

AD HOC LOWER COLUMBIA RIVER NATURAL COHO WORKGROUP REPORT ON THE
LOWER COLUMBIA RIVER COHO HARVEST MATRIX

The Lower Columbia River Natural Coho Workgroup (LRC Workgroup) met twice at the Council office in Portland since the June 2014 Council meeting to continue to develop reports and recommendations on updating the information on status of Lower Columbia River coho stocks, evaluating alternative harvest policies, and assessing relative population risk of alternative harvest policies. Through the development of the proposed alternatives and risk assessment, the LRC Workgroup discussed the following policy issues and recommendations.

One criteria in the development of alternatives was to incorporate data for additional populations within the ESU, beyond the two (Clackamas and Sandy Rivers) in the current harvest matrix. The alternatives the LRC Workgroup is considering, and the risk analyses conducted, include ten primary populations from Oregon and Washington from two strata of the ESU.

When possible, simple is better. The LRC Workgroup agrees that because many cells within the existing matrix have rarely been relevant in practice, the current matrix may be overly complex. As was observed with the original Amendment 13 matrix for Oregon Coast coho (prior to 2013-2014 revisions), some of these metrics are relatively unresponsive to changing conditions and to conservation and fishery needs over time. Simplifying the harvest matrix was one of several criteria in the development of the alternatives and is reflected in the LRC Workgroup's draft purpose statement for this effort:

“Council intent is to incorporate new information on Lower Columbia River natural coho populations and stock status, evaluate the risk of various harvest strategies on populations across the Evolutionarily Significant Unit (ESU), and determine if a revised harvest policy can be developed that simplifies existing harvest rules and optimizes fishing strategies consistent with acceptable conservation risk tolerances.”

Available data for coho salmon suggests that marine survival is often more influential than parental abundance (seeding levels) in determining future abundance and, by extension, population risk. Therefore, the LRC Workgroup felt that the parental spawner categories of the existing harvest matrix provided a good opportunity for simplification. Some members of the workgroup expressed concern that the effect of parental abundance may be much more important at very low levels, and therefore keeping a low seeding “floor” should be considered. The members of the LRC Workgroup agree that a revised harvest matrix should likely put more weight on marine survival than the current version does. The current population viability (PVA) model indicates low sensitivity of relative risk to the inclusion or exclusion of parental seeding as a metric. Thus, the concept of including a low or very low seeding level, below which additional reductions in exploitation rates are implemented may be more of a precautionary policy to address uncertainty than a technical approach to managing model-estimated risk. In other words, even though the PVA model indicates low sensitivity to seeding effects, acknowledgment that data for these populations are still

relatively limited may warrant maintaining a parental seeding “floor” to address uncertainty of future conditions. The LRC Workgroup has discussed averaging the seeding levels of the ten primary populations to evaluate if the ESU is below a potential parental seeding “floor”.

A further simplification is recommended in the marine survival metrics. Values exceeding the current “high” marine survival index of 0.0040 occur very rarely in the historic observations, and have not been observed since the 1970s. As a result, the presence of such high values in the matrix has little effect on results. The workgroup is instead examining ways to distribute categories for marine survival based upon frequency of occurrence (e.g., low = 25th percentile of values, medium = 26-50th percentile of values, etc.).

The risk analyses conducted indicate that the changes in risk of different harvest strategies are small over the range of the relatively low exploitation rates in the proposed alternatives. However, in part because the exploitation rates being evaluated are relatively low, analyses to date have not indicated a likelihood of achieving a “win-win” - a situation where average exploitation rates could be increased while reducing overall relative risk. However, the LRC Workgroup believes that many of the alternatives could provide improved fishing opportunity without substantially increasing relative risk to the ESU.

To help frame the issue and develop a range of alternatives, the National Marine Fisheries Service (NMFS) representatives provided some preliminary direction that focuses on achieving fishery management goals while minimizing increased relative risk to the ESU. Use of the existing matrix has resulted in an average exploitation rate of approximately 16 percent since implementation, and modeling results yield a similar long-term average when applying the current management framework. NMFS stated that fishery stability and performance could likely be improved with a relatively small increase in relative risk and average exploitation rate, and suggested that potential alternatives should have an average exploitation rate no higher than approximately 18 percent.

The accounting of coho impacts occurring from targeted or incidental catch in recreational fisheries in Washington and Oregon tributaries of the Columbia River has not been consistent historically or geographically. According to fishery management plans submitted to NMFS by the states in 2005, these fisheries are estimated to have relatively low impact rates on LCN coho. Including these impacts in the exploitation rates in the ocean and mainstem harvest matrix would likely have a small but constraining effect on ocean and mainstem fisheries relative to current policy. The LRC Workgroup notes that the states must provide guidance on this issue but wanted to notify the Council and public of the potential consideration of recreational Columbia River tributary fisheries in the context of overall risk to the ESU.

The LRC Workgroup recommends that the Council adopt the proposed purpose statement and continue to work towards a revised harvest matrix of LCN coho in a manner that is consistent with the Oregon and Washington recovery plans.

The LRC Workgroup recommends the Council schedule a review of any new harvest policy three years after its implementation. In addition to providing an opportunity to review

effectiveness, the LRC Workgroup notes that ongoing research and monitoring programs will provide new information on ESU populations that may be helpful in resolving or reducing current uncertainties. NMFS will be conducting the 5-year status review of the ESU in 2015.

PFMC
8/21/14