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Meeting Notes

March 27, 2014

Yakima Arboretum, Yakima WA

Yakima River Basin Water Enhancement Project (YRBWEP) Workgroup

Welcome/Introductions and Agenda Overview

Ben Floyd, Anchor QEA meeting facilitator, welcomed the Yakima River Basin Water Enhancement Project (YRBWEP) Workgroup members and other attendees, led introductions, and provided an overview of the agenda.

Technical Work Update

Andrew Graham, HDR; Walt Larrick, Bureau of Reclamation; and Dave Brown, City of Yakima; presented updates on technical work in progress. Highlights from the presentation and Workgroup comments are summarized below. For more detail, please see the full presentation which is available on the project website (<http://www.usbr.gov/pn/programs/yrbwep/index.html>).

Andrew began by discussing the technical components of the Keechelus-to-Kachess Conveyance (KKC) and Kachess Drought Relief Pumping Plant (KDRPP) projects. These projects were evaluated in January 2014, during separate Value Planning Studies (VPS).

Keechelus-to-Kachess Conveyance

The January VPS (Value Analysis) study resulted two KKC tunnel alignment alternatives. The original alignment of the KKC tunnel would have required tunneling at a considerable depth below a mountain ridge. VPS two new alignments for evaluation were described. Alternative 1 uses the same terminus portal locations as the original alignment, yet is routed around the ridge along a shallower depth alignment. Alternative 2 would be constructed starting at a deep portal located in between the Keechelus and Kachess Reservoirs and adjacent to I-90. This alternative will use the same Keechelus terminus portal as the original alignment; however, the location of the Kachess terminus portal will be south of the Alternative 1 location and away from Kachess Lake Road.

The diversion point from the Yakima River to the Keechelus portal shaft has also been revised. The diversion point was moved closer to the Keechelus Dam outlet in order to provide streamflow benefits on a larger section of the Yakima River below the dam.



Workgroup Discussion

- Dave Fast: What is the change in depth for borehole drilling that resulted from moving the original tunnel alignment to the new alternative alignments? *The drilling depth of the original alignment was up to 2,000 feet; the new alignments are approximately 400-500 feet deep in most areas.*
- Alex Conley: Is the Kachess outlet location above Box Canyon Creek? *No, Box Canyon is north of the Kachess outlet location.*

Kachess Drought Relief Pumping Plant

A separate VPS resulted in two KDRPP alternatives. Alternative 1 would convey water from the intake point through a pump station on the eastern shoreline as presented in prior Workgroup meetings. Water would then be conveyed to the outlet channel below the dam via a pipeline that runs along the shoreline. Alternative 2 would convey water through a tunnel running north to south to a pump station located below the dam on the left bank of the outlet channel (looking downstream).

Workgroup Discussion

- Rick Dieker: The Lake Mead Pumping Plant tunnel was constructed through similar soil conditions and was successful. *Yes, the Reclamation tunnel expert is aware of the Lake Mead project and has considered the tunneling methods used for that project in relation to KDRPP. Will the KDRPP Alternative 2 be a lined tunnel? Yes, the tunnel will be lined.*

Bull Trout Enhancement

Walt Larrick discussed opportunities to incorporate bull trout enhancement into the Integrated Plan projects. As part of the KKC and KDRPP projects bull trout enhancement will be reviewed for Box Canyon Creek, Mineral Creek, and the Kachess River upstream from the Kachess reservoir; as well as, Gold Creek and Cold Creek and along other small tributaries connected to the Keechelus Reservoir.

Wymer Dam and Reservoir

Geotechnical exploration work is nearly complete at the proposed Wymer Dam and Reservoir site. The last drill hole is underway and is expected to be completed within the next several weeks.

Bumping Dam and Reservoir Enlargement

Geotechnical investigation of the Bumping Dam and Reservoir area is underway. Drill holes will be completed after the snow melts this spring.

Workgroup Discussion

- Ron Van Gundy: Is there a difference in the storage capacity of the two alternative dam alignments? *It is not believed that there will be a difference in the storage capacity; however, this will be further evaluated further during project feasibility studies*

Cle Elum Pool Raise (CEPR)

The CEPR Project involves modifying the radial gates in order to increase the storage capacity of the

Cle Elum Reservoir, including shoreline protection. The CEPR Value Engineering Study was recently completed in February.

