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Nelson Dam, Naches River, Washington

Nelson Dam is an 8 foot high irrigation diversion dam owned and operated by the City of Yakima, located just upstream from Yakima on the Naches River. The Naches is the largest tributary of the Yakima River, as well as an important salmon bearing river. Nelson Dam was built in the 1920's and rebuilt in 1985 to accommodate fish passage facilities; however, those facilities are frequently inoperable due to conditions in the river. Nelson Dam is used to divert irrigation water to portions of the City of Yakima serving some 8,000 residents, and to the Naches-Cowiche Irrigation Company which provides irrigation water to other portions of the city as well as farmers in the West Valley area. Improvements to the City's irrigation water system, including replacement of wood stave pipes, allow water managers to divert half the water historically withdrawn from the river. Rock, gravel and sediment has built up for several miles behind Nelson Dam, exacerbating flooding in the area upstream for businesses, homes and a road that is critical for public safety.

To address the problem, Yakima County has purchased land adjacent to Nelson Dam and is in the process of restoring the floodplain and removing levees. Removing the existing Nelson Dam and replacing it with a more river - and recreation - friendly structure is part of a complex plan led by the City of Yakima and Yakima County. Ultimately, this strategy will improve fish passage, reduce operational expenses for several diversions consolidated at the new Nelson Diversion structure, expand the flood plain, remove levees to reduce flood damage and risks to public safety, and improve salmon spawning and rearing habitat.

The dam will be replaced with a roughened channel, a proven, technically innovative structure that will allow free passage of fish and whitewater boats, both upstream and downstream, as well as improved passage of gravels and sediment needed for productive fish spawning areas downstream.

Benefits of Removing the Nelson Dam

- Removing Nelson Dam is an essential part of a plan to greatly reduce flood damage and improve public safety during floods. Repetitive losses and damages during floods drove the City of Yakima and Yakima County to remove Nelson, widen floodplains and remove levees as a less expensive way to manage flood risk than rebuilding levees, houses and businesses.
- Replacing Nelson Dam with a roughened channel allows the City to divert irrigation water at lower operational and maintenance costs. Additionally, completed investments in water conservation that cut water diversions in half will allow consolidation of two other diversion sites at this location, serving some additional 10,000 residents.
- With the replacement roughened channel, fish and whitewater boats will be able to freely pass upstream and downstream at all water levels. This is an essential part of a larger climate adaptation and fishery restoration project known as the Yakima Basin Integrated Plan. It also is important to the Yakama Nation, a Tribe with treaty rights to fish in the Yakima basin, for cultural, spiritual and economic reasons.

- Reestablishing sediment transport will improve about 6 miles of floodplain and river channel habitat upstream and downstream of the dam, in an area that is important for fishery spawning and rearing.
- Consolidation of several downstream diversion structures will allow removal of a small dam at the mouth of Cowiche creek, open passage, reconnect floodplain habitat and reduce flood risk for Cowiche Creek, which enters the Naches River just downstream of the Dam.

Partners

Cooperators in this effort are:

- City of Yakima
- Yakima County
- The Yakama Nation
- American Rivers
- Washington Department of Fish and Wildlife
- North Yakima Conservation District
- National Marine Fisheries (NOAA)
- Yakima Tributary and Habitat Project
- Yakima Basin Fish and Wildlife Recovery Board
- Yakima Basin Joint Board
- Floodplain restoration, levee setback and property acquisition surrounding Nelson Dam was made possible by funds from Floodplains by Design, a grant program collaboratively administered by the Washington Department of Ecology, The Nature Conservancy, and The Puget Sound Partnership
- This project is part of the Yakima Basin Integrated Plan, which is supported by all relevant federal, state and local government agencies, as well as many irrigation districts, NGOs and other organizations.

Open Rivers Fund Projects

- The total project cost is estimated at \$12 million, with the County responsible for the \$3.5 million cost of dam removal, flood-plain improvements and river restoration, and the City responsible for the \$8.5 million cost of diversion consolidation and piping. Construction funding will include City bonds, state Floodplains by Design funds and Yakima Basin Integrated Plan funds, with contributions anticipated from the Bureau of Reclamation and other federal sources.
- Resources Legacy Fund's Open Rivers Fund, which is supported by the William and Flora Hewlett Foundation, will provide \$75,000 to support project design and permitting that meets fishery and conservation goals. In addition, RLF will also provide \$25,000 to American Rivers for outreach and communications in order to engage stakeholders, build public awareness and promote this approach to river restoration.