeopardize populations of fishes and amphibians, and preclude recovery of listed and other sensitive species.

Additional problems with the current road standards include their target of adequacy to sustain 50-year rather than 100-year floods. Culverts, bridges and other stream crossings shall be designed to accommodate flows from at least a 100 year flood, including associated bedload and debris. (*See e.g.* Washington Forests and Fish Report and ensuing rules; NMFS 1998 Proposal for Oregon Forest Practices)

> **The Oregon Plan Relies too Heavily on Voluntary Measures**

It is clear from the assessment that there is no basis upon which to make a finding regarding the benefits to freshwater habitat from voluntary measures. Regardless of the philosophy adopted by the state about the social desirability of voluntary measures, the question remains as to what level of environmental protection from logging-related harm is likely to occur. Absent significantly greater financial incentives than are currently provided for voluntary management changes, there is no basis upon which to assume that more than the regulatorily-required mitigations actually will occur.

As NMFS observed in their comments: " . . since significant aspects of FPA rely on voluntary measures, the role and rate of voluntary implementation is critical." Although ODF provided additional information to better describe the role and rate of voluntary implementation in the final report, this information does not provide assurance of their efficacy. As NMFS comments pointed out, but did not adequately emphasize, market conditions are a significant determinant of forest landowner behavior. Expectations of voluntary measures should be limited accordingly.

Oregon Forest Practices reforms have devolved into a series of voluntary measures which are discussed in the report. We note that while ODF discussion is intended to "provide a deeper understanding of the purpose of the FPA, and the ODF's ideas about integrating environmental, economic and social values" what matters to aquatic species is what happens on the ground. Oregon's philosophy may be to impose the "lease burdensome pathways" to achieve environmental values, but if these pathways are not also effective, they cannot be relied upon either to justify a no-list of coho and other species, or to grant exemptions for Section 9 of the ESA. Despite discussion of desires and hopes for forest policies, as ODF admits it is the FPA and its rules that establish "the environmental bar that must be met regardless of the economic goals of the land manager." As such, it is this bar that must primarily be evaluated for its adequacy to prevent impairment of recovery of coho and other aquatic species.

Oregon notes that "[f]urther study is needed to better understand the trends in the types and numbers of actions reported," and that "[w]e don't know if lack of reporting is due to a need for assistance, humble attitudes, or other reasons" but that "[w]e know that landowners tell us their enthusiasm to actively place large wood has declined because they perceive federal permit processes and conditions as disincentives. The conditions seem geared to prevent or minimize

'human' disturbance even though the very actions are intended to emulate 'natural' disturbance. The state further finds that "we hope to find better ways to demonstrate the types and numbers of what is being accomplished and what these actions mean for fish and water quality." We caution NMFS that despite good intentions on the voluntary front, what is not known cannot be relied upon in a listing determination regardless of why the information is unknown or actions are not being taken.

In sum, it is clear from the assessment that there is not an adequate basis upon which to make a finding regarding the benefits to freshwater habitat from voluntary measures. Regardless of the philosophy adopted by the state about the social desirability of voluntary measures, the question remains as to what level of environmental protection from logging-related harm is likely to occur. There is no basis upon which to assume that more than the regulatorily-required mitigations will actually occur.

> **Habitat Improvement on Agricultural Lands is not Documented; ODA Programs Require Significant Strengthening**

Although the state could not rely on CLAMS analyses in considering what is likely to happen to riparian vegetation on agricultural or urban portions of the landscape, it nonetheless concludes that modest improvement in riparian vegetation is likely to accrue on agricultural lands under current rules, acknowledging that considerable uncertainty exists regarding specificity of improvement.

The Agricultural Water Quality Management Program in Oregon in conjunction with DEQ technical assistance and incentives for voluntary action do not comprise an adequate salmon conservation program for agricultural lands. To our knowledge, the IMST's recommendations to ODA have not been fully implemented. IMST, Recommendations 8, 9, 14, 16 of Technical Report 2002-1: Recovery of Wild Salmonids in Western Oregon Lowlands at pages 129-130 (recommending salmonid effects analysis from lowland land uses; changes to ODA programs to specifically address factors contributing to salmon population declines; reduction of agricultural causes of sedimentation; prevention of eutrophication impacts;)

> **The sufficiency of state lands plans to prevent adverse impacts to coho salmon has not been demonstrated**

Despite the intent of the Oregon Plan to execute an federal HCP for the Tillamook and Clatsop State forests, no such plan has yet made it to the stage of a formal proposal. The Elliott State Forest is in the process of a multi-species HCP, but its adequacy to protect coho has not yet been determined.

PRC finds that unacceptable risks to coho salmon are posed by state land management practices, particularly the existing road system, the low level of protection for smaller streams and the continued harvest of unstable slopes where wood-depauperate slides are likely to have dowstream adverse effects on coho salmon. *(See e.g.* PRC Scoping Comments to FWS and NOAA Fisheries on Proposed Elliot State Forest HCP, July 12, 2005)

Conclusion 9: "A new analysis of water use in the ESU indicates that permitted water use is not and will not become a primary limiting factor of ESU viability."

The analysis referred to here on "unnested consumptive use" has been thoroughly critiqued by WaterWatch of Oregon, whose comments we hereby incorporate by reference. In sum, the state looked at consumptive use reach by reach, which method is not cumulative from the headwaters down to that reach, and then used that consumptive use as a numerator over the total modeled streamflow (again without upstream consumptive use subtracted) for the watershed above and including that reach. The result is a series of predictably small fractions of total streamflow for each consumptive use, analysis that does not relate to the instream circumstances being experienced by aquatic species in downstream reaches.

We note that the state identifies water quantity as the primary "Risk Factor Bottleneck" to the Upper Umpqua population's viability, which the State assessed as "fail", indicating that the state's current water quantity programs have not been effective in preventing low instream flows from becoming a factor for decline for the coho. Part 3B at 7.

Conclusion 10: "Restoration work (including fish passage) in the ESU during 1997-2003 exceeded any previous level of effort."

This finding, although encouraging, on its own is irrelevant to the effort's sufficiency or efficacy to maintain or restore habitats and populations. We note that PRC's evaluation of restoration in the Alsea Basin concludes that priority restoration needs continue to be unmet on both federal and nonfederal lands. For example, of the 60 watersheds identified as High Priority in the Mid Coast, none has even completed a "limiting factors analysis" much less executed on restoration plans designed to address these factors. (Draft Report to Pacific Rivers Council by Peter Bahls, Northwest Watershed Institute, April, 2004). Some analysis of how efforts measure up as against total needs is needed in order to provide an informative measure of the extent of restoration work.

Conclusion 12: "Primary habitat-related threats to coho viability are being addressed through ongoing conservation efforts."

See above comments related to threats from logging and agriculture.

IV. FUTURE ESU VIABILITY

Future ESU Condition Finding 1: Watershed councils have been established throughout the ESU; these will complement future conservation and restoration efforts by Soil and Water Conservation Districts, private landowners, and state and federal agencies.

We refer NOAA to PRC's January 2000 report by C. Huntington and S. Sommarstrom entitled "An Evaluation of Selected Watershed Councils in the Pacific Northwest and Northern California", which indicates key ways in which watershed council effectiveness may be limited. tributes.

Regarding ecological effectiveness, the report found that although a substantial majority of observed restoration projects were clearly or likely beneficial to salmonids or restoration of stream processes, most projects also were ranked less than ideal from an ecological benefits standpoint. Some projects were judged to be of questionable conservation value and a small number were a clear waste of money. Projects that focused on riparian restoration, road treatments, resolution of critical fish passage problems, or on the acquisition of critical areas were consistently beneficial. Construction of livestock exclosures in lowland riparian areas was clearly one of the most beneficial council activities. The most frequent weakness with projects reviewed derived from a lack of control over environmental stressors in the watershed. Certain stressors were more frequently controlled by (or in association with) council projects than were others, with a prime example being fences to exclude livestock from streams and riparian areas. Most councils scored low for adaptive management, lacking monitoring and feedback mechanisms.

PRC strongly supports locally-driven, voluntary natural resource protection and restoration efforts as a part of the solution to ecosystem degradation, but we emphasize that local efforts are hampered in achieving higher ecological effectiveness in several ways:

- *Landscape-level changes in ongoing land use patterns are not susceptible to change through local watershed council actions (e.g. urbanization; industrial forest practices). Rather, these changes will require policy changes at the appropriate levels of government.* As stated by Huntington:

  > "Approximately 67% (54/80) of the restoration projects visited were affected to varying degrees by environmental stressors that watershed groups and landowner volunteers could not or did not control. ...Where environmental stressors significantly affected the probable benefits of a given project, they were usually related to forestry activities, water diversions, urbanization, or chronic overgrazing of riparian areas upstream. Of these stressors, the selected watershed groups have generally had the most success addressing grazing problems and a couple have had some success in resolving water use issues. Resolution of conflicts between private forest practices and aquatic restoration, particularly on industrial forestlands, has historically been the domain of regulatory agencies and does not appear to have occurred within the watershed council processes examined as part of this study." (Huntington, Part I p. 15).

- *Areas that may have the most and/or best restoration opportunities may suffer from fewer resources to create technically sound plans and projects.* This disparity suggests that resources should be better allocated to ensure adequate funding in areas where high priority restoration opportunities exist.

