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Subject: Comments concerning PFMC's Amendment 13

Attn: SSC, STT, and Oregon Coastal Natural (OCN) coho Work Group

I would like to take this opportunity to submit comments concerning the PFMC directed Amendment 13 comprehensive adaptive analysis to be completed in 2000.

When one reviews the amendment it becomes clear that there are two separate components that should be included in any comprehensive adaptive analysis. First, the estimated production parameters for freshwater habitat derived from the Habitat-Based Life Cycle Model developed by Nickleson and Lawson (1996), and a second component, the fishery impact limit and spawning rebuilding criteria used in the amendment.

While I agree with the Goals and Objectives identified by the OCN Work Group I am concerned that there are a number of other issues and analysis that are necessary if a full comprehensive adaptive review is to be completed for the Council and NMFS. The two technical concerns that the Council's Scientific and Statistical Committee and the Salmon Technical Team explicitly identified as review items in Section 4.3 are; (1) how well the amendment provides for significant rebuilding towards full seeding and (2) a detailed review of the selection of parental spawner and marine survival criteria that trigger allowable impact rates in fisheries. While these are critical issues for review I would like to the STT, SSC and the Work Group to consider the following,

- The document needs to clearly define what is 'full seeding' and how that total spawning abundance target relates to the estimated basin-wide anadromous miles of habitat. It is my understanding that when Amendment 13 discusses 'full seeding' it actually is referring to only about 25% of the anadromous habitat in our OCN rivers and lakes – 'the high quality habitat.'
- We do not support the direction in the Final Draft, which indicates that ODFW would like to aggregate spawning abundance estimates at the subunit scale to establish whether or not coho populations are at the 'Critical' Category. This direction will once again move the management regime back to aggregating abundance estimates to a larger scale as opposed to moving us closer to managing the "unit of conservation" which is the deme. If we are to succeed at our salmon recovery efforts we truly acknowledge and protect the genetic diversity and metapopulation structure.
- In the recent past the agencies have over-predicted OCN coho abundance 13 out of 14 years. Shouldn't this issue be reviewed if we expect to improve abundance estimates especially when populations are so critically low in many basins? We are not achieving stock replacement at the population scale, the sub-unit scale, nor at the deme scale, the true unit of conservation. In 1997 and 1998 the spawner densities were at fish densities critical threshold levels throughout the whole coast averaging about 4 fpm. This is an 'endangered' status!

The document acknowledges the importance of the need to protect the genetic integrity of our OCN coho, and the risk of decreased reproductive success at low abundance as well as the difficulty of identifying the "Critical" Category with regards to low spawner abundance estimates. But I am very concerned that the document direction for using 4 /fish per mile (fpm) as the critical trigger to be too low to protect the populations at the demic scale. When one divides total spawners by the number of miles in each basin the risk of estimating a fpm density that does not truly reflect the low spawner densities throughout the whole basin is real. Please review OCN coho Stratified Random Sampling data for examples. The majority of the surveys are <4 fpm but when averaged together with the few surveys that had fish densities in the mid-teens the average is over 4 fpm. So, averaging fish densities per mile does not reflect what is really happening at the basin scale.

- Fragmented populations is a significant issue that must be addressed as NMFS and the Council attempts to understand recovery of the numerous ESA listed populations. If one reviews adult spawner count estimates by basin, and spawner distribution patterns it becomes clear that there are a few demes that are holding up the total spawning abundance estimate for a basin.
- Marginal habitats are also not taken into account. Again when Amendment 13 discusses ‘full seeding’ it actually is referring to only about 25% of the anadromous habitat in our OCN rivers and lakes – the good quality habitat. What is the scientific rationale to increase fishing pressure when populations are at 50% seeding of the good quality habitat thereby postponing the recovery in to the future. Failing to acknowledge marginal habitats and small populations as well as ignoring the fact that high quality low gradient habitat that must be seeded with fry is unacceptable?
- How exactly is the amendment going to utilize the ODFW life history monitoring data – smolt production from each site to verify model abundance estimates and ocean conditions? Are the various monitoring sites a real representation of existing aquatic habitat conditions throughout the Coast Range? How is the ODFW monitoring program going to be linked to fishing rate triggers established in Amendment 13?
- The habitat model uses an egg deposition to summer parr as a constant 7% for all stream reaches when at full seeding. How was this data point derived and does this truly reflect the condition of Oregon coastal streams? What are the implications of over predicting survival at this stage of the model?
- The model looks at habitat carrying capacity by basin and sets abundance criteria for full seeding but fails to discuss stream productivity in relation to nutrient recycling. Bilby, Cedarholm, and Brickell have all documented the fact that spawned out carcasses are a vital source of nutrient enrichment which stimulates primary production in streams. This research must not be ignored when developing basin specific spawning escapement targets and triggers.

