CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE RECOMMENDATIONS FOR 2025 OCEAN SALMON SEASON ALTERNATIVES

Despite the conservative approach taken by the Pacific Fishery Management Council (Council) the past two seasons to close fisheries off the California coast in 2023 and 2024, apprehension remains regarding the status of California's Chinook populations. The persistent low abundance of Klamath and Sacramento River Fall Chinook target stocks, coupled with concerns surrounding other weak California stocks, and uncertainty in existing modeling and management tools calls for resource managers to once again use caution when considering fishing opportunity for 2025. In light of these circumstances, the California Department of Fish and Wildlife (CDFW) offers recommendations to the Council on the development of season alternatives for 2025 ocean salmon fisheries.

Sacramento River Fall Chinook (SRFC)

The ocean abundance forecast for SRFC is 165,700, which is lower than the 2023 and 2024 ocean abundance forecasts that ultimately resulted in full closures for California's ocean salmon fisheries. SRFC have not met the minimum spawner escapement floor of 122,000 hatchery and natural area adults in seven out of the last ten years, and although the stock is not currently overfished, the geometric mean of the last three years of SRFC returns was not far above the federal threshold for an overfished designation.

For decades, the Upper Sacramento River has been a significant source of natural-area production for the stock. Adult escapement to Upper Sacramento natural areas was alarmingly low again last fall, marking the third year in a row with less than 10,000 adults returning, whereas the preceding 10-year average was about 45,000 adults (Review of 2024 Ocean Salmon Fisheries, Table B-1). Low escapements to Coleman National Fish Hatchery resulted in failure to meet the hatchery's fall egg take goals, requiring unprecedented egg transfers from out of basin hatcheries in each of the last two years in attempt to meet minimum production goals.

Forecast performance of the Sacramento Index (SI) ocean abundance forecast and projected spawner escapements continue to be a concern for CDFW, mirroring concerns raised in the March 2025 Guidance Letter from the National Marine Fisheries Service (E.3.b Supplemental NMFS Report 1). The SI has been over forecasted in eight out of the last ten years, and in 2024, the preseason forecast of the SI (213,600) was 207 percent of the postseason estimate (103,000). Projected SRFC spawner escapement has also been over forecasted in nine out of the last ten years, with three projections of spawner escapement during those years being overestimated by more than 300% (Table 1). Consequences of modeling error are magnified at low levels of abundance, as falling outside the slim margin of error can have dire consequences to the stock.

The Council has recently acknowledged management and modeling shortfalls for SRFC, along with the need to develop a conservation objective and other reference points derived from contemporary data, leading to the formation of the SRFC Ad-Hoc Workgroup (Workgroup). The Workgroup is tasked with revisiting the SRFC spawner escapement goal (S_{MSY}), maximum allowable fishery exploitation rates, the Harvest Control Rule, and the SI forecast. Although this work is ongoing and a new S_{MSY} spawner escapement goal will not be ready for implementation during the 2025 fisheries planning cycle, the Council should consider the relevance of the current Harvest Control Rule and spawner escapement goal when developing a range of season alternatives, along with the relative uncertainty between the pre-season forecasts and post-season estimates of escapement.

ESA Listed Stocks

Recent escapements for ESA listed Central Valley Spring-run Chinook and Sacramento River Winter-run Chinook are alarmingly low. Natural area spawning populations of ESA listed Central Valley Spring-run Chinook saw less than 200 fish returning to the Deer, Mill, and Butte Creek tributaries in 2023 and 2024, which had recently seen returns of more than 5,000 fish in 2021 and 2022. Adult Sacramento River Winter-run Chinook returns were less than 800 fish last year, whereas the preceding 5 year average of returns were 6,500 fish (Review of 2024 Ocean Salmon Fisheries, Table B-3).

Klamath River Fall Chinook (KRFC)

KRFC continue to be classified as overfished for the seventh consecutive year due to persistent low spawner returns, with eight out of the last ten years falling below the minimum spawner escapement floor of 40,700 natural area adult spawners. The ocean abundance forecast of 82,700 is also lower than the forecasts preceding the last two years of fishery closures, with a forecast of 180,700 in 2024 and 104,800 in 2023. KRFC experienced similar over forecasting of escapement as described in NMFS' guidance letter. Spawner abundance has been on average 32 percent below the escapement goal of 40,700 natural area adults associated with the Pacific Coast Salmon Fishery Management Plan (Salmon FMP) objective since 2016 (E.3.b Supplemental NMFS Report 1, Table 2). Additionally, despite the Council's recommendation not to exceed an exploitation rate on KRFC of 20 percent in 2024, and despite the complete closure of California fisheries, the stock experienced 23 percent exploitation in 2024.

