

Project Activity Update

April 2020

Purpose: To provide updates on technical aspects of ongoing planning studies and project implementation for the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan)

Fish Passage Element

Cle Elum Dam Fish Passage Facilities and Reintroduction Project

The juvenile fish passage facility will use an innovative helix design to transport juvenile fish downstream. It will allow fish to leave the reservoir as the water surface fluctuates over the top 63 feet in elevation. This will provide downstream passage from April 1 through the beginning of June in most years. The upstream adult fish passage facility will be a trap-and-haul facility where fish are trapped at the base of the spillway, loaded into a truck, and then hauled for release into Cle Elum Reservoir or to upstream tributaries.

Construction Update: The access road and spillway bridge construction contract is complete. The secant vault construction is complete. Construction for the downstream passage tunnel is in progress. Excavation and installation of the outer tunnel liner is complete. Installation of the inner liner began in March 2020. This liner will be formed with in-place concrete and will have a very smooth finish to protect fish as they travel through the tunnel. Construction under this contract is anticipated to be complete by the end of this year. The Intake, Gate, and Helix contractor mobilized in late April 2019. Construction of Intake #6, the lowest elevation intake within the reservoir, was completed in December 2019. In addition, trenching and shoring work, needed for the placement of precast concrete conduits that will run between the intake gates and the secant, was installed in 2019. The contractor is anticipated to re-mobilize on-site July 2020.

Sockeye Study Update: In 2018, Reclamation and the Yakama Nation worked with the U.S. Geological Survey to conduct an adult sockeye tracking test to understand their migration between Roza and Cle Elum dams. The study found that 20 of the 20 tagged fish migrated successfully to the base of Cle Elum Dam. In 2019, these same partners, along with Washington Department of Fish and Wildlife (WDFW), began a sockeye tracking study in the lower Yakima River. The study reach runs from the mouth of the Yakima River up to the Roza Dam and is evaluating potential passage issues at diversion dams, possible false attraction, microclimate use, and Columbia River Stranding. First year results are expected to be reported by March 31, 2020. Preliminary results from the first year of the study found very low migration success rates for tagged Sockeye primarily due to high river temperatures. Due to the significance of migration through this reach, we plan to continue this study for two more years.

Box Canyon Creek Fish Passage

WDFW, with input from Reclamation, Ecology and other passage restoration experts, has completed a conceptual design for the Box Canyon Creek Fish Passage Enhancement Project. Reclamation, Ecology, Yakama Nation and Yakima Basin Integrated Plan partners will finalize the design. An additional field survey was needed to move the conceptual design toward final design. This survey



work was obtained October, 2018. The final design work is expected to begin following discussions with potential project partners.

Clear Creek Dam Fish Passage

Reclamation completed an appraisal level design for fish passage in September 2018. The design consists of a traditional pool-and-weir-style fishway with a steel bulkhead at the upstream end that will draw cool water from deeper in the reservoir. Situated along the left abutment of the dam, fish would enter the fishway in the stilling basin and exit in the reservoir pool. The bulkhead will be deep enough to maintain suitable water temperature in the fishway for Bull Trout. Reclamation is coordinating with U.S. Fish and Wildlife Service (USFWS), Yakama Nation, WDFW, and others to review and refine the design. Final design is planned for completion in December 2022 and construction completed by 2026. Construction timing will depend upon final cost estimates and funding availability. Until passage improvements are accomplished, USFWS, Reclamation, USFS, and WDFW will continue capturing Bull Trout from below Clear Creek Dam and transporting genetically identified North Fork Tieton River fish around the dam so they can reach spawning habitat in the North Fork Tieton River. Fish capture and transport was conducted in 2016, 2017, 2018, and 2019. To date, 72 adult Bull Trout have been transported above the dam.

Structural and Operational Changes Element

Cle Elum Pool Raise

The purpose of the Cle Elum Pool Raise Project is to increase the reservoir's capacity for improved aquatic resources for fish habitat, rearing, and migration in the Cle Elum and upper Yakima River, thereby fulfilling the intent of the congressional authorization, Title XII of Public Law 103-434.

Completed: Radial Gate construction was completed in April 2017. Reclamation completed modifications to three saddle dikes as of 2018. The USFS Cle Elum River Campground recreation area was completed in November 2017. The USFS Speelyi Day Use Recreation Area was completed in May 2019.

Construction Update: Reclamation and Ecology are currently implementing shoreline protection actions for private and public lands and facilities. Construction of shoreline protection at Wish Poosh Campground are anticipated to begin in September 2020 and be complete by the end of May 2021. Also starting in September 2020 is the construction of shoreline protection for two embankment areas on Salmon La Sac Road which will take approximately a month to complete. Remaining shoreline protection will be implemented as funding is available. Landowners and the public will be updated periodically on the project via mail and postings during project implementation.

