

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE REPORT ON THE EFFECTS OF COVID-19 ON SAMPLING THE 2020 OCEAN SALMON FISHERY

At the April 2020 Pacific Fishery Management Council meeting, prior to the initiation of ocean salmon fisheries in California, the states of Washington, Oregon, and California produced a joint report detailing potential challenges for sampling the 2020 ocean salmon fishery due to safety concerns stemming from the COVID-19 pandemic ([Agenda Item E.9.a, Supplemental Joint State Agency Report 1, April 2020](#)). Some of these challenges were realized in California, as fisheries commenced before personal protective equipment was acquired and COVID-19-related field sampling protocols were developed and authorized by the California Department of Fish and Wildlife (CDFW). This resulted in a lapse for some data collection during the early part of the 2020 season, compared to data that would be collected following standard protocols. While the majority of the season was sampled normally, these omissions may – or may not – require some solutions while finalizing the data inputs necessary for preseason fishery planning and postseason assessments in 2021.

CDFW’s ocean fishery sampling programs collect an array of data in the field which facilitate estimation of three fishery components that support salmon fisheries management: 1) total salmon harvest, 2) total salmon-directed fishing effort, and 3) stock composition of the harvest, which is estimated from coded-wire tags (CWTs) recovered from the heads of externally marked hatchery-origin salmon. Consistent with coastwide standards¹ and Pacific Salmon Commission recommendations², CDFW aims to physically sample 20 percent of the harvest stratified by fishery, management area, and half-month period. The extent to which field sampling activities did not occur in 2020 varied by fishery and month:

- The commercial fishery was sampled normally in most times and areas, with the only exception being the month of May when the San Francisco and Monterey management areas were periodically open. Although field sampling did not occur, harvest data for May are available via fish tickets which are mandatory for all commercial landings. Effort and stock composition data, however, cannot be obtained from fish tickets and are unavailable for the month of May. Sampling commenced in June and continued through the remainder of the season.
- Regarding recreational charter and skiff fisheries:
 - Charter boats were not sampled during May, however very few charter boats were allowed to operate during that month due to local COVID-19 regulations, and

¹ Nandor et al. 2010. Overview of the coded wire tag program in the greater Pacific region of North America. PNAMP Special Publication: Tagging, Telemetry and Marking Measures for Monitoring Fish Populations—A compendium of new and recent science for use in informing technique and decision modalities: Pacific Northwest Aquatic Monitoring Partnership Special Publication, 2, pp. 5-46.

² Pacific Salmon Commission (PSC). 2008. An action plan in response to coded wire tag (CWT) expert panel recommendations: A report of the Pacific Salmon Commission CWT workgroup. PSC Tech. Rep. No. 25, March 2008. 170 pp.

- consequently, relatively few trips occurred. Harvest and effort data for the limited trips that did occur can be obtained from logbooks, but stock composition data is unavailable. Beginning in June, salmon charters were sampled following regular protocols for the remainder of the season.
- Private skiffs were not sampled at all during May or June, however a proxy for effort data during those months is available via trailer counts. No such proxy exists for harvest or stock composition data. Modified field sampling activities commenced in July and continued through the remainder of the season. Since field staff were not able to safely handle angler catch and maintain social distancing in the course of performing their duties, salmon head collection protocols were modified such that salmon heads were only recovered from anglers who voluntarily provided them to CDFW staff. Angler cooperation varied by area, resulting in low sample rates for CWTs in some ports.

Coordination on how to approach these data deficiencies is underway between CDFW and members of the Salmon Technical Team (STT) and the Scientific and Statistical Committee (SSC). Preliminary discussion suggests that wherever possible, it may be best to not calculate estimates using unconventional methods for the 2020 fishery at this time. Various solutions are currently being considered, and over the coming months CDFW plans to further refine these solutions in coordination with the STT and SSC to be ready in time for the 2021 preseason management process.