

## SALMON ADVISORY SUBPANEL REPORT ON SALMON REBUILDING PLANS

The Salmon Advisory Subpanel (SAS) has reviewed the draft Salmon Rebuilding Plans (plans) as provided by Salmon Technical Team (STT). The SAS supports adoption by the Pacific Fishery Management Council (Council) of the two Chinook plans as final with the following comments provided below. The SAS also supports the adoption of the three coho Salmon Rebuilding Plans as drafts for public review.

For the Sacramento River Fall Chinook (SRFC) and Klamath River Fall Chinook (KRFC) plans under ‘Section 4: Recommendations for Action’, the SAS provides the comments and suggestions as listed below. In addition, the SAS provides suggestions and comments specific to Section 4.7 Items 2, 3, and 4 of the SRFC plan.

Section 4.2 - Recommendation 2: Management Strategy Alternatives. This section includes a range of alternatives designed to achieve rebuilt status that result in various rebuilding times and economic impact.

- SAS continues to support Alternative 1 (status quo) for both SRFC and KRFC as the final preferred Alternative.
- Justification: KRFC: Under the three alternatives, the time estimated to achieve rebuilt status ranges between one and two years. Alternative 1 and Alternative 2 have the same rebuilding time estimates (2 years), but the analysis indicates Alternative 2 may have a negative economic impact. Given the rebuild timeframes are the same, and Alternatives 2 and 3 may negatively impact the coastal communities, **Alternative 1** is preferred by the SAS.  
SRFC: Under the three alternatives, the time estimated to achieve rebuilt status ranges between two and three years. Alternative 1 estimates a 3-year rebuilding time with no economic impact; and Alternative 2 estimates a 2-year rebuilding time with a negative economic impact. Given all the rebuilding timeframes are very short, and Alternative 2 and 3 may negatively impact the coastal communities, **Alternative 1** is preferred by the SAS.

The SAS also provides the following comments and suggestions:

Section 4.3 - Recommendation 3 states, “*While the stock is rebuilding, consider eliminating, or limiting, post-August “fall” ocean salmon fisheries. There are inherent uncertainties with fall fisheries as abundance forecasts are not yet available. Limiting fall fisheries is precautionary because fishing mortality is not incurred (or is limited) prior to obtaining a preseason abundance forecast for KRFC. Also, no or limited fall fisheries reduce the likelihood of heavily constrained fisheries in the spring and summer of the following year.*”

- If the Council moves to adopt Recommendation 3, then the SAS suggests it be amended to include ‘on an annual basis’ at the end of the first sentence.

- Justification: Consideration of fall fisheries already occurs on an annual basis with abundance forecasts and allowable impacts in mind. The SAS recognizes the economic value provided by these ‘fall fisheries’ and feels that maintaining the status quo of annually considering the extent of this fishery is the best approach.

Section 4.4 - Recommendation 4 states, “*While the stock is rebuilding, consider limiting de minimis fisheries specified by the control rule at low forecast abundance. The Fishery Management Plan (FMP) provides a list of circumstances the Council shall consider when recommending de minimis exploitation rates, including whether the stock is currently overfished.*”

- If the Council moves to adopt Recommendation 4, the SAS suggests Recommendation 4 be amended to include ‘on an annual basis’ at the end of the first sentence.
- Justification: Consideration of *de minimis* fisheries and the associated allowable exploitation rate is already covered in the FMP. The SAS recognizes the economic value provided by these *di minimis* fisheries and feels these considerations should be approached on a year-by-year basis as outlined in the FMP. An annual review would allow for a holistic view during the preseason planning process when considering fisheries and the overall economic benefit.

Section 4.5 - Recommendation 5: Given that habitat conditions appeared to be a contributing factor in the decline of each of the Chinook stocks, the SAS is fully supportive of a review by the Habitat Committee in collaboration with tribal, federal, state and local habitat experts.

Section 4.7 - Further Recommendations: The SAS fully supports all recommendations under this section of both Chinook plans.

Specific to the Sacramento River Fall Chinook Plan, Section 4.7, Item Numbers 2, 3 and 4 recommend the development of age-structured stock assessments, forecasts, and model. The SAS brings attention to these specific items to highlight the importance and value of these concepts in fisheries management.

An age-structured stock assessment has proven to be far more accurate in predicting ocean abundance, which leads to the ultimate decision of how much harvest time is allowed on the ocean. An associated age-structured model, similar to the Klamath Ocean Harvest Model (KOHM), has proven to improve forecasting of fishery performance. An age-structured stock assessment is the foundation for developing accurate age-structured forecasts, and ultimately a model that would bring greater confidence in achieving the harvest and escapement predictions.

There is great value in developing a new Sacramento Ocean Harvest Model (SOHM) similar to the KOHM which uses age-structured modeling. Developing an age-structured model for the SFRC will likely reduce the need to buffer (increase) the escapement goals, as was the case in 2017 and 2018. During those same two years, KRFC escapement was not buffered, as there was more confidence in KOHM outputs. Oregon and California ocean fleets have seen significant constraints over the past three years due in part to the low confidence in the SFRC harvest model’s ability to accurately predict escapement. These constraints have contributed to costly declines in infrastructure and support services related to the industry. When harvest opportunity is constrained

to buffer against poor model performance, this leads to a decline in the commercial fleet, and the associated decline in economic stability of the coastal communities.

The continued trend of reduced season length, declining infrastructure, loss of participating commercial vessels, and loss of income must be resolved. The SAS strongly feels that development of an age-structured model for the SFRC is part of the solution. A SOHM would provide a long term remedy to the low confidence in escapement and abundance projections provided under the current system. With the improved modeling performance, SOHM could help assure viability of the commercial fleet, provide more opportunity to the recreation sector, and provide economic stability to the coastal communities.

PFMC  
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