

Project Activity Update

August 2018

Purpose: To provide updates on technical aspects of ongoing planning studies 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 secant pile drilling was completed November 2017, and excavation of the secant pile vault began in November 2017. Due to the mild winter conditions, vault excavation continued through the winter months. It is now complete (97 feet deep). The construction contract for the tunnel bypass was awarded in August 2017. The contractor has begun preparing the portal to the tunnel to start drilling for the tunnel. Reclamation plans to award the Gate/Helix and Intake contract in August 2018. .

The juvenile fish passage facility has an innovative helix design to transport juvenile fish downstream over 63 feet of fluctuation in the reservoir. The upstream adult fish passage facility currently includes trap-and-haul—fish are trapped at the base of the dam, loaded into a truck and then hauled for release into Cle Elum Reservoir or upstream tributaries. Reclamation and the Yakama Nation are conducting a Sockeye tracking test to understand Sockeye migration between Roza and Cle Elum Dam. Sockeye returns are expected to be low again this year which have limited the number of fish for the test to approximately 30 fish.

Box Canyon Creek Fish Passage: Washington State Department of Fish and Wildlife (WDFW) is coordinating with Reclamation to complete preliminary design for the Box Canyon Creek Fish Passage. Currently, WDFW has completed the 30 percent design. Reclamation will work to finalize the design. Additional survey work is needed and is expected to be complete by October 2018. The preliminary final design is anticipated to be completed by June 2019.

Clear Creek Dam Fish Passage:

U.S. Fish and Wildlife Service (USFWS), Reclamation, and WDFW completed a study of fish passage at Clear Creek Dam in 2015, finding that existing fish passage facilities were not functional and that Bull Trout from the North Fork Tieton River were unable to reach critical spawning and rearing habitat. Ecology received funding for fish passage improvements at this location in the State funding biennium request (2017-2019). Reclamation is coordinating with USFWS, Yakama Nation, and WDFW on design options for a fish ladder at Clear Creek Dam. Current schedule is 30 percent design by the end of September 2018, final design complete by September 2019, and construction to begin in 2020. Until passage improvements are accomplished, USFWS, Reclamation, and other partners will continue capturing Bull Trout from below Clear Creek Dam and transporting them 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 to-date, 59 adult Bull Trout have been transported above the dam.



Structural and Operational Changes Element

Keechelus-to-Kachess Conveyance (KKC) Project:

Refer to KDRPP project below.

Cle Elum Pool Raise:

Radial Gate construction was completed in April 2017. Reclamation will award several contracts over several years for shoreline protection actions. The construction contract for improvements on U.S. Forest Service (USFS) facilities (specifically, Cle Elum Campground) was awarded September 2017 and construction was completed November 2017. Reclamation and Ecology awarded the construction contract for Speelyi Day Use Area shoreline protection in FY18. Speelyi Day Use Area will be closed during construction, September 10, 2018 – early January 2019. The Wishpoosh campground is planned for shoreline protection in 2019. Reclamation and Ecology continue to meet with local landowners. Additional public notices about the timing of construction and informational meetings on existing shoreline designs will be mailed to shoreline parcel owners and posted at USFS facilities.

Chandler Pumping Plant Electrification

Kennewick Irrigation District (KID) and their consultant developed a concept design for an electric pumping plant at Chandler. Reclamation reviewed the concept design and KID performed a transient analysis in June 2017, which was reviewed by Reclamation and comments were sent to KID September 2017. KID provided an updated concept design and transient analysis for Chandler Electrification with an isolating reservoir to Reclamation on April 27, 2018. Reclamation is reviewing this updated information. Reclamation, Ecology and HDR completed Phase 3 modeling in March 2017, including examination of return flows in the lower Yakima System to determine impacts on KID from future conservation efforts. Modeling is ongoing. Reclamation will continue to coordinate with KID on Chandler Electrification project.

Lower Yakima River Smolt Survival

Reclamation is coordinating with Yakama Nation, USGS, NMFS, WDFW, irrigation districts and others to develop a Lower Yakima River Smolt Survival Study and has presented the study to the Lower River Subgroup. The study started in March 2018 and is expected to continue through spring of 2020. Resource managers believe that predation rates from avian and piscivorous predators are high in the lower Yakima River, and that predation may change seasonally as discharge decreases and water temperature increases. Previous research has shown that juvenile fall Chinook salmon are particularly vulnerable to predation in the lower Yakima River because of their small size and later outmigration timing. In addition, data will be collected on fish entrainment and survival through the canal and fish bypasses at Wapato, Sunnyside, Prosser, and Wanawish dams. Management actions to improve the survival of migrating juvenile fish will be developed in response to the study findings.

Surface Water Storage Element

Kachess Drought Relief Pumping Plant (KDRPP)

The Kachess Drought Relief Pumping Plant and Keechelus Reservoir to Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement was released to the public for comment on April 13, 2018. Public meetings were held in May. The public comment period ended on July 11, and Reclamation and Ecology are now reviewing the comments received and preparing the Final EIS.