- *Within watersheds, geographical targeting of projects to ecological priorities is limited by the available pool of volunteers.* This dynamic limits the implementation of even the most technically sound plans: "[a]lthough good planning by watershed councils can help ensure that they avoid bad projects, it is no guarantee that they will be able to implement

the ones most important to achieving their restoration goals." (Huntington, Part I, p. 23). The plain fact is that precious funds do not necessarily make their way to the greatest ecological needs.

- *Scientific and technical assistance is a critical factor in the production of strong conservation plans*, which in turn is associated with higher ecological effectiveness. Such assistance should be sustained and expanded where needed, as should the general dissemination of new watershed and aquatic science concepts through educational outreach.

- *A full range of tools for aquatic conservation and restoration are not consistently available to eliminate or reduce land use impacts at high priority sites.* Examples of key tools that are not always utilized in local efforts include acquisition of easements or fee interests in biologically critical areas. Although land acquisition may be the most effective tool to conserve ecologically critical areas (often a very small land area relatively speaking), it is not used by all councils.

We further note that despite significant efforts, the vast majority of high priority restoration needs remain unmet in watershed comprising the Oregon Coast ESU. For example, as noted above, even considering just the 60 high priority watersheds in the Mid-Coast, none have completed limiting factors analyses which are needed to guide effective restoration efforts.

Future ESU Conclusion 2: State funding to support Oregon Plan work (e.g., restoration, Watershed Council support, Soil and Water conservation District support, monitoring, assessments, etc.) is provided by Oregon Law until at least mid-2014.

Oregon does not match currently available funding with an actual list of the cost of known restoration needs. It is our information that current funding covers only the tip of the iceberg of restoration.

Despite state and federal funding efforts, the fact remains that the vast majority of restoration needs identified are unmet and that projects that may be a high ecological priority, such as roadas work, do not always get funded. Looking at federal lands there are 2600 miles of road on Siuslaw National Forest with only 600 miles needed and maintained. Of the 2000 miles planned for closure, only 200 have been closed since 1994. (Karen Bennett, USFS, 2004). Similarly, of the 49 miles of road decommissioning recommended in FEIS for Five Rivers watershed, only 11 miles have actually been decommissioned (USFS 2001).

Future ESU Condition 4: The ocean environment for coho survival improved since mid-to-late 1990s, although current conditions and future trend is uncertain.

Future ESU 5: Abundance and density of coho spawners throughout the ESU increased since 1998 to the highest average level observed in five decades, reflecting a rapid and ESU-wide response of the populations that comprise the ESU. Higher spawner numbers distributed widely across the ESU should have positive impact on the ESU as a consequence of increased input of marine derived nutrients.

More recent indications are that ocean conditions have turned downward. Drastically reduced coho returns are expected this winter. (Personal Communication with Peter Bahls, Northwest Watershed Institute, July 25, 2005).

Future ESU Finding 6: Monitoring of habitat and water quality since 1997 provides a baseline to detect future trends (positive or negative) that could affect ESU viability. The sensitivity (ability to detect change) of monitoring will increase substantially in the next 3-8 years as more data become available.

Oregon fails to substantiate its adaptive management claims that it can rapidly detect and respond to any adverse trend. For salmonid trend assessment based on redd counts, the literature supports at least 15 years of data to detect a trend. At a minimum, Oregon should propose specific quantitative criteria that will trigger a review, and triggers should be tripped by failure to detect a positive or recovery trend of a specified magnitude.

In any case, NOAA should not rely on the potential availability of future data in a listing decision. Data to date are inadequate to support a finding of no threat from habitat and water quality degradation in the ESU.

V. FINDINGS REGARDING CURRENT AND FUTURE THREATS TO ESA VIABILITY

Oregon finds that the key current threats to viability are moderate from only two factors -- ocean conditions and stream complexity -- and that ESU-wide threats from other factors have significantly diminished. This finding: (1) trivializes the severity of current risks to stream complexity, particularly from logging-related loss of riparian and upslope large wood sources and sediment from nonfederal roads, and; (2) inappropriately dismisses the magnitude of existing problems related to water quality, fish passage and water quantity, especially in specific basins.

Respectfully submitted,

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Kevin Goodson

From: Alan Ritchey
Sent: Thursday, December 21, 2006 4:35 PM
To: Kevin Goodson
Subject: coho plan comments

Kevin

I had someone come in the office today who could not make the public meetings and missed the comment period on the coho plan. I told him I would pass this info on to you.

1. Many juvenile coho are stranded every winter during high flows. Someone should seine these fish out of the ponds and set them free in the rivers.

2. Stop protecting predators.

If you need it, his name is Jack Ford. He lives in Myrtle Point, 541-572-5003

Alan Ritchey
Oregon Dept. of Fish and Wildlife
Assistant District Fish Biologist
PO Box 5430
Charleston, OR 97420
(541)888-5515

Jennifer Grace

From: Catherine Pousson [PoussonC@nwf.org]
Sent: Friday, December 15, 2006 10:39 AM
To: PLAN Coho
Subject: Coho Plan
Attachments: Coho Final.doc

Please see the attached file from the National Wildlife Federation and the Association of Northwest Steelheaders.

Thank you,

Cate Pousson

NWF's mission is to inspire Americans to protect wildlife for our children's future.

Catherine Pousson - Office Manager
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Milwaukie, OR 97269

Mr. Virgil Moore, Director
Oregon Department of Fish and Wildlife
3406 Cherry Avenue NE
Salem, OR 97303
Re: Coho Plan
VIA EMAIL: cohoplan@state.or.us

December 15, 2006

Dear Mr. Moore:

National Wildlife Federation (NWF) and Association of Northwest Steelheaders (ANWS) appreciate the opportunity to provide comment on the State of Oregon Conservation Plan for the Oregon Coast Coho Evolutionarily Significant Unit (the Conservation Plan). As leaders in American conservation, National Wildlife Federation and Association of Northwest Steelheaders are actively working to restore America's wildlife heritage. In Oregon, a significant part of this wildlife heritage is abundant, wild coho salmon. NWF and ANWS appreciate the amount of work and collaboration required for the development of the Conservation Plan and commends Oregon Department of Fish and Wildlife for its efforts. Furthermore, ANWS, NWF's affiliate in Oregon, appreciates the opportunity to have been a participant in the Stakeholder process and Conservation Plan development. ANWS is not critical of the process itself, but appreciates the opportunity to address further concerns in this letter that were not addressed in the Conservation Plan.

Uncertainty Regarding Viability of the ESU

Oregon Coast coho face an uncertain future. As the Conservation Plan states on Page 12, *"Since 1997, the ESU has been provisionally not-listed, listed, held in abeyance from being listed, and most recently not listed by NOAA."* As freshwater and marine habitat conditions have changed over the past decade, Oregon Coast coho populations have oscillated dramatically. With this in mind, NWF and ANWS urge the State of Oregon to act in a conservative fashion while managing for coho conservation. Furthermore, NWF and ANWS urge ODFW to keep vigilant of future land use changes resulting from Measure 37 and of the increasing impacts of climate change on freshwater quality and quantity. With little certainty that the Oregon Coast coho ESU will remain viable, or, in fact, currently is viable, it is critical that resource managers err on the side of the species when making management decisions.

The admonishment from the NOAA Technical Recovery Team (TRT) to Robert Lohn dated August 19, 2005 is a powerful statement of concern that makes it very clear that our most expert scientists are concerned of the viability and sustainability of the ESU. The TRT writes: *"Our evaluation of biological sustainability based on current and recent past conditions shows a high degree of uncertainty with respect to the statement that the ESU is sustainable."* National Wildlife Federation and Association of Northwest Steelheaders share this concern with the NOAA TRT and urge ODFW to remain cognizant of the fact that because the ESU population

oscillates significantly, it can be difficult to discern a population crash. There is not much room for error.

Population Structure Analysis
Section 1 on Page 15 of the Conservation Plan states that the NOAA TRT identified 57 populations that comprise the Coastal coho ESU. Twenty-one of these populations have persisted for several hundred years in basins where habitat has supported viable populations. These 21 populations have been classified as independent and are almost entirely the focus of the Conservation Plan's analyses and recommendations. The Conservation Plan strives to develop measurable, performance-based criteria for the independent populations, but denies similar analysis for the remaining 36 populations. These 36, or dependent, populations are located in basins where habitat conditions may have caused localized extinctions within the past century and, therefore, it has been determined that these basins rely on the independent populations to recolonize their streams after unfavorable conditions cause dependent populations to fail. While these 36 dependent populations may inhabit marginal habitat, it does not seem prudent to deny them the measurable, performance-based criteria for success (see Appendix 2) that are provided to the 21 independent populations. NWF encourages ODFW to expand the Conservation Plan to apply the Measurable Criteria for Independent Populations, as explained on Page 21 of the Conservation Plan, or a variation thereof, to the dependent populations of the ESU. This would aide in filling the gap between the current and desired ESU status described on Page 20.

Additionally, while the independent populations may have recolonized depleted basins to create the dependent populations over 100 years ago, it is important to recognize a healthy and productive ESU will require spatial distribution, genetic diversity, and high rates of productivity in addition to heightened abundance to be successful. As the Conservation Plan is written, it does not adequately emphasize the important potential contributions of these dependent populations. In the face of increased stressors from altered flows and changes in water quality expected from climate change, the dependent populations may serve a larger role in the overall viability of the ESU. Without managing to protect and enhance these populations, these benefits could be minimized or lost.