Chandler Pumping Plant Electrification

Kennewick Irrigation District (KID) continues to evaluate an electrical pumping plant at Chandler.

As of March 2020, Reclamation continues to work with KID. KID is preparing updated design drawings and operational diversion plans for review of Chandler Electrical Pumping Plant by Reclamation. Reclamation has entered into a Memorandum of Agreement with KID for this work. Reclamation and KID have regular meetings to track progress on designs as well as discuss other options to address KID water supply issues, outside of an Electrical Pumping Plant. Reclamation is part of the Lower River Leadership team along with Department of Ecology, Yakama Nation, and KID to discuss a multitude of options to meet lower river flow needs for KID. An electrical pumping

plant may still be considered by KID, but it currently appears they are seeking other options which may include a storage reservoir.

Lower Yakima River Smolt Survival Study

The lower Yakima River smolt survival study was initiated in 2018 with funding provided by Yakama Nation, Reclamation, irrigation districts, and the US Geological Survey (USGS). During each year of the study over 1,100 juvenile salmon and steelhead are collected, tagged, and released in the Yakima River to monitor their behavior and survival as they migrate downstream. Additional data on predator populations, river flow, and water temperature are being collected and related to fish survival. Data from 2018-19 are currently being analyzed by USGS: preliminary results indicate fish survival was highest in early spring, April through mid-May, and lowest by June when the river warmed. Survival was lower than expected for fish that were inadvertently diverted into canals. In 2020, if field work occurs, additional fish releases will focus on factors affecting survival at Wapato, Sunnyside, and Prosser dams as well as continuing mainstem river releases. If the 2020 field work is conducted, project partners will also release a limited number of tagged juvenile Pacific lamprey, a unique species of migratory fish that have been declining in numbers in recent decades. Lamprey tagging is a partnership with Reclamation's Science and Technology grant fund, Pacific Northwest National Laboratory, USGS, and Yakama Nation Fisheries.

Surface Water Storage Element

Kachess Drought Relief Pumping Plant (KDRPP)

The KDRPP is proposed to access 200,000 acre-feet of inactive storage below the current outlet works in the Kachess Reservoir to use in severe drought. Since the proposed KDRPP and KKC projects are closely connected, they were analyzed together.

On April 26, 2019, Reclamation signed the *Record of Decision (ROD)*, which does not approve implementation of any alternatives but carries forward Alternative 4 - KDRPP Floating Pumping Plant (FPP) for further analysis. Consistent with this decision, the remaining alternatives in the FEIS, including the KKC, will not be carried forward. Reclamation and Ecology will use a phased approach for further site-specific analysis in a Tier 2 NEPA process to narrow the range of feasible alternatives for KDRPP.

The Project Proponent, Roza, in coordination with Reclamation and Ecology, are currently developing a new Proposed Action and clarifying the FPP alternative for the KDRPP Tier 2 NEPA process. Roza and possibly other prorated waters users (KRD, Wapato Irrigation Project [WIP], KID) would fund, design, construct, and operate the KDRPP.

Wymer Reservoir

Consideration of site requirements is ongoing. In February, Reclamation, Ecology Yakama Nation and Executive Committee met to discuss status of studies for Wymer, Bumping and proposed storage including Upper Yakima System Storage and North Fork Cowiche Creek Reservoir.

Bumping Reservoir Enlargement Project

Consideration of site requirements is ongoing. See update for Wymer, above.

Groundwater Storage Element

Groundwater Storage – Basinwide Analysis

The Groundwater Storage Subcommittee is in the process of reviewing and selecting potential projects for the 2019-2021 biennium. Seven funding requests totaling approximately \$1 million were received and are being reviewed by the Subcommittee.

Four projects were previously selected for funding from the 2017-2019 biennium. These projects include (1) Indian Creek Groundwater Dynamics Investigation, Oregon State University (2) Yakima Basin Focused Managed Aquifer Recharge Assessment, Kittitas Reclamation District (3) Yakima River Groundwater Infiltration Study, Selah-Moxee Irrigation District and (4) Geochemical Study of Groundwater in Potential Storage Sites, Central Washington University. The Indian Creek Groundwater Dynamics Investigation is complete and OSU has submitted the final report to Ecology. The final report will be available on Ecology's website. The remaining three projects are ongoing and will be completed over the next year.

Aquifer Storage and Recovery (ASR)

The City of Yakima's ASR program is fully permitted. The City recharged at the Gardner Well for 45 days in February and March. The City is planning full build-out for the program. They intend to drill two ASR devoted wells: the first well is estimated for 2022-2023, and the second is estimated for 2025-2026.