Wymer Reservoir

Consideration of site requirements is ongoing.

Bumping Reservoir Enlargement Project

Consideration of site requirements is ongoing.

Groundwater Storage Element

Groundwater Storage – Basinwide Analysis

The Groundwater Storage Subcommittee is reviewing all ongoing groundwater storage projects and developing a mission statement and objectives. The committee reviewed ongoing groundwater storage projects in October 2017.

In the Wapato Irrigation Project (WIP), additional monitoring-well locations have been identified, which will help with observation of the aquifer system response to recharge activities from Toppenish Creek. Reclamation is working with Yakama Nation Engineering to locate and drill the three (3) additional wells in 2017. Ecology will install pressure transducers, and data will be analyzed to determine the benefits of the recharge activities. Monitoring of existing sites continues. Yakama Nation received permitting for wells and coordinating with Reclamation drill crew to schedule drilling this summer.

The subcommittee is currently reviewing draft findings on potential recharge opportunity areas in the Yakima River basin conducted by a graduate student in hydrogeology at Oregon State University. The subcommittee is also working with Reclamation staff in Boise to adapt the U.S. Geologic Survey groundwater model for the Yakima Basin to support evaluating potential recharge opportunity areas.

The Lower River Subgroup is exploring opportunities to use groundwater recharge to improve thermal refuges for migrating fish along the lower Yakima River. An initial study has been funded to develop current information on temperature variations in the river from Wapato Dam to the Yakima River mouth.

Aquifer Storage and Recovery (ASR) The City of Yakima’s ASR program is fully permitted. The City plans to recharge its aquifer in the winter of 2018-2019.

Habitat Protection and Enhancement Element

Targeted Watershed Protection and Enhancement

The Washington State Department of Natural Resources (WDNR) and WDFW are working with the Teanaway Community Forest (TCF) advisory committee to develop a recreation plan for the TCF.

Actions will be guided by the TCF management plan. Funding appropriated by the State for the 2017-2019 biennium will be used for habitat, forest and infrastructure projects. The primary focus of habitat projects will be continued removal of fish passage barriers, and installation of fencing, stream crossings, and watering stations to keep grazing stock out of sensitive riparian areas. In addition the Yakama Nation continues to work on wood placement in TCF streams to improve habitat conditions and watershed functions.

Recent accomplishments by TCF goals include:

Goal 1 – Watershed Protection: 6 miles of road maintenance and abandonment work to address priority sediment delivery problems in the Cle Elum Ridge portion of the TCF completed this quarter.

Goal 2 – Working Lands: Addressing issues related to implementing the grazing strategy including livestock fencing, grazing management, and public interaction with livestock. Fencing accomplishments to date are 4.5 miles of new range fence. Additional fence work will be contracted later this summer.

Goal 3 – Recreation: The TCF continues to get record recreation visitation. The Recreation addendum to the management plan is being edited, and SEPA is being prepared. Aiming to release both for public review later this summer.

Goal 4 – Habitat Restoration: Yakama Nation Fisheries has reengaged restoration work in the TCF as of mid-July. Addressing several cultural resource challenges and surveying for additional archaeological sensitive sites.

Goal 5 – Community Involvement: The annual “Teaway Love Day” occurred in June. The a subcommittee of the Advisory committee hosted this workday where about 70 volunteers assisted with recreation projects, noxious weed control, etc.

Mainstem Floodplain and Tributaries Fish Habitat Enhancement Program

Funding of \$5.4 million for projects during the 2017-2019 biennium was appropriated by the State Legislature in January 2018. The Habitat Subcommittee reviewed the proposed projects in February 2018 to bring information up-to-date. Ecology is working with the funding recipients to establish contracts for these projects.

The Habitat Subcommittee has approved a projects funding request for the next State biennium (2019-2021).

A stakeholder group consisting of the City of Richland, federal and state fisheries managers, irrigation districts, environmental and commercial interests, the U.S. Corps of Engineers (Corps)-Walla Walla District, and the Yakama Nation and Umatilla Confederated Tribes have been working together on the Yakima River Delta Enhancement Project. The proposed project to breach a portion or all of the Bateman Island causeway will change flow patterns and improve temperature conditions, instream water flows, water quality, and fisheries within the Yakima Delta, and is viewed as critical to the long-term success of numerous upstream fisheries projects being implemented as a part of the Integrated Plan. Additional project support has been requested through the Corps’ 1135 Program, with a possible decision on support anticipated soon.

Benton County Conservation District (BCD) and their volunteer partners have completed four thermal profiling floats in July 2018. The floats covered the stretch of the lower Yakima River from Chandler Powerhouse to Bateman Island. The final thermal profiling float for 2018 (from Prosser to Chandler Powerhouse) will be completed early September. BCD will share data and results this fall, and the formal USGS report will be out either late this year or early next year.