Vision for ESU Desired Status
NWF and ANWS agree, as stated above, that a desired status for the ESU includes all four Viable Salmonid Population (VSP) parameters: abundance, productivity, diversity, and spatial structure. However, the Conservation Plan has an almost single-minded focus on increasing ESU population abundance and does not sufficiently address the remaining VSP parameters. On Page 20, the bullets outlining the desired status are focused on increasing the numbers of smolts and spawners, not the overall viability of the ESU. Also on Page 20, the section entitled "*Gap (Difference between Current and Desired ESU Status)*" provides an analysis that relies solely on spawner abundance. It might be helpful to move some of the analysis from Appendix 2 (Desired Status: Measurable Criteria for the Oregon Coast coho ESU Conservation Plan) into the main document so that some of the other VSP parameters are more thoroughly integrated in the central analysis.

Achieving the Desired Status in Light of Measure 37
NWF and ANWS support the measurable criteria presented in Appendix 2. The ability to assess effectiveness of the Conservation Plan's implementation is critical and having measurable, quantifiable criteria is the best way to ensure the best decisions are being made. National Wildlife Federation and Association of Northwest Steelheaders are concerned about the uncertainty created by the passage of Measure 37 in Oregon and the reliance of the Conservation Plan on obsolete analysis of land use impacts. The section of the Conservation Plan entitled ESU Conservation Practices states that, generally, harvest and hatchery management practices have been reformed to minimize adverse impacts on the ESU. Therefore, the Conservation Plan's focus is to improve the productivity and quality of the freshwater and estuarine habitats.

This same section of the Conservation Plan discusses the evolution of Oregon's regulatory programs since the 1950s, 1970s and beyond. While state and federal laws to protect water quality, wetlands, and other habitat features have dramatically improved since the 1970s, the Conservation Plan goes further to state: *"The positive effects of these laws and practices are expected to continue to accrue and land-use regulations in Oregon have been further strengthened in the last few decades."* With the passage of Measure 37 and the myriad of land use laws that are now in jeopardy and/or being challenged, NWF and ANWS encourage ODFW to pursue an analysis of the potential impacts of Measure 37 on the Conservation Plan. It is clear that the statements made in the Conservation Plan are no longer accurate, even under a scenario that predicts Measure 37 to have minimal impact. Further analysis may conclude that additional cooperative or mandatory land use protections are necessary to meet the objectives of the Conservation Plan.

On pages 28-29, the Conservation Plan describes three scenarios to achieve an increase in 30% of the high quality habitat needed to support juvenile coho. These scenarios range from 17 years to 50 years and are primarily developed to show the associated costs of restoration. There are several assumptions in this section that are problematic. First, the analysis does not consider further habitat degradation that will occur concurrently with the Conservation Plan's restoration effort. These costs are likely to be significant, especially in light of the impacts expected from Measure 37. Second, it is not reasonable to assume that all habitat restored will be high quality habitat and will persist as high quality habitat for 50 years. Third, it is misleading to assume that the costs of restoration will remain fixed over a longer timeframe. The total costs of restoring the same total amount of habitat over 17 versus 50 years will be significant. While new technologies may become available to make restoration less expensive in the future, it is misleading and incorrect to not integrate inflation and opportunity costs into these analyses.

Limiting Factors and Climate Change
Table 4 on Page 25 of the Conservation Plan identifies the primary and secondary limiting factors for the 21 independent populations. Stream complexity and water quality quickly jump off the page as the two most significant threats to the ESU. Both of these habitat parameters will be significantly impacted by future land use in Oregon (see above) and by climate change. The Conservation Plan states on Page 26: *"Oregon concluded that the existing conservation framework of regulatory programs and non-regulatory elements is sufficient to sustain and*

slightly improve the current viability of the ESU. The existing regulatory structure was not designed to support achievement of the desired status goal for this ESU. Oregon is relying therefore on a combination of current regulatory programs plus long-term participation in non-regulatory cooperative conservation work to achieve the desired status goal for the Coast coho ESU." NWF and ANWS are concerned that Oregon is not including the anticipated impacts from climate change in this conservation effort. More specifically, if the current regulatory programs are not sufficient to meet the desired status goal, and climate change is not incorporated into the analysis, the likelihood of Oregon achieving the desired status goal is significantly diminished.

Climate change will impact the Coast coho ESU by further degrading habitat that is already impacted by human land use. Altered stream flows and higher water temperatures will have significant impact on the smaller rivers and streams inhabited by the Coast coho. With flashier hydrographs resulting from altered precipitation patterns, streams are likely to have periods of higher and lower flow than in the past. These changes in flows could affect migration of spawners upstream or the outmigration of yearlings to the estuaries. Strandings, blocked habitats, and unfavorable conditions could result in diminished habitat productivity and population viability in the longer term. Oregon should integrate an analysis that considers the impacts of climate change, particularly because the Conservation Plan relies heavily on non-regulatory cooperative conservation work. Integrating climate change into the Conservation Plan might change the priorities of actions proposed on pages 26-27 for the 21 independent populations. It might also require that more emphasis be attributed to the 36 remaining dependent populations.

Habitat Strategy

The Conservation Plan is heavily reliant on the Research, Monitoring, and Evaluation tools outlined in Section 7 and on the Application of Adaptive Management outlined in Section 8. Because there is a high level of uncertainty in this Conservation Plan, there is great importance on establishing feedback loops for evaluating implementation and effectiveness of Conservation Plan priorities. The reliance on agency actions described in Section 6 and cooperative conservation to achieve the desired status goals is not troubling as long as there are methods in place to monitor, evaluate and adaptively manage the implementation of the agencies' and citizens' agendas. All too often, monitoring, evaluation and adaptive management at not emphasized adequately in resource management plans. Without being prejudicial, it is critical that these be of the highest priorities for the Conservation Plan, to maximize the public investment and to prove adequacy and effectiveness to a knowledgeable and interested public.

In conclusion, National Wildlife Federation and Association of Northwest Steelheaders are pleased to provide comment on the State of Oregon Conservation Plan for the Oregon Coast Coho ESU. Oregon's effort to restore the Coast coho through a combination of regulatory and non-regulatory, cooperative conservation is to be commended. However, because of the uncertainty of the viability of the ESU and because of the high level of uncertainty in the selected approach of the Conservation Plan, NWF and ANWS urge Oregon to integrate the anticipated impacts of climate change into the Conservation Plan. In addition, NWF and ANWS have concerns of the adequacy and value given to the Monitoring, Evaluation, and Adaptive

Management portions of the Conservation Plan. While a conservation plan that does not rely exclusively on regulation and mandate is refreshing and appealing, the uncertainty is concerning. National Wildlife Federation and Association of Northwest Steelheaders trust that Oregon will make every effort to maximize certainty in its implementation strategy by erring on the side of the species.

Thank you for the ability to comment.

Sincerely,

Paula J. Del Giudice, Director
Western Natural Resource Center
National Wildlife Federation
6 Nickerson Street, Suite 200
Seattle, WA 98109

Norman E. Ritchie, Executive Director
Association of Northwest Steelheaders
6641 SE Lake Rd
Milwaukie, OR 97269

James Schroeder
Senior Environmental Policy Specialist
National Wildlife Federation
6 Nickerson Street, Suite 200
Seattle, WA 98109
phone: 206-285-8707 ext. 108
email: schroederj@nwf.org
www.nwf.org

The mission of the National Wildlife Federation is to inspire Americans to protect wildlife for our children's future.

Jennifer Grace

From: Casaria Tuttle
Sent: Monday, December 11, 2006 7:42 AM
To: Kevin Goodson
Subject: FW: comments on Coho Plan

From: Virgil Moore
Sent: Friday, December 08, 2006 6:06 PM
To: Ed Bowles; Roy Elicker; Casaria Tuttle
Subject: FW: comments on Coho Plan

Virgil

From: Katie Fast [mailto:katie@oregonfb.org]
Sent: Friday, December 08, 2006 3:22 PM
To: PLAN Coho
Cc: MOORE Virgil
Subject: comments on Coho Plan

December 8, 2006

Virgil Moore
Director
Oregon Department of Fish and Wildlife
3406 Cherry Avenue N.E.
Salem, OR 97303

(Re: Coho Plan)

Dear Mr. Moore,

Thank you for the opportunity to comment on behalf of the membership of Oregon Farm Bureau Federation (OFB). OFB supports regional approaches that are based on voluntary cooperative conservation to achieve sustainable fish populations. It appears that these principles are reflected in parts of the Coastal Coho Conservation Plan.

However, there remain some concerns with your Department's drafting and distribution of the plan. Our members' frustration with some elements of the plan was voiced at the public meetings. The plan could have been released for comments in ways that eased this frustration without changing the intent or plan's direction to the agencies.

First, the plan is too long for grassroots involvement. While the plan is only 50 pages, the numerous attachments and appendixes bring it to over 600 pages. This is a visual barrier to the people you want to collaborate with. In the future, the Department must become more concise with their writing. Also, citizens interested in reading and

commenting on the plan were told they would have to pay over $130.00. It is unacceptable to financially shut people out of the process.

OFB is disappointed that predation is not addressed within the plan. As the state takes an in depth look at Coho populations, it should not only focus on habitat, but assess all impacts to fish survival. We urge the Department to reassess this issue.

