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June 2, 2021

MEMORANDUM

TO: Fish and Wildlife Committee

FROM: Kris Homel, Program Performance Biologist

SUBJECT: Lower Columbia River Chum Salmon: population status, habitat projects, model development, and next steps

BACKGROUND:

Presenter: Todd Hillson, ESA/ Anadromous Fish Investigations Unit Lead, Washington Department of Fish and Wildlife

Summary: Washington Department of Fish and Wildlife (WDFW) presentation on Lower Columbia River Chum Salmon population status, habitat projects, progress in developing an integrated population model, and next steps for the project.

Relevance: This presentation will provide information on the status of Lower Columbia River Chum Salmon, habitat projects, and long-term monitoring efforts associated with the recovery plan and conducted as part of Project #2008-710-00 *Chum Salmon Restoration in the tributaries below Bonneville Dam*. These monitoring efforts are incorporated in an integrated population model, which will be used to predict adult returns and better understand different sources of mortality. Progress on that modeling effort will be discussed. Lastly, the Chum Project recently successfully completed a review associated with their artificial production activities and will discuss next steps for the project.

Background: The Council has heard status updates on different species of salmon, Steelhead, Eulachon, White Sturgeon and Pacific Lamprey. This presentation will review the status of Columbia River Chum Salmon.

Historically, an estimated one million Chum Salmon returned to the Columbia Basin, annually. By the 1940s, Chum Salmon populations were in decline and in 1999, all lower Columbia River Chum Salmon were listed as threatened under the Endangered Species Act. In 2004 the Lower Columbia Fish Recovery Board (LCFRB) developed a plan for the recovery of Chum Salmon and other ESA-listed salmon as part of the NPCC Subbasin Plan. The LCFRB updated the recovery plan in 2010, and NOAA finalized the federal recovery plan in 2013.

The Fish and Wildlife Program currently supports one project associated with Chum Salmon monitoring and recovery in the Lower Columbia River:

Project #2008-710-00, Chum Salmon Restoration in the tributaries below Bonneville Dam.

For over two decades, WDFW has implemented this project. It entails monitoring spawner abundance and juvenile production at multiple sites in the mainstem and tributaries, operating two conservation broodstocks, restoring spawning habitat and constructing artificial spawning channels. Collectively, these efforts support Chum Salmon Recovery in the lower Columbia River.

In addition to these project elements, WDFW has been working to develop an integrated population model (IPM) that can incorporate the different kinds of monitoring data that are available for each Chum Salmon population. This model will eventually include the indicator data NOAA collects on ocean conditions. Once completed, the IPM will be used to better understand different sources of mortality, to predict Chum Salmon returns, guide future restoration actions and reintroduction or enhancement projects, and adaptively manage the overall program.

The Chum project has recently completed the three-step review process. Having successfully responded to ISRP comments and Council recommendations in prior reviews, the project was determined to have met scientific review criteria. The ISRP identified eight conditions that would improve the project down the road. WDFW will briefly discuss conditions and next steps for the project.

More Info: NPCC 2004 Lower Columbia Salmon and Steelhead Recovery and Subbasin Plan: <https://www.nwcouncil.org/fw/subbasinplanning/lowerColumbia/plan>

LCFRB 2010 Lower Columbia Salmon and Fish & Wildlife Subbasin Plan: <https://www.lcfrb.gen.wa.us/librarysalmonrecovery>

NOAA 2013 Lower Columbia River Recovery Plan for Salmon and Steelhead: http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/lower_columbia_river/lower_columbia_river_recovery_plan_for_salmon_steelhead.html