CDFW recognizes the 2025 NMFS' guidance that fisheries be planned so as not to exceed a 10 percent de minimis exploitation rate, which is the maximum that the Salmon FMP allows per the harvest control rule. However, the guidance then adds an additional note that the Council may recommend lower exploitation rates as needed to address uncertainties or other year specific circumstances, and when setting a *de minimis* exploitation rate, is required to specifically consider eight additional factors, as identified in the Salmon FMP. CDFW has evaluated these factors and believes Council consideration of an even lower level of exploitation may be warranted in 2025 fisheries planning in light of recent uncertainty observed in abundance forecasts and management tools, a new and more pessimistic understanding of stock productivity, and KRFC's continuing overfished status. While we are extremely optimistic about the benefits of dam removal, not enough time has elapsed to realize the anticipated benefits to KRFC.

CDFW Recommendations for Planning Season Alternatives

The primary objective of salmon work at the March Council meeting is to adopt three ocean salmon season alternatives for public review that show a range of potential fishing opportunity for accessing harvestable surplus while meeting the suite of management goals and objectives outlined in the Salmon FMP, along with achieving NMFS' guidance for Endangered Species. Given the difference between the forecasted abundance for SRFC and KRFC and the required minimum escapements determined by each stock's Harvest Control Rule, there may be potential to plan fisheries to access some of the harvestable surplus for each of these stocks. However, it is also possible that the modeling exercises generate fishing season alternatives that are so constrained as to be impracticable. Furthermore, management objectives for other stocks such as Southern Oregon-Northern California Coho or California Coastal Chinook may be more constraining than SRFC or KRFC, further limiting access to the very small harvestable surplus of the two target stocks.

CDFW sees value in exploring the possibility of ocean salmon season alternatives in 2025 to have the information necessary to weigh the risks and benefits of the options in order to make informed choices. CDFW recommends that at least one of the three season alternatives adopted by the Council for public review be no harvest of SRFC and KRFC in all ocean fisheries South of Cape Falcon in order to maximize escapement in 2025 and recruitment to future fisheries. A no-fishing alternative should be considered as a possible outcome of the 2025 fishery planning process.

However, the alternatives should also include limited ocean salmon seasons South of Cape Falcon. Further, CDFW recommends applying an ocean/inland sharing arrangement to set aside a minimum 15% of the available SRFC harvestable surplus for inland fisheries in these alternatives. In years where SRFC abundance is low enough to significantly constrain ocean fisheries, it becomes necessary to set the inland fishery share to a proportion of the total harvestable surplus rather than the default modeling practices that project inland fishery harvest as a proportion of the total inriver run size. This recommendation is based on the historical average of SRFC harvest between the ocean and inland sectors, and CDFW has specified a similar inriver share in prior years of low abundance (April 2018 PFMC Agenda Item E.1.e Supplemental CDFW Report 1).

Table 1. Preseason vs. postseason predictor performance of the Sacramento Index (SI) abundance forecast and projected escapement in thousands of fish.

Sacramento Index Abundance Forecast and Projected Escapement							
Year (t)	*Jack Escapement (t-1)*	*Forecast SI*	*Realized SI*	*Pre vs Post SI*	*Projected Escapement*	*Realized Escapement*	*Pre vs Post Escapement*
2009	4.1	122.2	41.1	2.97	122.1	40.9	2.99
2010	9.5	245.5	149.8	1.64	180.0	124.3	1.45
2011	27.3	729.9	207.0	3.53	377.0	119.3	3.16
2012	85.5	819.4	627.9	1.30	455.8	285.4	1.60
2013	36.0	834.2	869.3	0.96	462.6	406.8	1.14
2014	20.4	634.7	551.2	1.15	314.7	212.5	1.48
2015	24.6	652	254.9	2.56	341.0	113.5	3.01
2016	19.9	299.6	205.3	1.46	151.1	89.7	1.68
2017	17.0	230.7	137.1	1.68	133.2	44.3	3.00
2018	25.1	229.4	220.4	1.04	151.0	105.5	1.43
2019	43.6	379.6	507.1	0.75	160.2	163.8	0.98
2020	30.2	473.2	352.5	1.34	233.2	138.1	1.69
2021	13.9	271	323.8	0.84	133.9	105.6	1.27
2022	17.2	396.5	252.7	1.57	198.7	61.9	3.21
2023	6.9	169.8	139.4	1.22	165.0	133.8	1.23
2024	11.9	213.6	103.0	2.07	180.1	99.3	1.81
2025	19.2	165.7					