Throughout, the plan is described a voluntary, however on page 35 it is stated that Oregon Department of Forestry will be passing new regulations to implement the Coho Plan. These two statements seemed clearly contradictory. If these are rules to help implement voluntary landowner actions, then we agree the rules fit the spirit of the plan. If they are regulatory actions as described, we do not believe they should be endorsed by the Coho Plan.

The ability for farmers and ranchers to conduct fill and removal activities is critical in the coastal area. The comment "DSL may consider program changes to more effectively protect those areas" make our members concern that the plan will bring regulatory limits to their management instead of the voluntary conservation that the Plan endorses.

OFB does not agree with the hatchery management policies outlined in the plan. We believe Oregon's hatchery program is an important and necessary tool in the process of recovering and protection the region's salmon. We do not support the reduction of released hatchery numbers and the discontinuance of smolt release in the Salmon and North Umpqua Rivers. We support an enhancement of the STEP and hatchbox programs. These are true grassroots efforts in Coho conservation.

Through discussions with our membership on the Coho Plan, it seems the Department's regional staff has a positive relationship with the landowner community, however the Coho planning process felt more like a top down approach without grassroots input. The Department may want to address this perception.

Thank you for considering our comments. OFB looks forward to working with the Department on the Coho and other issues in the future.

Sincerely,

Katie Fast
Associate Director of Government Affairs
Oregon Farm Bureau Federation
503-399-1701

Jennifer Grace

From: mintkeski@juno.com
Sent: Friday, December 08, 2006 9:30 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon must adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Funding sufficient to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Walt Mintkeski
6815 SE 31st Ave
Portland, OR 97202-8633

Jennifer Grace

From: chervert@peacehealth.org
Sent: Thursday, December 07, 2006 1:56 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Carla Hervert
2948 Dry Creek Rd.
Eugene, OR 97404

Jennifer Grace

From: Pacifictimber@aol.com

Sent: Thursday, December 07, 2006 11:13 AM

To: PLAN Coho

Cc: jgriffith@co.coos.or.us; REP Krieger; senjeffkruse@state.or.us; LaBonteL@co.curry.or.us; REP Roblan; jverger@harborside.com; bbrown@co.klamath.or.us; onno_husing@class.orednet.org

Subject: Comment: Coho Conservation Plan

Public Comment: Conservation Plan for Oregon Coast Coho
November 13, 2006

First, the use of ESU (Evolutionary Significant Unit) is a misuse of the words and inappropriate to use in the Coho Plan. ESU is the marine equivalent to DPS (Distinct Population Segment). It is a federal term, established in 1996 and is used to define the Threatened or Endangered salmonid species per the ESA as:

- Important to the evolutionary legacy of the species
- Genetically distinct, reproductively isolated, or both.

The Coho were delisted in 2001 along with the ESU determination that hatchery stocks are no less distinct than wild stocks. Populations are since considered viable and "ESU" should not be used to define a non listed species. Furthermore, in the 2001 decision, Judge Hogan ruled that hatchery salmon would be counted with wild spawners---and here you are again trying to separate the wild stock from hatchery stock. Since you don't seem too interested in abiding by the effect of law as determined by the courts, why should anyone else bother to adhere to laws?

The Coho Plan shows very little thought towards strategy and lacks organization towards the goal of increasing the Coho populations. Piniped and avian predation issues are not addressed; and there is a clear intent to decrease hatchery propagation. El niño events are not addressed in the way of anticipation and mitigation. Without depredation intervention, the proposals identified in the Plan will fail to assure the future viability of Coho.

Commercial harvest of Coho ceased after 1992. Anglers are not allowed to keep the non fin clipped Coho. You intend to drastically reduce the hatchery propagation of Coho for sport fishermen. Then, you are asking landowners to volunteer to donate their rights to harvest timber, to donate land for extended riparian areas and to donate their in stream water rights for the sole purpose of protecting fish that will be consumed by birds and seal lions. Where is the incentive for this strategy? There are no long-term benefits to commercial fisheries or anglers, while uplands land managers continue to be punished and regulated with property takings in the name of saving fish for predators.

The Salmon Plan has had over 10 years of in stream habitat improvement. We have yet to see any maps of where these projects have occurred. We have yet to see a study that shows any measurable result of improved salmon runs. Now ODFW wants to compound and expand the program without any supportive data that 100% of the effort should be in uplands management. The Coho Plan references numerous "studies" throughout, but provides no specific reference as to which study, who

conducted it or when the study occurred. Where is the Plan's bibliography?

The use of the word "measures" is ambiguous throughout the Plan. Phraseology goes from "measures" to "necessary measures" and "implementation of measures". If a measure is voluntary, the words "necessary" and "implementation" imply a regulatory intent. If all measures are voluntary, then the word "voluntary" should accompany the word "measure" each time it is written or spoken by all employees of the State. The plan inter-mixes "measures" as it discusses Rules. The average landowner will have no way of knowing what is or is not regulatory. If landowners end up implementing "measures," unaware that it is voluntary, the "measure" is being used as a Rule.

The Coho Plan is purported as non-regulatory and that it will be implemented on a volunteer basis. The Plan on its own is not regulatory through ODFW; but it serves as the foundation for a highly regulatory process with implementation of Rules through the Oregon Department of Forestry, DEQ via the new EPA revisions and standards, the Water Resources Department, Department of State Lands---and let's not forget the intent of DLCD to effect local ordinances to restrict development activity adjacent to urban boundaries and rural properties within proximity of fish bearing streams.

One of the 18 new Rules from the Department of Forestry per the Coho Plan is the adoption of a rule, which requires landowners to retain additional timber along slopes of non fish streams where landslides are likely to move the timber into a stream channel. Who will conduct the geological survey to decide what lands are prone to slide? Oh, but you can't answer that question, can you? I'll have to write a public comment to ODF, and every other State agency as each rule is proposed. The Plan reiterates "volunteer" and "non-regulatory", while it throws us into a huge regulatory process of multiple public comments to multiple State agencies as each new Rule or legislative concept is proposed in the name of improving Coho habitat.

You want to implement a plan in our backyards for uplands stream management, yet for some reason, you excluded uplands land managers from the Stakeholders Group. You failed to communicate with us. You failed to notify the elected governments in Coos County at the beginning of the planning process. You're now asking for volunteer cooperation in Coos County where you have shown nothing but disrespect for the elected government and the citizens who reside here; and there is no way we will support or encourage landowners to cooperate or volunteer to participate in these programs.

We are more than willing to sit down with ODFW for a discussion on removing the regulatory components as well as the importance of maintaining viable hatchery propagation programs in addition to stream enhancement projects. Until that happens, we will encourage landowners to post their properties, to lock their gates and to disengage all volunteer cooperation associated with these programs. We have been regulated under the Forest Practices Act, the Ag. Water Quality Management Plan and DEQ's TMDLs---------yet no matter how much we compromise and give, it never seems to be enough. We've had enough. The Coho Plan will be rejected until you stop abusing landowners and begin to demonstrate some "cooperative" respect with the governments and citizens of Coos County.

Helen Franklin
Director, Coos Soil and Water Conservation District
PO Box 1237
North Bend, OR 97459

Jennifer Grace

From: Nicholas, Jay [jay.nicholas@oregonstate.edu]
Sent: Monday, December 04, 2006 2:00 PM
To: Kevin Goodson
Subject: FW: Comment additions
Attachments: Bowles_etal120106.doc; CommentsCoho112806.doc

Here ya go.

From: Ben Stout [mailto:stoutb@proaxis.com]
Sent: Friday, December 01, 2006 1:02 PM
To: Ed Bowles; Kevin Goodsen; Nicholas, Jay
Subject: Comment additions

Gentlement,

Two Word documents are enclosed. One, Bowles, et al follows up on last night's meeting. The other is my formal comment on the Plan that I submitted earlier.

Best wishes. Ben
Benjamin B. Stout
1545 Takena St., SW
Albany, OR 97321
Phone 541-926-9972

Benjamin B. Stout, PhD
1545 Takena St., SW
Albany, OR 97321
(541) 926 9972
Email: stoutb@proaxis.com
December 1, 2006

TO: Ed Bowles, Kevin Goodsen and Jay Nicholas
FROM: Benjamin B. Stout
SUBJECT: Oregon Conservation Plan for Coho, Tillamook hearing, 11.30.06

Gentlemen:

First, I apologize for my ranting about the sub-classification of the ESU and some of my curmudgeonness last night. Wayne Giesy explained on our drive to Corvallis some of the complexities of your work with the stakeholders and the federal agencies. I should have been more tolerant.

Now I want to try to make clearer my concerns.

It seems to me that somehow the basis for ignoring the so-called dependent streams should be given. Surely those streams contribute some amount to the overall population of coho on the Oregon Coast. It just seems to me that a conservation plan should include them.

