SALMON TECHNICAL TEAM REPORT ON KLAMATH RIVER FALL CHINOOK *DE MINIMIS* EXPLOITATION RATE

For 2020, the Klamath River fall Chinook (KRFC) harvest control rule specifies a *de minimis* maximum allowable exploitation rate of 25 percent. The Salmon Fishery Management Plan (FMP) requires consideration of several factors when recommending *de minimis* exploitation rate. From page 31 of the FMP:

> "When recommending an allowable *de minimis* exploitation rate in a given year, the Council shall also consider the following circumstances:
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> • The potential for critically low natural spawner abundance, including considerations for substocks that may fall below crucial genetic thresholds;
> • Spawner abundance levels in recent years;
> • The status of co-mingled stocks;
> • Indicators of marine and freshwater environmental conditions;
> • Minimal needs for tribal fisheries;
> • Whether the stock is currently in an approaching overfished condition;
> • Whether the stock is currently overfished;
> • Other considerations as appropriate."

The Salmon Technical Team assessed each of these circumstances, with the exception of minimal needs for Tribal fisheries.

The potential for critically low natural spawner abundance and substocks that may fall below crucial genetic thresholds is expected to be relatively low (18 percent), given the natural-area spawner projection of 36,206 produced by the 25 percent *de minimis* exploitation rate. The projected risk is lower under scenarios with lower exploitation rates.

The forecast of natural-area spawners in the absence of additional fishing is 48,237, which is above the maximum sustainable yield spawner escapement (S_{MSY}). If fishing seasons are structured such that the maximum allowable exploitation rate of 25 percent is met, the natural-area adult spawner expectation is 36,206, which is greater than the Minimum Stock Size Threshold (MSST) but below S_{MSY}. The natural-area spawner abundance has been lower than 36,206 in four of the last five years.

With regard to co-mingled stocks, Sacramento River fall Chinook (SRFC) have a relatively large abundance forecast and are unlikely to be a constraining stock this year. The 2020 abundance forecast for this stock is the second largest over the past five years.

Indicators of marine and freshwater conditions provided in the California Current Integrated Ecosystem Assessment (CCIEA) California Current Ecosystem Status Report for 2020 suggest a mixed assessment of marine conditions. Several ecological indicators implied average to above-average productivity in 2019. However, there were also indicators of poor conditions such as

low krill densities in California and Oregon, and low abundance of juvenile rockfish. In their summary, the CCIEA concludes that "Indicators are consistent with average to below-average salmon returns in 2020". Regarding freshwater conditions, the CCIEA report identifies above average snow-water equivalent values in northern California as of February 1, 2020. However, annual measurements taken on April 1 are considered the best indicator of snow-water equivalent.

The KRFC stock currently meets the criteria for being at risk of approaching an overfished condition. However, KRFC is currently overfished.

PFMC
03/09/20