Project Activity Update

May 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 has continued through the winter months and is approximately 70 feet deep (total depth per contract is 85 feet). The construction contract for the tunnel bypass was awarded in August 2017. The contractor has begun to mobilize equipment and construction began in March 2018. Reclamation continues to work through the award process for the gate/helix and intake contract to be awarded in FY18.

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. Project managers are evaluating the Whooshh® —an innovative fish transport system that can provide adult upstream passage. USGS has completed the draft report of the Whooshh test results and the report is currently undergoing review by the Yakama Nation, WDFW, and Reclamation. A final Report is expected at the end of May 2018. Reclamation and the Yakama Nation are planning to conduct 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 may limit the number of fish for the test.

Box Canyon Creek Fish Passage:

WDFW is coordinating with Reclamation to complete preliminary design for the Box Canyon Creek Fish Passage. Currently, WDFW has completed the 30% 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, 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% 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 and 2017 and to date, 36 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 facilities (specifically, Cle Elum Campground) was awarded September 2017 and construction was completed November 2017. Reclamation and Ecology anticipate awarding the construction contract for Speelyi Day Use Area shoreline protection in FY18. Speelyi Day Use Area will be closed during construction, September 10, 2018 – December 31, 2018. 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 June 2017 which was reviewed by Reclamation and comments 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 plan 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 due to 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.

Yakima-Tieton Irrigation District (YTID) Main Canal Repair/Replacement

In March 2018, 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 to prepare for environmental review. Reclamation has agreed to be the Federal Lead Agency for NEPA and the Department of Ecology is considering participation as State Lead Agency. YTID will be seeking funds through the YBIP process to cost share on the NEPA/SEPA process and preparation of environmental compliance documents. The YBIP modeling group is using the RiverWare model to evaluate (simulate) several of the YTID project alternatives comparing these to baseline conditions.

Surface Water Storage Element

Kachess Drought Relief Pumping Plant (KDRPP)

The Kachess Drought Relief Pumping Plant and Keechelus to Kachess Conveyance Supplemental Draft Environmental Impact Statement was released to the public for comment on April 13, 2018. Public meetings will be held on May 16 in Cle Elum and May 17 in Ellensburg. The public comment period ends July 11.

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

A new Groundwater Storage Subcommittee was established with chair, Tom Ring, Yakama Nation. The 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, 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.

In spring 2018 the Committee anticipates reviewing research on the Yakima Basin conducted by a graduate student in hydrogeology at Oregon State University.

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 Operations and Maintenance program was recently updated to include operation

of the Aquifer Storage and Recovery wells according to the terms of its State permit. The City plans to recharge in the winter of 2018-2019.

Habitat Protection and Enhancement Element

Targeted Watershed Protection and Enhancement

The Washington State Department of Natural Resources and Washington Department of Fish and Wildlife 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.

Mainstem Floodplain and Tributaries Fish Habitat Enhancement Program

Recipients of funding from the State's 2015-17 biennium are continuing installation of fish habitat restoration projects at several locations. Funding of $5.4 million for additional 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 is currently reviewing proposals from new project proponents for funding in 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 USACE Walla Walla District, and the Yakama and Umatilla tribes has 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 US Army Corp of Engineers 1135 Program, with a possible decision on support anticipated soon.

The Yakama Nation and Kittitas County Conservation District 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 & wildlife habitat in priority areas in Kittitas County and on the 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 in September 2017, and a kickoff meeting was held in October 2017. KCCD received 24 applications for the Environmental Quality Incentives Program (EQIP). KCCD also held a meeting with partners and the NRCS staff knowledgeable about their easement programs in order to prepare for implementation of that portion of this project. KCCD staff are working with NRCS on conservation plans and contracting with 8 producers for sprinkler conversion projects in priority areas. They received one application and will be working on the plan and contract for stream habitat improvement. Construction of these projects is expected to begin in fall 2018. KCCD is also working toward a May announcement of a sign-up for the Agricultural Conservation Easement Program (ACEP). KCCD is working with Forterra and Kittitas County, along with interested local producers for

this easement program.
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. Ecology is working with the funding recipients to establish contracts for these projects. The Water Use Subcommittee is currently reviewing proposals from new project proponents for funding in the next State biennium (2019-2021). These potential recipients presented proposals during the April 2018 meeting.
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 goal is to have a draft scope of work within the next couple of weeks to begin the contracting process with Ecology.

Contacts for Information on the Integrated Plan:

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