Let me explain in some detail my concern with the use of the term Limiting Factor. One of the fundamentals of biology is that there are interactions in every system. By "interaction" I mean the failure of a response to one factor to be the same at different levels of another factor. In the case at hand the habitat factor and the water quality factor surely interact. Let's let Y equal smolt productivity, X_1 represent habitat, X_2 represent water quality and e_i all the other factors operating in the system. The simplest model for this could be:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_{12}X_1X_2 + e_i$$

Now let's say that we want to know what will happen with Y when we change habitat. We can take the derivative of Y with respect to X_1, thus:

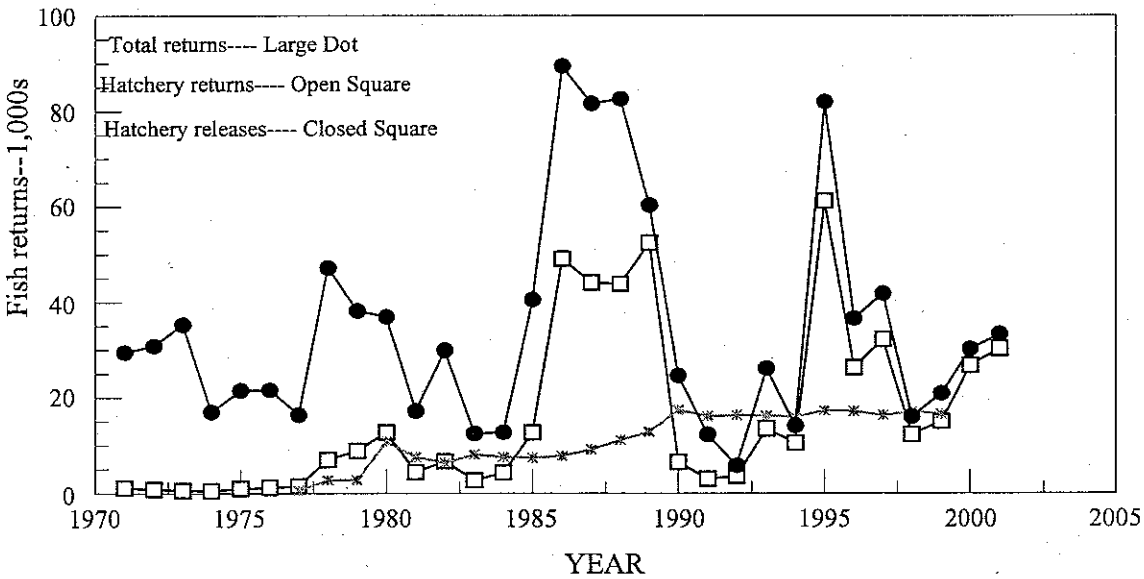
$$dY/dX_1 = b_1 + b_{12}X_2.$$

So, saying that something in a biological system is limiting really doesn't tell us very much. If you insist, I suggest that the factors be labeled with degrees of importance with the caveat that the importance of any one also depends on the level and importance of all the other factors operating in the system, particularly those for which you have good data.

I found it troubling in the Plan when some number of fish produced was equated with habitat quality. The reason is that I fail to see how you decide what to do to a stream to improve its quality in any quantitative way. I'm guessing that things like: flow rate or stream volume at some critical time of the year, gradient, substrate, shade, temperature, and others influence habitat quality. So, for a given stream segment, which factors are manipulatable and on which one do you get the biggest increase in habitat quality? I know it would be more difficult to do it this way, but I also know that it would be more meaningful.

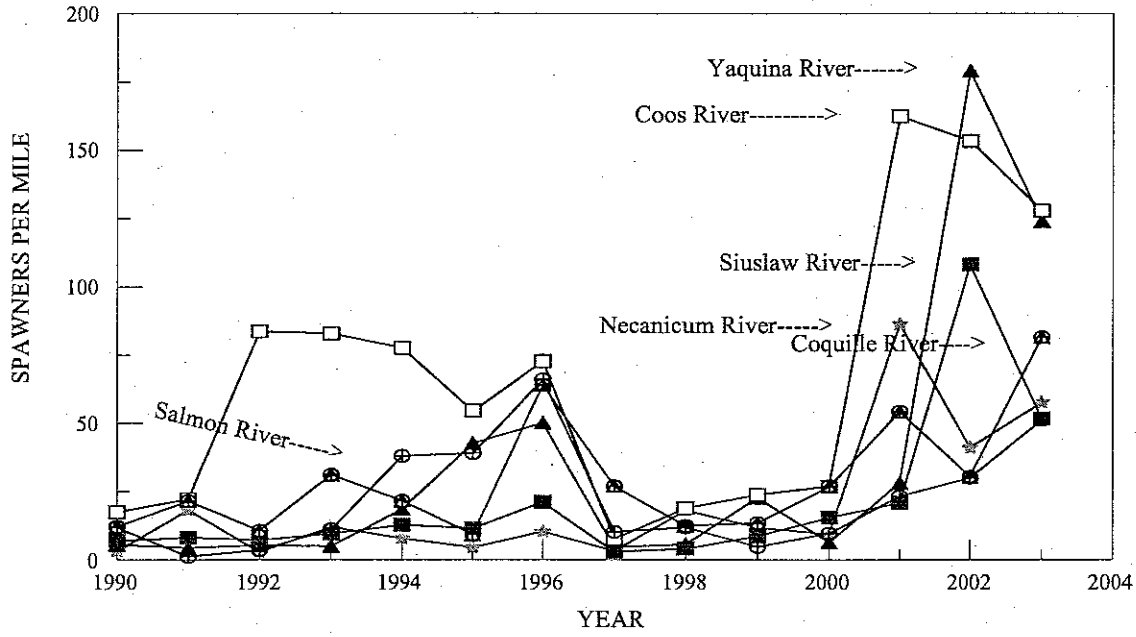
I find it troubling that you assume that if in a period of poor ocean conditions you put out more smolts you will get more spawners returning. The basis for the concern comes from data such as that in the two graphs that follow. The first, and I'm assuming that Chinook and coho have similar patterns and I can't seem to find some coho data on short search, is that there is no correlation between releases and returns. The second, the returns of coho for six rivers on the Oregon Coast during the last decade plus show that when ocean conditions are poor all the rivers approach zero returning spawners. I do not have the error bars for each value, but I suspect they might encompass zero in bad years. In good years the returns increase in proportion to the quality of the system. So, I hope your assumption is correct, but I'm skeptical.

Spring Chinook--Rogue River



Hatchery releases are in units of 100,000 and show data for three years previous.

SPAWNERS PER MILE IN NECANICUM, SALMON, YAQUINA, SIUSLAW, COOS AND COQUILLE RIVERS ON OREGON COAST



Data from Part 1: Viability Criteria and Status Assessment of Oregon Coastal Coho--IMST and Stakeholder Tream Draft

Finally, we have a nomenclature or taxonomy problem. As a student, lo those many years ago before you were even a gleam in your old man's eye, I had beaten into me that "scale" in biological and geographical prose related to the size of the representative fraction (RF) of the area or map being discussed. So, map with a RF of, say, ½ , a large RF covered a small area, whereas a map with a RF of 1/250,000, was a small scale map that covered a large area. Somehow in recent times that fundamental relationship has been reversed. So, please remember that some in your audience will think you are talking about a small area when you say you are describing a large scale area. We may be confused.

I wish you well in your work and hope my comments will increase you success.

Best wishes.

Benjamin B. Stout, PhD
1545 Takena St., SW
Albany, OR 97321
(541) 926 9972
Email: stoutb@proaxis.com
November 28, 2006

TO: Coho Conservation Plan Staff, ODFW
FROM: Benjamin B. Stout
SUBJECT: State of Oregon Conservation Plan for the Oregon Coast Coho ESU

These comments are in two parts: specific questions/comments on information in the Plan and general comments.

Page 7. Under Implementation you mention modified hatchery programs. Later in the Plan one reads that hatcheries are being closed. Why not say so on page 7?

Page 8. Here you mention adverse impacts of hatchery programs. Are there no beneficial impacts? Do I detect a strong anti-hatchery bias in the Plan?

Page 13. Last full paragraph: What is the meaning of the words after the semicolon?

Page 14. In a discussion of population limiting factors you say that stream complexity overrides ocean conditions. Inasmuch as there is overwhelming evidence in ODFW data files that the number of smolts migrating to the ocean is not correlated with the number of returning adults, how do you justify the statement?

Page 14. You say that current threats to the ESU are poor ocean survival and loss of complexity in fresh water habitats. Did freshwater habitats deteriorate significantly (that is, more than 30 percent) during the 1993-1999 period when ocean conditions were poor and returns were low?

Page 14. You say that 90 percent of the good habitat is on private lands. On page 41 you report that 20 percent of coho stream miles are on BLM and USFS land. Which is correct?

Page 24. Wildfire, landslides, stream meandering, forest vegetation succession, etc. are listed as contributing to the ever changing, dynamic nature of watersheds. It is good that these factors are represented. Later in the description of cooperating agency help you note that some will be trying to control these factors. I wish them luck.

Page 25, Table 4. For both the Coos and Sixes rivers it is shown that Stream Complexity is the Primary Limiting Factor and Water Quality is the Secondary Limiting Factor. In Table 3 it is shown that the Coos Passes and the Sixes Fails. How can this be?

Page 26. Under Priority Setting reference is made to Tables 3 and 4. With the question just listed, it is not clear how the information in the two tables can help.

Comments, Conservation Plan. 11/28/06. B. B. Stout

Page 28. Under Assumption 1 it is stated that only smolts from high quality habitat are able to survive poor ocean conditions. The basis for that assumption should be stated. Quality habitat is that which has a certain number of smolts per mile. Is there no other way to determine the quality of a habitat? The basis for that assumption should be stated. Harvest and hatchery management cannot benefit the number of smolts. The basis for that assumption should be stated.