The Yakama Nation and Kittitas County Conservation District (KCCD) are working to engage landowners and farm and ranch operators in contracting funds awarded in 2016 by the USDA Natural Resources Conservation Service (NRCS) through their Regional Conservation Partnership Program (RCPP). The Yakima Integrated Plan – Toppenish to Teanaway Project is funded through 2021. The RCPP funding focuses on insufficient water/drought, water quality degradation, and inadequate fish and wildlife habitat in priority areas in Kittitas County, and Yakama Nation Reservation lands. The Yakama Nation is working on “beaver based” restoration projects on Reservation land.

The 5- year agreement between the Yakama Nation and NRCS was finalized in September 2017. KCCD conducted their first of, at least, four annual sign-ups for the Environmental Quality Incentives Program (EQIP) beginning in October. KCCD received 24 applications by the deadline in November 2017. KCCD staff have been working closely with NRCS staff and have completed the conservation plans and will be assisting with the signing of contracts with seven producers (previously reported as eight, but one producer had two applications that were combined into one contract) for sprinkler conversion projects in priority areas. KCCD received one application for fish habitat improvement in the EQIP sign-up, and they are working on the conservation plan and contract for that project. Construction of these projects is expected to begin in fall 2018. The next annual sign-up for EQIP funding will likely be held in October 2018.

KCCD conducted a sign-up for the Agricultural Conservation Easement Program (ACEP) beginning in May, with a deadline of June 22 and then extended to July 18. One application was received from Kittitas County and Forterra for a 280-acre farm. KCCD will be working with the partners and NRCS to verify the application and begin work toward executing the easement. KCCD will also be setting up a sign-up for the Healthy Forest Reserve Program (HFRP) in late summer/early fall of 2018. HFRP is focused on private forestland adjacent to the Teanaway Community Forest.

Enhanced Water Conservation Element

Funding of \$5 million for additional projects during the 2017-2019 biennium was appropriated by the State Legislature in January 2018. In February 2018, recipients of 2017-2019 funded proposals provided updates to the Water Use Subcommittee. Projects with Kittitas County Conservation District, Kittitas Reclamation District, and Roza Irrigation District are under contract and moving forward. Projects with Wapato Irrigation Project and Benton Conservation District are drafted and should be finalized this quarter.

Market Reallocation Element

In September 2017, Kittitas Reclamation District was awarded Reclamation’s WaterSMART Water Marketing Strategies grant (<https://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=60457>) The funding from Reclamation are being matched with funding from Ecology’s Water Resources Program and Office of Columbia River to analyze issues that limit market transactions throughout the Yakima River basin. Denver Reclamation staff are working with KRD and Trout Unlimited (TU) to develop the partnership agreements necessary to formally award the WaterSMART funds. Additionally, KRD and TU provided a draft scope of work for matching funds to Ecology staff. The two agencies are working on a detailed Scope of Work using Ecology’s YBIP templates and anticipate providing a draft for review in the near future.

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. Projects proposed recently and currently being evaluated are listed here.

KRD Upper Yakima Basin Storage System (under evaluation)

The purpose of the KRD Upper Yakima Storage System Study Project is to identify and assess storage projects within the KRD service area that can use conserved water or water diverted for storage as part of total water supply available (TWSA) for tangible improvements. This water could be used for the following: instream flow objectives, tributary supplementation, aquatic habitat improvements, supporting delisting steelhead and Bull Trout populations, proratable drought-year supply, and TWSA throughout the Yakima River basin. KRD commissioned a study which resulted in the, *Kittitas Reclamation District Initial Water Storage Assessment Summary Report and Recommendations June 2017*. Reclamation is currently contracting for a feasibility study to analyze storage sites, operational approaches, and potential benefits. Ecology has provided matching funds to assist KRD in participating in Reclamation's WaterSmart program that is funding the evaluation study. Once the study is complete, further analysis of the project objectives as it may compare to the goals of the Yakima Integrated Plan will be evaluated and presented to the Workgroup.

YTID Diversion Relocation (under evaluation)

In March 2018, Yakima-Tieton Irrigation District (YTID) completed a report that evaluates alternatives to replace or repair the YTID main canal. Alternatives considered include:

1. Baseline Alternative (Tieton Main Canal Repair)
2. Tieton Main Canal Replacement
3. Diversion Relocation to Wapatox Diversion Dam (and associated new conveyance system)
4. New North Fork Cowiche Creek Reservoir, either with or without the Wapatox diversion.

YTID is continuing evaluation of alternatives. YTID is currently meeting with USFS, WDFW, Reclamation, Ecology, and others to assist in development of alternatives and evaluation of metrics to meet Integrated Plan goals and objectives as listed above. For example, RiverWare modeling is being evaluated (simulate) for the YTID project alternatives comparing these to baseline conditions and will be discussed with YRBWEP Workgroup members to assist in identification of metrics that are consistent with Integrated Plan goals and objectives.

Contacts for Information on the Integrated Plan:

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