Cle Elum Dam Fish Passage Facilities

Elements of the Cle Elum Fish Passage design were reviewed, including the adult collection facility, downstream passage conduit, helix conduit structure, and inlet ramp. The fish passage was designed to accommodate water levels that can vary up to 60 feet. The initial design for the inlet, when tested, did not produce sufficient trapping velocity to collect fish and draw them into the conduit. However, the inlet has been redesigned with sideboards that increase the current to draw fish into the inlet ramp. The next steps in the modeling will be to finalize the helix conduit structure. The project is at 30% final design.

Workgroup Discussion

- Ron Van Gundy: How far is the dam from the inlet ramp? *Initially, the design used an open cut trench to construct/install the downstream passage conduit could provide passage over a 50 feet fluctuation. The current design relies on tunneling to construct/install the downstream passage conduit and therefore the intake will provide passage over 60 feet of fluctuation (elevation 2180).*
- Ron Van Gundy: During a drought year, how quickly would the fish passage facility be made available to move fish? *The optimum time to move fish is currently being modeled.*
- Dale Bambrick: The focus of this project should be on the most ecologically efficient way to transport fish. Fish should be able to migrate downstream in every year, not just some years. The design needs to accommodate that. It is understandable that performance may not be optimal in every year, but some migration should be possible each year. *There is concern about the constructability of the helix conduit, which limits how far the intake can be from the dam. . However, there is a high level of confidence that this design will effectively move fish.*
- Lisa Pelly: How tall is the helix conduit structure? *The helix conduit structure will be approximately 100 feet tall.*

Tieton Dam Fish Passage Facilities Study

Reclamation has selected Tieton Dam as the next passage project to advance to appraisal design. Providing fish passage at Tieton Dam would provide 36.8 miles of additional habitat above the dam (see Table 1), suitable for sockeye, steelhead, spring Chinook and coho salmon. Passage would also provide connectivity for the Naches Basin bull trout populations. In addition, steelhead spawning in the Tieton River was recently discovered in significant numbers; this provides the potential for steelhead to colonize tributaries that flow into Rimrock Reservoir.

Reclamation met with the Yakima Storage Dam Fish Passage Core Team in March 2014 and based on discussion with the group has selected Tieton Dam as the next passage project to advance to appraisal design. Tributaries above the Tieton Reservoir would provide access to 36.8 miles of habitat for steelhead and bulltrout. This project will contribute to fish habitat improvements outlined in the

Integrated Plan. Additionally, this project honors agreements made with the Yakama Nation and Washington Department of Fish and Wildlife (WDFW) to review fish passage on all five dams in the basin. Project development would be undertaken over the next 10 years and include the following steps: appraisal study, feasibility study, EIS, hydraulic modeling, final design, and construction.

Workgroup Discussion

- Rick Dieker: Has there been consultation with Tieton Reservoir power operators? *To date, there has not been any discussion with power operators; however, this will be completed during project evaluation.*

Groundwater Storage, City of Yakima Aquifer Storage & Recovery (ASR)

Dave Brown discussed the progress of the ASR project and identified existing and future wells that could be utilized in ASR operations. A SEPA checklist will be released Friday, March 28, and be available for public comment. The purpose of this project is to store additional water in groundwater aquifers, thereby creating less dependence on surface water sources and increasing water supplies during drought periods. A permit to store additional water in groundwater wells will be required. All wells are approximately 1,000 feet deep. An All Known and Reasonable Technology (AKART) analysis has been summarized in a draft report to be reviewed by Ecology. It is likely that two additional wells will need to be drilled in order to have sufficient summertime supplies during drought years (this estimate is based on current and projected water use). The City's Kissel Well will be used as a pilot project to test water injection and storage potentials. The Gardner Well will also be tested in mid-May to determine the impact injection will have on the aquifer. The aquifer is currently being monitored in order to establish a baseline for comparison with the aquifer conditions following injection. Ultimately, the goal of this project is to expand storage capacity for use during drought periods. During years when there is no drought, water will naturally move back into surface water systems. No new water rights will be required. Wells created as part of this project could also potentially be used as a regional water supply source by other parties in addition to the City of Yakima.

Basin-wide Groundwater Storage Opportunities

In February, Reclamation hosted training on USGS MODFLOW model of the Yakima basin in Boise with Ecology and USGS. Reclamation announced it will meet in April with irrigation districts to discuss potential infiltration sites on their districts. Reclamation will then evaluate the potential sites for retention time (the amount of time the water stays in the aquifer) and river return locations and timing (where and when water returns to the river) using the USGS MODFLOW model of the Yakima basin.