- The old spawning abundance goal was 200,000 naturally spawning OCN coho or 42 fish per mile. Now this new method has a full seeding escapement target of 132,100 coho but this includes the Rogue as well as the Lakes system and excludes marginal habitat. The model also sets the full seeding target for the Coastal Lakes system at 8,000 spawners. This abundance projection is for at least three Coastal Lakes Takenitch, Siltcoos, and Ten Mile Lake. The seeding targets that have been established by the Habitat based production model appear to be flawed. Does the STT/SSC really believe the seeding target of about 2,750 spawners / per Lake to actually represent full seeding?
- Data from the Mid-Coast Watersheds Council Rapid Bioassessment on fish distribution indicates fry distribution patterns may be different than model projections at the reach level. I would urge the Work Group to discuss this issue of seasonal distribution with ODFW Research and MCWC Technical Team.
- Model does not take into account significant storm events that effect overwintering survival. Accelerated sedimentation, bedload scour, and channel stability are all significant factors affecting early life history survival. Does this model take a conservative approach if data is unavailable?
- Should there be an analysis concerning differential impacts to severely depressed OCN North coast populations and Lower Columbia / Clackamas / Sandy River as a result of multiple selective fisheries off the Oregon Coast as well as North of Falcon and Buoy 10?
- The issue of nonretention fishery management has a number of components that the Council needs to consider - allocation, as well as the accuracy of the hooking mortality rates. Even though the Council has increased the hooking mortality rate for recreational fisheries we are very concerned about its accuracy. In light of the pressure to increase fishing impacts in order to have access to hatchery fish we would urge the Council to open up for independent review the range of issues related to nonretention fishery management. Issues to be reviewed include, encounter rates and disproportionate mortality from multiple nonretention fisheries.

While we strongly support Amendment 13's direction of including the critical conservation measures to the harvest impact matrix, we have concerns that must be addressed as the Habitat based life-cycle model establishes spawning abundance and impact targets. We believe that individual basins not subunits that are in the 'Critical abundance category' should constrain mixed stock ocean fisheries. There is a forum to discuss changes to the existing matrix that ODFW needs to explore i.e. watershed council process. Thousands of dollars and volunteer hours that are going into salmon recovery at the local level. This local process must be alerted to this change in direction.

We would urge state and federal agencies to fully analyze and research the identified issues of concern. We also urge the Council and NMFS to take a precautionary approach when setting OCN exploitation rates in the near term. The Independent Multidisciplinary Science Team has been very clear with their recommendations concerning this issue, "Because spawner abundances have been extremely low and recruitment for all three brood years (1995, 1996, 1997) has been below replacement, fishery impacts should be as close to zero as possible until established signs of recovery are observed."(Letter to Kay Brown 9/6/00).

We would support a strategy that would include a three brood cycles <5% total exploitation rates (freshwater as well as ocean) in order to maximize spawner recruitment.

I believe that many of the issues that been identified by the Independent Multidisciplinary Science Team (IMST) and the public may in fact be a research projects that should be initiated immediately in order to incorporate the data into the Life-Cycle Model as soon as possible. If I can be of any further assistance in developing recovery strategies do not hesitate to call.

Sincerely,

Paul Engelmeyer
NW Policy Analyst
Living Oceans Program