Page 29, Table 5. The numbers in the table are confusing. Just prior to the table, the text states that the average cost per mile of restoring quality habitat is about $24,000. In the table, if one divides the cost for a particular river under a particular scenario by the number of miles to the treated the answer is approximately $50,000. The total miles for any stream divided into the total cost in the right hand column produces the $24,000 figure.

Page 45. Here we find some recognition of the fact that marine mammals and some birds prey on salmon. Any chance that something might be done about the problems?

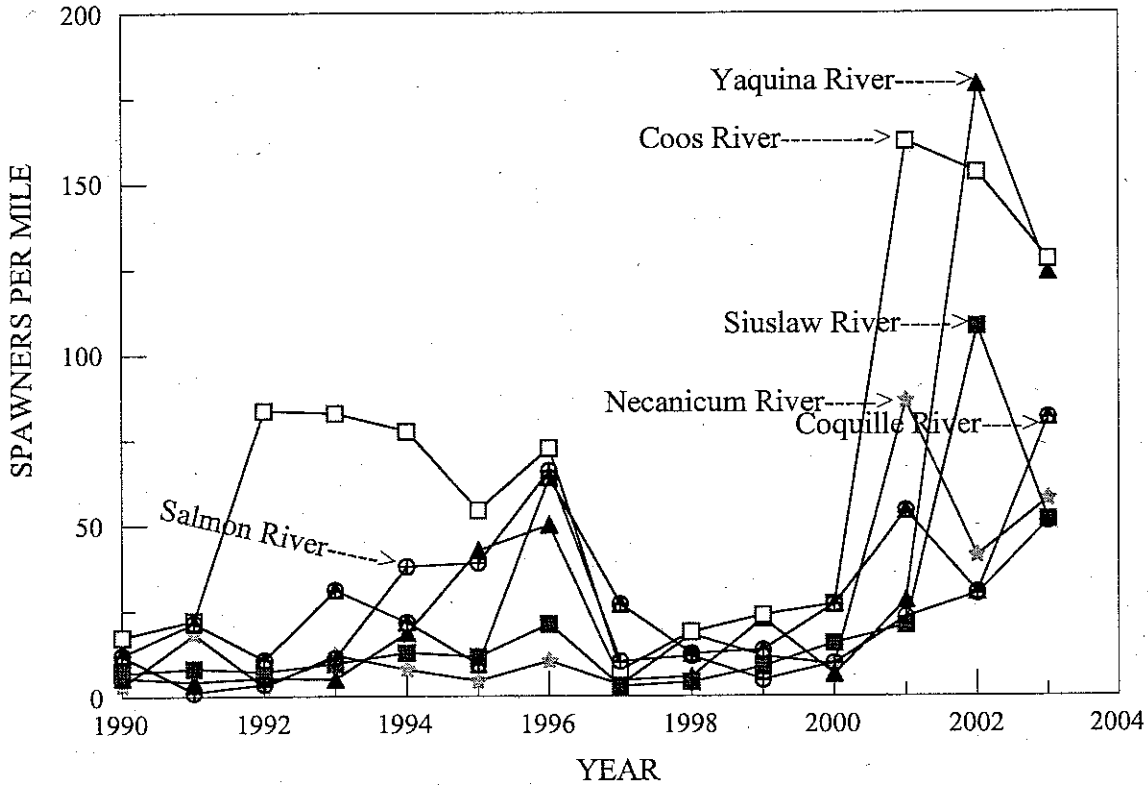
Two graphs are appended which relate to the general comment about the plan. These have to do with the penchant for biologists to classify. In this case the breaking up of the ESU, which of itself is a classification unit, into smaller units. But after this is done, there is never any justification of the classification. Rather than helping, I suggest that the classification tends to becloud the issue.

The first graph that follows shows spawners per mile for six rivers on the Oregon coast. This graph shows that the returns are synchronous on the coast. This synchrony suggests that there is a major influence outside the individual rivers that is affecting returning spawner numbers. The Plan, except to note the poor ocean conditions during one recent period and good conditions in another, ignores this reality.

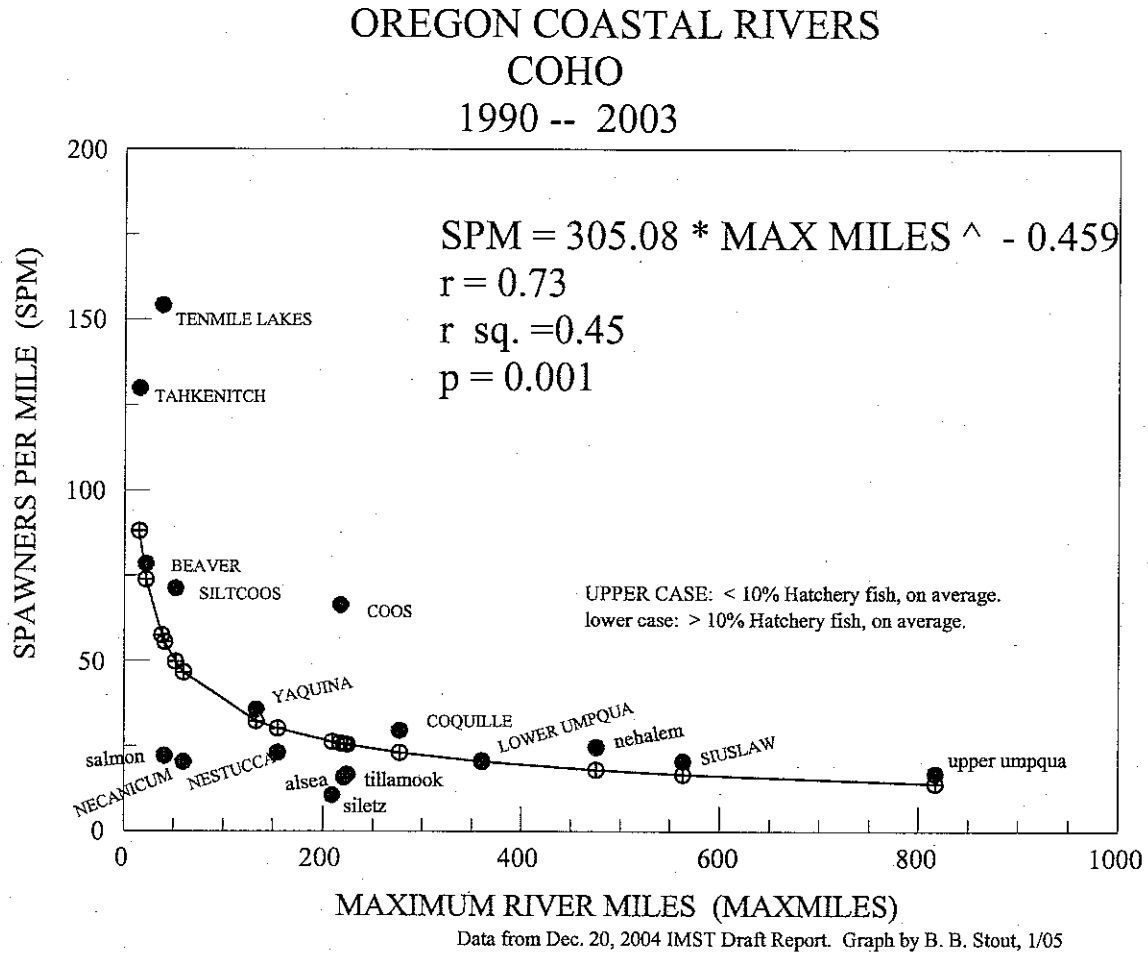
The second graph shows a significant relationship between spawners and river length. Given this relationship the question immediately arises, is the Plan definition of high quality habitat applicable throughout the ESU? Were the classification of the ESU into smaller units helpful, one would expect to see the streams clustered in conformity with the classification system. Clearly this is not the case. It should also be noted that the separation of streams by the amount of hatchery fish fails to separate the streams into two classes. There are high and low hatchery streams on both sides of the line.

The Coos River is clearly is a class by itself. Nothing in the Plan addresses this. How nice it would have been to have found in the Plan plans to find out what makes the Coos so special. The Ten Mile and Tahkenitch Lakes are also special cases. Nothing in the Plan addresses this.

SPAWNERS PER MILE IN NECANICUM, SALMON, YAQUINA, SIUSLAW, COOS AND COQUILLE RIVERS ON OREGON COAST



Data from Part 1: Viability Criteria and Status Assessment of Oregon Coastal Coho--IMST and Stakeholder Tream Draft



In summary, there are rough spots in the Plan that need to be addressed. I have pointed those out with page references.

In general, I sense that biologists have been so blindfolded by their penchant for classification that they have missed some important realities. A plan for Coho salmon in Oregon that does not address directly and seek understanding of the impact of ocean conditions on salmon numbers is deficient. A plan for Coho salmon in Oregon that does not address directly the impact of marine mammals and avian predation is deficient. A plan for Coho salmon in Oregon that does not address unambiguously what constitutes quality habitat is deficient.

Respectfully submitted:

Jennifer Grace

From: phibear@earthtones.com
Sent: Monday, December 04, 2006 10:33 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Dorothy Tharsing
87155 MCTIMMONS LN
BANDON, OR 97411-8283

Jennifer Grace

From: ohmansprings@aol.com
Sent: Sunday, December 03, 2006 9:47 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Rochelle Ohman
2131 2nd Street
Springfield, OR 97477

Jennifer Grace

From: susan_wechsler@hp.com
Sent: Sunday, December 03, 2006 7:39 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

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The coho deserve more than business as usual.

