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May 9, 2023

### MEMORANDUM

**TO: Fish and Wildlife Committee Members**

**FROM: Stacy Horton, Policy Analyst/Biologist**

**SUBJECT: Trials and Tribulations: 25 years of Coho Reintroduction in the Methow and Wenatchee Basins**

### BACKGROUND:

**Presenter:** Jeff Caisman, Fisheries Biologist, Upper-Columbia Production Projects, Yakama Nation Fisheries Resource Management, Peshastin Field Office

Cory Kamphaus, Northern Ceded Lands Production Supervisor, Yakama Nation Fisheries Resource Management, Peshastin Field Station

**Summary:** By the end of the 20th century, native populations of coho salmon (*Oncorhynchus kisutch*) were largely extirpated from the Mid and Upper-Columbia Basins due to impassable mainstem Columbia hydropower dams, over-harvest, and habitat degradation. In 1996, the Yakama Nation began a study to determine the feasibility of reintroducing coho salmon, a historically important species, to the Wenatchee and Methow Rivers, using Lower-Columbia River stock. The objective of the program is to create a locally-adapted, naturally-spawning population capable of supporting harvest, by selectively collecting in-basin broodstock and augmenting naturally spawning populations with hatchery-reared smolt releases. The first broodstock collection and smolt releases, using Lower-Columbia stock, occurred in 2000. This presentation details twenty-five years of production, as well as monitoring and evaluation of coho, in the

Wenatchee and Methow Rivers. We will provide updates on coho populations in both basins, in addition to sharing future directions for the program.

**Relevance:** The Council's 2014 Columbia River Basin Fish and Wildlife Program has supported efforts by the Yakama Nation to reintroduce extirpated coho to the Yakima River Basin. A successful reintroduction approach would result over time in anadromous fish that are viable in areas where they were previously located and that meet harvest and habitat goals and objectives identified by the agencies and tribes

**Background:** Historically, between 44,000 to 150,000 coho returned to the Yakima River. Coho that spawned in tributaries above Bonneville Dam were extinct by the late 1980s as the result of impacts including habitat alterations, construction of impassable dams on some tributaries, and historic overfishing in the ocean and in the Columbia below Bonneville. In the 1990s, programs to reestablish natural populations were initiated by the Yakama Nation in the Yakima, Wenatchee and Methow rivers, and by the Nez Perce Tribe in the Clearwater River. The Yakama Nation's long-term vision for coho reintroduction is:

To re-establish naturally spawning coho populations in mid-Columbia tributaries to biologically sustainable levels which provide significant harvest in most years.

To achieve their goal, the Yakama Nation established biological objective was to:

Develop a locally adapted, naturally spawning coho stock in the Wenatchee and Methow river basins capable of supporting harvest.

The Yakama Nation set out to answer two questions about the feasibility of coho reintroduction:

- 1) Determine whether a broodstock can be developed from lower Columbia River coho stocks whose progeny can survive in increasing numbers to return as adults to the mid-Columbia region and
- 2) Initiate natural reproduction in areas of low risk to sensitive species and in other select areas to study the risks and interactions with sensitive species.

Both feasibility study goals were achieved.

Today, the combined returns to the Wenatchee and Methow rivers in recent years have been as high as about 65,000 fish, and in some years fewer than 5,000. These fish contribute between 30 and 40 percent of the coho harvest in the tribal fishery between Bonneville and McNary dams. Continued supplementation and habitat restoration will be necessary for some period before self-sustainability may be achieved.

More Info:

**Methow Coho Story** <https://yakamafish-nsn.gov/methowcohostory>

Coho were once abundant in the mid-Columbia region with estimates of adult populations of about 30,000 in the Methow, where they may have once been the most common salmon species. They started disappearing from the area by the 1900s for a variety of reasons and by the 1930s they were considered extinct in the Mid-Columbia region.

**Yakima River Basin Coho Reintroduction Feasibility Study**

[https://critfc.org/wp-content/uploads/2013/07/Newsome\\_Yakima-River-Basin-Coho-Reintroduction-Feasibility-Study.pdf](https://critfc.org/wp-content/uploads/2013/07/Newsome_Yakima-River-Basin-Coho-Reintroduction-Feasibility-Study.pdf)

**Mid-Columbia Coho Restoration Program Master Plan**

[https://yakamafish-nsn.gov/sites/default/files/projects/Mid\\_C\\_coho\\_MP\\_2\\_8\\_17\\_sm.pdf](https://yakamafish-nsn.gov/sites/default/files/projects/Mid_C_coho_MP_2_8_17_sm.pdf)

**Extirpation and Tribal Reintroduction of Coho Salmon to the Interior Columbia River Basin**

[https://www.researchgate.net/publication/263366776\\_Extirpation\\_and\\_Tribal\\_Reintroduction\\_of\\_Coho\\_Salmon\\_to\\_the\\_Interior\\_Columbia\\_River\\_Basin/citation/download](https://www.researchgate.net/publication/263366776_Extirpation_and_Tribal_Reintroduction_of_Coho_Salmon_to_the_Interior_Columbia_River_Basin/citation/download)