SACRAMENTO RIVER WINTER CHINOOK (SRWC) CONTROL RULE, FINAL RECOMMENDATIONS

The Pacific Fishery Management Council (Council) is concerned with the current status of Sacramento River winter Chinook (SRWC) and committed to protecting this resource. Since 2015, the Council has applied considerable restrictions and precautionary measures to salmon ocean fisheries beyond what is called for in the current SRWC harvest policy, due to extended drought conditions and evidence of poor juvenile recruitment. The National Marine Fisheries Service (NMFS) has identified SRWC as one of eight "Species in the Spotlight," which are among the most at risk of extinction in the near future.

SRWC are listed as endangered under the Endangered Species Act (ESA) and have been harvested incidentally in ocean fisheries, primarily off the central California coast. A two-part consultation standard for endangered SRWC was implemented in 2012. The first component of the consultation standard is the season and size limit provisions for central California salmon fisheries. The second component of the consultation standard is specified by a control rule that limits the maximum age-3 impact rate for the area south of Point Arena, California based on the geometric mean of the most recent three years of spawner escapement.

The current control rule is abundance-based with allowable (age-3) impacts ranging from 0 to 20 percent. When abundance is less than 500 fish, allowable impacts are zero. This results in a complete salmon fishery closure south of Point Arena. The Council has expressed concern that the control rule is unnecessarily restrictive and could allow for *de minimis* levels of fishing without significantly increasing the risk of extinction. This approach is currently used for several stocks of salmon, including Sacramento River fall Chinook. There are also concerns that the control rule's reliance on spawner escapement to determine allowable impacts is not adequately reactive to rapid changes in abundance, since the estimated spawner abundance for the upcoming year is determined by using the geometric mean from the prior three years of escapement. Incorporating more forward-looking indicators in the current year forecast would seem beneficial.

To address the Council's interest in investigating an alternative harvest policy for SRWC, the Ad Hoc Sacramento River Winter Chinook Workgroup (SRWCW, Workgroup) was formed in November 2015 by the Council. The Workgroup was tasked with exploring and evaluating alternative fishery management frameworks for Sacramento River winter Chinook. The Workgroup focused on three major areas; 1) develop methods for forecasting abundance, 2) develop a suite of potential control rules for the Council's consideration, and 3) evaluate the performance of these control rules with regard to conservation benefits and fishery costs using a Management Strategy Evaluation (MSE) approach. At the September 2016 Council meeting, the Council reviewed the proposed forecasting methodology, and approved a draft range of nine alternative control rules for analysis. At the April 2017 Council meeting, the Workgroup provided a summary of the preliminary results of an MSE of the nine alternative control rules. The Council, along with the SSC and other workgroup members, provided feedback and guidance for additional analysis, which was presented to the Council in September 2017.

At the September 2017 Council meeting, an additional control rule (CR10) was introduced by the Salmon Advisory Subpanel. This control rule (CR10), along with three others (CR4, CR5, and CR7), were forwarded for public review. A methodology review for CR10 was not necessary since it was a blend of two control rules already considered. The Council directed the SRWCW to conduct the same analysis on CR10 as was conducted on the other nine control rules and provide an updated report at the November 2017 meeting (Agenda Item D.3.a, SRWCW Report). The Council also specified that the median, rather than the mode, should be used in all calculations for SRWC control rule analysis.

It is anticipated that the Council will identify formal policy recommendations to NMFS for an alternative control rule based on this current set of refined analyses at this meeting. Following the November 2017 Council meeting, it is anticipated that NMFS will consider the Council's recommendations in its review of the consultation standards under the ESA for potential implementation for 2018 ocean salmon fisheries and beyond.

Council Action:

1. **Review progress and consider the report of the SRWCW.**
2. **Provide a final recommendation for an alternative control rule for SRWC.**

Reference Materials:

1. Agenda Item D.3.a, SRWCW Report 1: Further Evaluation of Sacramento River Winter Chinook Salmon Control Rules: Addendum to Ad Hoc SRWC Workgroup (2017).

Agenda Order:

D.3 Sacramento River Winter Chinook (SRWC) Control Rule, Final Recommendations — Robin Ehlke
   a. Reports and Comments of Management Entities and Advisory Bodies
   b. Public Comment
   c. **Council Action:** Final Recommendation to National Marine Fisheries Service on Control Rules for SRWC Endangered Species Act Consultation

PFMC
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