Sincerely,

Susan Wechsler
1820 NE Vine Ave
Corvallis, OR 97330-9207

Jennifer Grace

From: lukecharmz@hotmail.com
Sent: Sunday, December 03, 2006 7:09 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Carrie Lynn Moylan
5335 Daisy St. #125
SPRINGFIELD, OR 97478-6765

Jennifer Grace

From: xmastime@comcast.net
Sent: Friday, December 01, 2006 8:46 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon's drafted plan to restore and conserve Coho Salmon is an important step.

However, I ask that Oregon's coho recovery plan include the following:

1. The protections for both coho and their habitat should be mandatory.

2. Funding should be guaranteed to support the effort to recover wild coho. Without adequate funding, nothing gets done.

Thank you for your consideration.

Sincerely,

Nancy Dachtler
8420 SW GODWIN CT
PORTLAND, OR 97223-6966

Jennifer Grace

From: jheumann@teleport.com
Sent: Friday, December 01, 2006 8:30 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Judy Heumann
2402 NE 26th Ave
Portland, OR 97212-4844

Jennifer Grace

From: dcwodtke@hotmail.com
Sent: Thursday, November 30, 2006 5:20 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

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The coho deserve more than business as usual.

Sincerely,

David Wodtke
755 SE LILLY AVE
CORVALLIS, OR 97333-1805

Jennifer Grace

From: hillclement@earthlink.net
Sent: Thursday, November 30, 2006 4:28 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The coho deserve more than business as usual.

Sincerely,

Mary Clement-Hill
840 SE Lilly Ave
Corvallis, OR 97333-1804

Jennifer Grace

From: relwof.r@earthlink.net
Sent: Wednesday, November 29, 2006 1:56 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Russell Fowler
2804 Grayhawk Ct. NW
Salem, OR 97304-3414

Jennifer Grace

From: tlew4002@earthlink.net
Sent: Wednesday, November 29, 2006 1:50 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Carolyn Eckel
PO Box 33707
Portland, OR 97292

Jennifer Grace

From: royalp@efn.org
Sent: Wednesday, November 29, 2006 1:47 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Royal Murdock
4145 Alder St
Eugene, OR 97405-5614

Jennifer Grace

From: wisedrum@msn.com
Sent: Wednesday, November 29, 2006 12:22 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Douglas Wise
5615 N SYRACUSE ST
PORTLAND, OR 97203-5241

Jennifer Grace

From: fletcherkirsten@hotmail.com
Sent: Wednesday, November 29, 2006 12:09 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Kirsten Fletcher
PO BOX 8266
BEND, OR 97708-8266

Jennifer Grace

From: polaritycenterofsalem@earthlink.net
Sent: Wednesday, November 29, 2006 12:01 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Ann Watters
1940 Breyman NE
salem, OR 97301

Jennifer Grace

From: garwa@hotmail.com
Sent: Wednesday, November 29, 2006 10:16 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Gary & Louise Watts
7388 UPPER APPLEGATE RD
JACKSONVILLE, OR 97530-8978

Jennifer Grace

From: dyibbotson@hotmail.com
Sent: Wednesday, November 29, 2006 9:34 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

D'Averil Ibbotson
221 SE 12th Ave #17
Hillsboro, OR 97123

Jennifer Grace

From: gina.hafner@saiemail.com
Sent: Wednesday, November 29, 2006 9:20 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

Gina Hafner
388 NE LIBERTY AVE
GRESHAM, OR 97030-7922

Jennifer Grace

From: flgreen@localnet.com
Sent: Wednesday, November 29, 2006 8:02 AM
To: PLAN Coho
Subject: Strengthening Wild Coho

Dear Commission Chair Rae:

As an Oregonian for 55 years, I strongly support any effort to keep Oregon Oregon -- and that particularly goes for Coho. . .as their survival would indicate an improved environment for all living things in Oregon.

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

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The coho deserve more than business as usual.

Sincerely,

Fran Greenlee
63215 OB RILEY RD
BEND, OR 97701-8103

Jennifer Grace

From: elviramuniz@yahoo.com
Sent: Wednesday, November 29, 2006 7:10 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

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The coho deserve more than business as usual.

Sincerely,

Elvira Muniz
2133 W 16th Ct
Eugene, OR 97402-3415

Jennifer Grace

From: hobbsj@efn.org
Sent: Wednesday, November 29, 2006 6:53 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The coho deserve more than business as usual.

Sincerely,

Jude Hobbs
2529 RIVERVIEW ST
EUGENE, OR 97403-3214

Jennifer Grace

From: turnoysm@yahoo.com
Sent: Wednesday, November 29, 2006 2:42 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The coho deserve more than business as usual.

Sincerely,

Scott Turnoy
811 Wendy Court
West Linn, OR 97068

Jennifer Grace

From: smhoyt@yahoo.com
Sent: Tuesday, November 28, 2006 10:18 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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The coho deserve more than business as usual.

Sincerely,

Steve Hoyt
4706 NE 23RD AVE
PORTLAND, OR 97211-6473

Jennifer Grace

From: beekman@iconfluence.com
Sent: Tuesday, November 28, 2006 10:09 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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The coho deserve more than business as usual.

Sincerely,

George Beekman
3825 NW Hayes Ave
Corvallis, OR 97330-1753

Jennifer Grace

From: gardeneral@comcast.net
Sent: Tuesday, November 28, 2006 9:57 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

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1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Alan Locklear
6222 SW 36th Ave
Portland, OR 97221-3307

Jennifer Grace

From: wixson@mac.com
Sent: Tuesday, November 28, 2006 9:57 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Gene Wixson
8625 NE GOING ST
PORTLAND, OR 97220-4818

Jennifer Grace

From: evoeller@charter.net
Sent: Tuesday, November 28, 2006 9:49 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Estelle Voeller
1365 Tolman Creek Rd
Ashland, OR 97520-3654

Jennifer Grace

From: viviancc@teleport.com
Sent: Tuesday, November 28, 2006 9:36 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Vivian Coles
8621 SW 57TH AVE
PORTLAND, OR 97219-3261

Jennifer Grace

From: conroyarchila@hotmail.com
Sent: Tuesday, November 28, 2006 9:28 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Jim Conroy
1965 SE CURRIN DR
HILLSBORO, OR 97123-5120

Jennifer Grace

From: Lesliejv1966@yahoo.com
Sent: Tuesday, November 28, 2006 9:10 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

I don't fish but I love to eat Salmon. I have never had such wonderful fish before moving to Oregon. I recognize that in order to continue to eat it, it needs to be taken care of. Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Leslie Vanderleeuw
1 BOWERMAN DR
BEAVERTON, OR 97005-0979

Jennifer Grace

From: gretchenmaehorton@gmail.com
Sent: Tuesday, November 28, 2006 9:04 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Gretchen Horton
4831 NE Grand Ave
Portland, OR 97211

Jennifer Grace

From: flap@efn.org
Sent: Tuesday, November 28, 2006 8:55 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Peder allison
95348 GRIMES RD
JUNCTION CITY, OR 97448-9323

Jennifer Grace

From: jtill@teleport.com
Sent: Tuesday, November 28, 2006 8:53 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

E Tillman
3833 SW CULLEN BLVD
PORTLAND, OR 97221-3527

Jennifer Grace

From: charliew@launchbx.com
Sent: Tuesday, November 28, 2006 8:48 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive. This step is vital to Oregon's future, for both its economy and its environment.

The draft plan sets out specific criteria for restoring coho populations. But they are inadequate to meet those goals. Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan assumes our land use policies will protect coho and their habitat. Given what's happened with measure 37, coho's future doesn't look very secure. Voluntary efforts are important but again, inadequate. Right now, enforceable habitat protections are critical to restoring healthy coho runs.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts won't happen.

3. Err on the side of the endangered species. The plan suggests current coho populations are sustainable, which isn't supported by data. Imperiled coho populations are at our mercy, and that effort must be aggressive to have a chance at succeeding.

Further, the recovery plan needs to provide immediate habitat protection, to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Charles Weiss
616 SW Maplecrest Dr
Portland, OR 97219-6420

Jennifer Grace

From: chris.irwin@comcast.net
Sent: Tuesday, November 28, 2006 8:48 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Chris Irwin
1309 Glenmorrie Drive
Lake Oswego, OR 97034

Jennifer Grace

From: cgraham@teleport.com
Sent: Tuesday, November 28, 2006 8:49 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Charlie Graham
2413 SUNSET DR
FOREST GROVE, OR 97116-1513

Jennifer Grace

From: waynekins@hotmail.com
Sent: Tuesday, November 28, 2006 8:16 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Wayne Kelly
1257 SISKIYOU BLVD # 1133
ASHLAND, OR 97520-2241

Jennifer Grace

From: pckaten@charter.net
Sent: Tuesday, November 28, 2006 8:13 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

I am a retired scientist and volunteer practically full time working on watershed issues.

The little accomplishments we make seem to be almost instanteously negated by clear cutting and other poor forest management pratices.

