

Salmon Fishery 2025 FMP Development

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This post describes a recommended approach for developing a 2025 Fishery Management Plan for California (FMP) with emphasis on salmon stocks of the Central Valley normally harvested in the nearby coastal ocean and in-land rivers, estuaries, and bays of the Central Valley. The proposed approach represents a change in the way the annual FMP is developed by the Pacific Fisheries Management Council and the State of California. The change suggested is not to replace the existing approach (see Guidelines attached below) but to add another layer of information review, analyses, and decision making to a process that has become over time more complicated and less reflective of changing ecosystem functions and cultural/economic paradigms. Hopefully the change will lead to consideration of a 2025 California Salmon Fishery that is protective of the public trust resources and socio-economic values of the historic fishery.

Strategy/Approach

The proposed strategy is to develop an FMP that takes advantage of abundant hatchery salmon resources available in 2025 while protecting at-risk wild/natural runs found throughout the Valley watersheds. The goal is to define an FMP that focuses harvest on large productive hatchery stocks and minimize harvest of at-risk wild/natural stocks. The approach is to set rules that focus harvest in areas and times where the abundant hatchery stocks have high availability and at-risk stocks are least vulnerable. The approach entails a review of tag returns in time and space of each of the target stocks in the available code-wire-tag database ([RMIS](#)).

New SI Forecast

In response to an abrupt decline in Sacramento River fall Chinook (SRFC) salmon abundance, and the need to provide improved scientific advice to fishery managers, the Sacramento Index (SI) was developed in 2008. The SI is a combined-age index of adult SRFC ocean abundance comprised of three components: ocean harvest, river harvest, and spawner escapement... The SI has been an integral part of PFMC ocean salmon fishery management since its development, and will likely be used as the basis for SRFC assessment into the foreseeable future.
(<https://repository.library.noaa.gov/view/noaa/4449>)

A new SI Forecast Parameter can be developed based on predicted catch of monthly returns of hatchery (and selected wild) cwt groups from Central Valley salmon hatcheries in coastal and in-land fisheries and escapement estimates. The cwt hatchery returns would serve as surrogates for risks of wild stocks to the fishery.

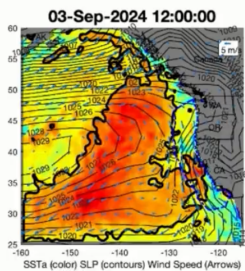
A new population forecast can be developed for each major Central Valley salmon stock. A Sacramento Index (SI) parameter would be the total of Sacramento River stock indices.

1. Mokelumne River Index: broodyears 2021-23 hatchery cwt-release group production (returns estimated from past returns) and in-river production estimates for BY 2021-2023 for 2025. The fishable stock in 2025 would be the total of estimated returns from each Mokelumne Hatchery release group contributing to the 2025 fishable stock. This would include 3-year-old returns from BY 2022 release groups and 4 year olds from BY 2021 release groups. BY 2023 two-year-old (jacks) returns may be included. An estimate of BY 2021-2023 in-river returns for 2025 may be included.
2. American River Index:
3. Feather River Index:
4. Battle Creek Coleman Index:
5. Upper Sacramento River In-river and small tributary stock index:
6. San Joaquin FRCS including Merced Hatchery and in-river FRCS from the mainstem and tributaries.
7. SI = Total of #1 through #5 or #6.
8. Winter Run Index:
9. Spring Run Index:

Target Fisheries FMP

The cwt matrices of monthly catches by age groups would serve as risk of tag groups to fisheries. The matrices would provide information of where fishery effort should be most encouraged or discouraged by location and month. Water-year types and environmental conditions related to these patterns can be used to predict future possible conditions to guide in the development of FMPs. As seasons develop, FMPs can be adjusted/refined based on real-time adaptive management. For example, a marine heat wave in late summer 2024 might be considered in setting fall 2024 regulations (see Figure).

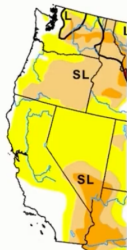
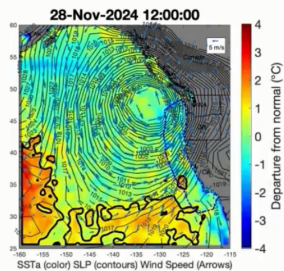
Fall 2024



Heatwaves reach the Coast



Coastal waters cool, MHW recedes to the southwest



Dry late summer and Fall

- Intensity
- None
 - D0 Abnormally Dry
 - D1 Moderate Drought
 - D2 Severe Drought
 - D3 Extreme Drought
 - D4 Exceptional Drought

Standard guidelines for an FMP (to be Implemented on May 16, 2025).

PURPOSE AND NEED

The purpose of this action, development, and implementation of ocean salmon fishery management measures for the 2025,¹ is to allow fisheries to harvest surplus production of healthy natural and hatchery salmon stocks within the constraints specified under the Salmon FMP, the Pacific Salmon Treaty (PST), and requirements developed by NMFS under ESA sections 4 and 7 for ESA-listed species (referred to in the FMP as “consultation standards”). In achieving this purpose, management measures must take into account the allocation of harvest among different user groups and port areas. Without this action, the 2024 management measures would remain in effect, which do not consider changes in abundance of stocks in the mixed stock ocean salmon fisheries or new or modified consultation standards. Therefore, this action is needed to ensure constraining stocks are not overharvested, and that harvest of abundant stocks can be optimized and achieve the most overall benefit to the nation.

The Salmon FMP also establishes nine more general harvest-related objectives:

1. Establish ocean exploitation rates for commercial and recreational salmon fisheries that are consistent with requirements for stock conservation objectives and annual catch limits (ACLs), specified ESA consultation standards, or Council-adopted rebuilding plans.
2. Fulfill obligations to provide opportunity for tribal Indian harvest of salmon as provided in treaties with the United States, as mandated by applicable decisions of the Federal courts, and as specified in the October 4, 1993 opinion of the Solicitor, Department of Interior, with regard to federally-recognized Indian fishing rights of Klamath River Tribes.
3. Maintain ocean salmon fishing seasons supporting the continuance of established recreational and commercial fisheries, while meeting salmon harvest allocation objectives among ocean and inside recreational and commercial fisheries that are fair and equitable, and in which fishing interests shall equitably share the obligations of fulfilling any treaty or other legal requirements for harvest opportunities.
4. Minimize fishery mortalities for those fish not landed from all ocean salmon fisheries as consistent with achieving optimum yield (OY) and bycatch management specifications.
5. Manage and regulate fisheries so that the OY encompasses the quantity and value of food produced, the recreational value, and the social and economic values of the fisheries.
6. Develop fair and creative approaches to managing fishing effort; and evaluate and apply effort management systems as appropriate to achieve these management objectives.
7. Support the enhancement of salmon stock abundance in conjunction with fishing effort management programs to facilitate economically viable and socially acceptable commercial, recreational, and tribal seasons.
8. Achieve long-term coordination with the member states of the Council, Indian tribes with federally-recognized fishing rights, Canada, the North Pacific Fishery Management Council, Alaska, and other management entities which are responsible for salmon habitat or production. Manage consistent with the PST and other international treaty obligations.
9. In recommending seasons, to the extent practicable, promote the safety of human life at sea.

Source: PFMC.