Habitat Protection and Enhancement Element

Targeted Watershed Protection and Enhancement

The Watershed Lands Conservation Subcommittee is developing a new 10-year lands plan. The plan will describe the Subcommittee's goals and objectives for continuing implementation of the Targeted Watershed Protection and Enhancement component of the Habitat Element of the Integrated Plan. The Subcommittee is working to develop a general outline of the plan's focus areas by the June 2020 YRBWEP Workgroup meeting. The Subcommittee continues to receive reports from Washington State Department of Natural Resources (DNR) and WDFW regarding stewardship activities on properties purchased for the Integrated Plan such as the Teanaway Community Forest (TCF) and the Van Wyk ranch.

In the TCF, DNR has been putting most of its efforts into acquiring permits for summer 2020 capital and grant work. A lot of work has been completed on cultural resources associated with road maintenance and fish passage barrier removals planned for the next two years. The Stay-At-Home Order from the Governor of Washington has delayed the excavation permits needed for the renovation of the West Fork Teanaway Camping Area. The affected Tribes needed more time to review. This will cause an extended closure of that site during the summer months while the contract is active. DNR is working on messaging for the public during the disruption of this popular camping area during the peak season. Permits from Kittitas County are also delayed due to the restrictions on public hearings. This mostly impacts the scheduled work at Indian Camp Campground. While practicing social distancing, the camping areas in the Teanaway will be either closed or minimally serviced.

Mainstem Floodplain and Tributaries Fish Habitat Enhancement Program

The Habitat Subcommittee is developing the 2021-2023 biennial budget proposal to Ecology for the Integrated Plan Habitat Element. The Subcommittee is also considering options for obligating contingency funds remaining from the 2019-2021 biennial budget.

The U.S. Army Corps of Engineers has completed a federal determination of interest in conducting the Yakima River Delta Enhancement Project (Baseman Island Causeway Removal). WDFW has been identified as the non-federal cost share partner, and the two agencies have entered into a cost share agreement. Mid-Columbia Fisheries is also a significant cost share partner.

The Yakama Nation and WDFW are working together on the rescue and captive rearing operation of bull trout in the Kachess River and Gold Creek, to improve Juvenile Bull Trout survival. The agencies with other partners rescue bull trout from the river and creek and move them to a Yakama Nation hatchery facility where the Tribe rears them. Once large enough to ensure better survival, the fish are released back into the rivers. The long-term goal is for habitat conditions in the upper watershed to improve to the point where populations are independently sustainable and rescue and captive rearing is no longer necessary to sustain the population.

Enhanced Water Conservation Element

Funding of \$4.25 million for water conservation projects during the 2019-2021 biennium was appropriated by the State Legislature. The Water Use Subcommittee has allocated these funds to the various projects the Subcommittee selected for funding in 2018. Contracting and project work are underway. Projects funded by the Legislature include canal piping, lining, and sealing by the irrigation districts and irrigation efficiency improvements facilitated by the Kittitas County Conservation District.

The Water Use Subcommittee has received project proposals for funding in the 2021-2023 State biennium. The Subcommittee will meet later in the spring to hear presentations from the project sponsors and develop a budget proposal for the Executive Committee.

In the Municipal Subgroup, Benton Conservation District (BCD) has been conducting the Heritage Gardens Low Water Use Program in Yakima County. In 2019, BCD gave eight presentations, conducted 45 site visits, and certified 4 home heritage gardens. BCD has noted an overwhelmingly positive response from program participants. BCD is planning for their 2020 program and is requesting funding in the 2021-2023 State biennium to further develop the program, which includes program expansion into Kittitas County. The Municipal Subgroup will support and advocate for the program moving forward.

Market Reallocation Element

The Kittitas Reclamation District (KRD) and Trout Unlimited (TU) continued work on the Market Reallocation element of the Yakima Basin Integrated Plan. The project is designed to develop a Yakima basin-specific Smart Market and involves significant research and analysis. Recent advancements include: continued stakeholder outreach; coordination with a water market study underway by Washington State University; policy and GIS-mapping analyses; and development of a transfer rules framework for use in Smart Market modeling efforts.

Proposed Projects for Consideration

During implementation of the Integrated Plan, an adaptive approach will be used periodically to assess progress towards meeting the identified instream flow objectives, the 70 percent proratable supply goal for irrigation, and goals for other out-of-stream needs. The need for additional water supply enhancements would depend on the effectiveness of projects that are implemented as part of the Integrated Plan, how the Yakima basin economy develops over time, and the timing of and manner in which climate changes affect water supply availability. From time-to-time, new projects may be

identified (and proposed) for consideration under the Integrated Plan. Reclamation, Ecology, Yakama Nation and the Executive Committee have developed a formalized process to consider new projects. Projects proposed for evaluation and those currently being evaluated are listed here.

- Tieton River Restoration, including proposed North Fork Cowiche Creek Reservoir.
- Upper Yakima System Storage

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Project website: <http://www.usbr.gov/pn/programs/yrbwep/index.html>