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Paul Katen
56630 Sitka Dr
Otis, OR 97368-9509

Jennifer Grace

From: dbdan@seanet.com
Sent: Tuesday, November 28, 2006 8:12 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Dan Brook
6234 SW ORCHID DR
PORTLAND, OR 97219-4981

Jennifer Grace

From: sruecker@hotmail.com
Sent: Tuesday, November 28, 2006 7:51 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

As an Oregonian, I support a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Susan Ruecker
3225 NE 40th Ave
Portland, OR 97212-2813

Jennifer Grace

From: mtalk@sbcglobal.net
Sent: Tuesday, November 28, 2006 7:36 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

THANK YOU.

Sincerely,

Lisa Marshall
15023 RAIN SHADOW CT
HOUSTON, TX 77070-1007

Jennifer Grace

From: rorynichols@gmail.com
Sent: Tuesday, November 28, 2006 7:28 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Rory Nichols
PO BOX 1153
Silverton, OR 97381

Jennifer Grace

From: sooney@charter.net
Sent: Tuesday, November 28, 2006 7:24 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Sooney Viani
1010 Paradise Ln
Ashland, OR 97520-3594

Jennifer Grace

From: rtwagner@bellsouth.net
Sent: Tuesday, November 28, 2006 6:50 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Robert Wagner
3100 SWEETWATER RD APT 3112
LAWRENCEVILLE, GA 30044-2486

Jennifer Grace

From: dindamcp4@yahoo.com
Sent: Tuesday, November 28, 2006 6:35 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Dinda Evans
PO BOX 178695
SAN DIEGO, CA 92177-8695

Jennifer Grace

From: turnoy1@comcast.net
Sent: Tuesday, November 28, 2006 6:14 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

David Turnoy
811 Wendy Ct
West Linn, OR 97068-4059

Jennifer Grace

From: Bruce@DeLoria.us
Sent: Tuesday, November 28, 2006 5:28 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Bruce DeLoria
48330 WILSON RIVER HWY
TILLAMOOK, OR 97141-9153

Jennifer Grace

From: loey11@yahoo.com
Sent: Tuesday, November 28, 2006 5:17 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Lois White
486 TUNNEL CREEK RD
GRANTS PASS, OR 97526-9748

Jennifer Grace

From: garykish@netscape.net
Sent: Tuesday, November 28, 2006 5:10 PM
To: PLAN Coho
Subject: ODFW Coho Recovery Plan

Dear Commission Chair Rae:

As a devoted fisherman and conservationist, I am looking to you for leadership on this issue.

Across the various agencies, Oregon must adopt a sound plan for restoring Oregon's coastal coho populations and the habitat they need to survive.

The plan's reliance on voluntary measures will not accomplish this.

Other's will expound on:

1. Mandatory protections both for coho and their habitat.

2. Guaranteed funding to support the state's efforts to recover wild coho.

3. A precautionary approach that errs on the side of the species.

* I would suggest this includes eliminating the non-selective fisheries, such as gillnetting.

For Oregon's salmon,

Gary Kish
29395 NW Reeder Rd
Portland, OR 97231-6906

Jennifer Grace

From: jensenje@ohsu.edu
Sent: Tuesday, November 28, 2006 5:00 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Jeffrey Jensen
1220 SW Westwood Ct
Portland, OR 97239-2726

Jennifer Grace

From: dimaraber@animail.net
Sent: Tuesday, November 28, 2006 4:59 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Dima Raber
1806 SE 20TH AVE
PORTLAND, OR 97214-4804

Jennifer Grace

From: pbdraw@yahoo.com
Sent: Tuesday, November 28, 2006 4:51 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Paul Brown
PO BOX 11
Selma, OR 97538

Jennifer Grace

From: bert94@comcast.net
Sent: Tuesday, November 28, 2006 4:52 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Roberta Swearingen
11040 SW Cottonwood Ln
Tigard, OR 97223-4222

Jennifer Grace

From: pkaplan@uoregon.edu
Sent: Tuesday, November 28, 2006 4:49 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Paul Kaplan
35900 N Morningstar Rd
Pleasant Hill, OR 97455-9646

Jennifer Grace

From: PATTYBONNEY@HOTMAIL.COM
Sent: Tuesday, November 28, 2006 4:42 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Patty Bonney
8625 SW OLESON RD
PORTLAND, OR 97223-6828

Jennifer Grace

From: ramblin@rosenet.net
Sent: Tuesday, November 28, 2006 4:34 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Wendy McGowan
467 SE RAMP ST
ROSEBURG, OR 97470-3836

Jennifer Grace

From: KNAPP Suzanne * Governor's Office [Suzanne.Knapp@state.or.us]
Sent: Tuesday, November 28, 2006 4:30 PM
To: Kevin Goodson
Subject: FW: Please strengthen the wild coho recovery plan

Let's see if this works.

-----Original Message-----
From: chrisl@dsl-only.net [mailto:chrisl@dsl-only.net]
Sent: Tuesday, November 28, 2006 11:27 AM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations.
However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho.
Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Chris Leck
7433 SW 36th Ave.
Portland, OR 97219-1627

Jennifer Grace

From: pushkara50@yahoo.com
Sent: Tuesday, November 28, 2006 4:25 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Antar Pushkara
85091 LARSON RD
EUGENE, OR 97405-9450

Jennifer Grace

From: MELVILLE Tom
Sent: Tuesday, November 28, 2006 4:19 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon must adopt a strong plan for conserving, enhancing, and restoring Oregon's coastal coho populations and all of the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved to restore their populations. However, the actions are inadequate to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but rarely if ever, on their own, do voluntary efforts achieve resource protection. Enforceable habitat protections are absolutely necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable; this is untrue, and furthermore is not supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Thomas Melville, Sr.
16066 HUNTER AVE
OREGON CITY, OR 97045-1347

Jennifer Grace

From: kelley@gorgefriends.org
Sent: Tuesday, November 28, 2006 4:19 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Kelley Beamer
6303 NE 6th Ave
Portland, OR 97211

Jennifer Grace

From: owyhee7@msn.com
Sent: Tuesday, November 28, 2006 4:12 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Penelope Kaczmarek
111 Fred Taylor Rd
Siletz, OR 97380-9708

Jennifer Grace

From: goldena@aol.com
Sent: Tuesday, November 28, 2006 3:49 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

anne golden
247 N 3RD ST
ASHLAND, OR 97520-1943

Jennifer Grace

From: nadiaegardner@yahoo.com
Sent: Tuesday, November 28, 2006 3:31 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

As an environmental scientist and a coastal resident, I know what coho means to Oregon. We must adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive. Voluntary actions and current land use laws are not going to cut it, especially in unincorporated, rural areas where education on these issues is low and land use laws- including stream setbacks and other protections- are weak and unenforced.

Oregon's coho recovery plan should include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Use the precautionary principle. The plan suggests current coho populations are sustainable, which isn't supported by scientific data. We need to take caution where data is not yet available.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

Thank you for considering my comments.

Sincerely,

Nadia Gardner
PO Box 1281
Cannon Beach, OR 97110

Jennifer Grace

From: kstingle@efn.org
Sent: Tuesday, November 28, 2006 3:25 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Karen Stingle
358 W 4TH AVE
EUGENE, OR 97401-2535

Jennifer Grace

From: dara@gofairtrade.net
Sent: Tuesday, November 28, 2006 3:19 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Dara Zike
2937 SE Waverleigh Blvd
Condo #6
PORTLAND, OR 97202

Jennifer Grace

From: nancyoharrow@msn.com
Sent: Tuesday, November 28, 2006 2:55 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Nancy O'Harrow
2289 5th Ave. apt# 2
West Linn, OR 97068

Jennifer Grace

From: LMINNEMA@msn.com
Sent: Tuesday, November 28, 2006 2:38 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

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1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Lynn Minneman
950 SW 21st Ave Apt 306
Portland, OR 97205-1514

Jennifer Grace

From: harrirad@yahoo.com
Sent: Tuesday, November 28, 2006 2:37 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

Your neighbor on Fairmont Hill,

David Harrison
585 Washington St S
Salem, OR 97302-5152

Jennifer Grace

From: katie.grew@nike.com
Sent: Tuesday, November 28, 2006 1:58 PM
To: PLAN Coho
Subject: Please strengthen the wild coho recovery plan

Dear Commission Chair Rae:

Oregon should adopt a strong plan for conserving and restoring Oregon's coastal coho populations and the habitat they need to survive.

Oregon's draft plan is a step in the right direction because it sets out specific criteria that must be achieved in restoring their populations. However, the actions are inadequte to meet those goals.

I ask that Oregon's coho recovery plan include:

1. Mandatory protections both for coho and their habitat. The draft coho plan suffers from the flawed assumption that our land use policies will protect coho and their habitat from further decline. Voluntary efforts are an important part of long-term recovery, but right now enforceable habitat protections are necessary to bring coho back from the brink of extinction.

2. Guaranteed funding to support the state's efforts to recover wild coho. Without adequate funding, effective recovery efforts cannot be accomplished.

3. Err on the side of the species. The plan suggests current coho populations are sustainable, which isn't supported by data. This places a substantial risk of error on imperiled coho populations that can't afford any errors right now.

The recovery plan not only needs to address the above issues but also provide enough immediate habitat protection to give the longer-term recovery plan time to take hold.

The coho deserve more than business as usual.

Sincerely,

Katie Grew
4519 NE 28th Ave
Portland, OR 97211