

CENTRAL VALLEY WINTER AND SPRING CHINOOK WORKGROUP REPORT

In August, 2002, an Interagency Workgroup consisting of representatives from National Marine Fisheries Service, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Pacific Fishery Management Council (Council) was formed to assess the information currently available for winter and spring chinook stocks of the Central Valley, and to evaluate the potential of the data sets to support harvest management measures. At the November 2002 Council meeting, the Workgroup recommended the Council delay consideration of fishery management plan conservation objectives for winter chinook and spring chinook for a two-year period. The Workgroup has met twice since the November Council meeting and has updated the preliminary age-three impact rates reported at that time.

Sacramento River Winter Chinook

Cohort analysis of the 1998 winter chinook brood year yields an ocean age-three impact rate of 0.23. The preliminary age-three impact rate on the 1999 brood year (returns from the cohort not yet complete) is estimated at 0.22. The lack of recoveries in the winter chinook carcass survey of adipose-clipped fish that are trapped at Keswick Dam, tagged and released to spawn, raises concern that estimates of the number of recoveries of coded-wire tagged (CWT'd) winter chinook in the spawning population may be biased low. A negative bias in the recovery of CWTs in the carcass survey would result in an over-estimation of the ocean impact rate.

The two indices of spawning population show inconsistent results with regard to the replacement rate of the 1998 brood year. Counts of adult fish at Red Bluff Diversion Dam (RBDD) show a 20% decline from 1998 to 2001, however, estimates of adult spawners derived from the carcass survey show an increase of between 50% and 90%. Both the RBDD counts and carcass survey for 2002 suggest a large increase (five to nine- fold) in the 1999 brood.

The increase in the spawning population of 1998 and 1999 brood years indicates the relatively high age-three impact rate of 0.23 may be compatible with recovery of the stock during periods of good marine survival and improved freshwater habitat conditions.

Over 90% of the expanded CWT recoveries of tagged winter chinook have occurred below Point Arena and the majority of those below Pigeon Point. In 2002, no winter chinook CWT were recovered north of Point Arena, including the troll fisheries off Fort Bragg. In the 2000 and 2001 seasons, 16 expanded recoveries occurred in the sport fisheries off Fort Bragg and in the KMZ, and six expanded recoveries in commercial fisheries off Oregon, compared to 186 expanded recoveries in recreational and commercial fisheries south of Point Arena.

Recommendations: The increase in the spawning population of 1998 and 1999 brood years indicates that the relatively high age-3 impact rate of .23 may be compatible with recovery of the stock. The Workgroup believes that a modest expansion of troll effort north of Point Arena, which may be possible in 2003, is unlikely to substantially increase the incidental take of winter chinook. The workgroup recommends the management measures that would increase winter chinook impacts south of Point Arena, particularly in the recreational fishery, not be considered; the recreational seasons south of Point Arena Tseason structure and minimum size limits in effect for the past two years south of Point Arena be continued.

Central Valley Spring Chinook

A cohort reconstruction and estimation of ocean impact rate have not been completed for the 1998 brood year of Butte Creek spring chinook. Relatively small numbers of CWT recoveries are available for analysis. The available recoveries suggest that Butte Creek spring chinook may have a more northerly distribution than winter chinook, with commercial fisheries accounting for a little over half of the landings. Recoveries of brood years 1998 and 1999 Butte Creek spring chinook occurred in commercial and recreational fisheries off Oregon and in the KMZ and Fort Bragg areas. Since tagging began in 1995, the majority of recoveries (73%) have occurred below Point Arena.

Estimates of the spawning populations of spring chinook in Deer, Mill, and Butte creeks indicate consistent growth of the populations since 1997. Expansion of troll fisheries north of Point Arena is likely to increase incidental impacts of Central Valley spring chinook, but it is difficult to assess the magnitude of the increase or its likely effect on the recovery of the population.

Recommendations: The workgroup has no specific recommendations for the 2003 salmon management measures relating to Central Valley spring chinook, apart from NMFS' requirements for Endangered Species Act listed salmon stocks.

PFMC
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