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April 4, 2023

MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Mark Fritsch

SUBJECT: Columbia River Delta Assessment for the Wind, White Salmon, and Klickitat Rivers

BACKGROUND:

Presenter: Bill Sharp, Yakama Nation Fisheries, Klickitat Coordinator
Charles Seaton, Columbia River Inter-Tribal Fish Commission, Coastal Margin Observation and Prediction (CMOP) Program Coordinator

Summary: Bill and Charles will provide an overview of a Technical Assistance Agreement between the Yakama Nation and the U.S. Army Corps of Engineers - Portland District in partnership with Columbia River Inter-Tribal Fish Commission and others to assess local hydraulic conditions within the sediment fan/delta of the Wind, White Salmon, and Klickitat River tributaries (Bonneville Pool). The project is in the early stage of compiling existing information and building a team of subject matter experts to inform management options for improving impaired aquatic habitats in areas of the delta in order to reduce high juvenile salmon mortality due to predation and diminishment of cold water plumes for returning adults.

Relevance: This activity is associated with Project # 1997-056-00, *Yakama Southern Territories Habitat Project (STHP)*. The STHP addresses the following

elements listed in the ESA MCR Steelhead Recovery Plan¹ by Protect and restore tributary habitat and Columbia River mainstem habitat, through strategies and actions. In addition, this effort supports the 2014 Fish and Wildlife Program and the 2020 addendum, under the Strategy of Ecosystem.

Workplan: Fish and Wildlife Division work plan 2023; Program planning & coordination.

Background: The initial effort associated with the Columbia River Delta Assessment was the identification of a problem set and understanding key considerations and restoration opportunities that existed at each of the river deltas. This planning effort focused on gathering information from tribes, state and federal resource agencies, and local governments to better understand the area and provide necessary input in the refining of the team's scoped activities. The compiled outputs from the effort have provided a framework to develop the data collection and monitoring strategy.

During the 2022 summer field season NOAA-Office of Coast Survey conducted bathymetric surveys of the Columbia River from Little White Salmon to the Klickitat Delta. Oregon State University assisted with shallow water bathymetry of the Klickitat Delta to also inform our future modeling efforts.

A two-year Klickitat River smolt survival study published in 2021 by YKFP and USGS has indicated that a high degree of predation occurs across the delta and out into the Columbia River confirming the implications that the deltas contribute to juvenile salmon mortality.

More Info:

- NOAA-OCS coverage: OPR-N338-NRTSE-22 Columbia River, Oregon and Washington <https://storymaps.arcgis.com/stories/ffaae163a1054ef2880dcdd492bb5ec1>
- Environmental Protection Agency - Columbia River Cold Water Refuges Plan <https://www.epa.gov/columbiariver/columbia-river-cold-water-refuges-plan>
- Evaluation of Movement and Survival of Juvenile Steelhead (*Oncorhynchus mykiss*) and Coho Salmon (*Oncorhynchus kisutch*) in the Klickitat River, Washington, 2018–2019. <https://pubs.er.usgs.gov/publication/ofr20211083>

¹ Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan 2009.