Workgroup Discussion

- What's the total capacity for injection? *With four wells it is estimated that up to 5,000 gallons per minute (gpm) of storage capacity could be injected during the winter. An additional two wells would add up to 3,000 gpm of storage capacity. Ultimately, the amount injected is limited by the distribution system's ability to convey water from the treatment plant to the wells.*

- Ben Floyd: What type of treatment is required? *Treatment will primarily involve the addition of chlorine to maintain water quality in the distribution system.*

Manastash Creek Conservation and Tributary Enhancement

This project is close to completion and will be operational in time for the 2014 irrigation season. The purpose of this project was to improve fish passage for steelhead in Manastash Creek.

Workgroup Discussion

- Ron Van Gundy: Are steelhead and rainbow trout expected to begin using the improved tributaries again? *Yes, fish populations have returned in other similar projects; therefore, it is expected that this project will also see returning steelhead as soon as water is available in Manastash Creek.*

Habitat Enhancement and Agricultural Conservation Projects

Walt presented a list of the habitat enhancement and agricultural conservation projects that have been funded by the State of Washington. These and other Integrated Plan projects will continue to move forward, based upon available funding.

Workgroup Discussion

- Mike Leita: It is important to understand the positive effect that the Integrated Plan has had, not only on irrigation water supply and habitat, but also on the enhancement of other resources. For instance, Yakima County has made changes to its groundwater management strategies relative to initiatives outlined in the Integrated Plan. Without the Integrated Plan, individual stakeholders would go back to inefficient alternatives. *Similarly, participation in the Integrated Plan has helped in securing funding; as a result, projects are now physically being accomplished.*

Implementation Committee Update

Dan Silver introduced the Implementation Committee. The Implementation Committee recently traveled to Washington, D.C., following the release of the President's 2015 Budget. The Implementation Committee has been primarily focused on acquiring funding and authorization. Federal authorization for the full suite of projects in the Integrated Plan is essential for getting many plan projects completed. Each member of the Implementation Committee who attended the trip to Washington, D.C., shared his or her thoughts on the recent trip.

- Derek Sandison: The primary purpose was to meet with the Federal Agencies DC Leadership Group and discuss project progress and funding for the Integrated Plan. At the DC Leadership Group meeting, there was very good participation from a broad spectrum of agencies. The Implementation Committee also met with Congressman Hastings, Senator Cantwell and staff from other members of the congressional delegation, to discuss Federal authorization, gain further recognition for the Integrated Plan, and discuss funding for projects currently in the design phase. The President's 2015 Budget allowed approximately \$11 million for Integrated

Plan projects, which is an incremental increase of \$3 million. This amount is short of what is needed; as such, the Implementation Committee will continue working to secure additional funding.

- Mike Leita: The Implementation Committee has been growing in its relationship with the DC Leadership Group. The Committee has begun to meet with higher level officials. Additionally, the inclusion of the Integrated Plan in the Presidential Budget is a good indicator that the Integrated Plan is gaining recognition. It appears that the Integrated Plan is gaining momentum. Overall, the meetings were positive; in particular, Senator Cantwell was very engaged. The Committee will continue improving relationships with officials and seek to gain greater recognition.
- Phil Rigdon: The Implementation Committee had a positive trip to Washington D.C.. The Committee's priorities are starting to gain momentum; however, they also face fiscal challenges. Overall, there was good discussion with Federal officials on Integrated Plan goals. The Committee's next steps will be to gain commitments from the DC Leadership Group for support of specific projects and continue advocating for Integrated Plan funding and authorization.
- Michael Garrity: The Implementation Committee's 10-Year Plan (Initial Development Phase) was received well, suggesting progress has been made toward short- and long-term authorization. The Committee will continue to work to achieve funding and authorization goals.
- Urban Eberhart: Last year, several members of the DC Leadership Group came to visit the Yakima Basin. The DC Leadership Group recognizes how unique the Integrated Plan is for dealing with climate change and fostering cooperation between diverse stakeholders. The Implementation Committee has been building relationships with higher level officials in D.C.; this is an indicator that the Integrated Plan is gaining recognition among these officials.
- Paul Jewell: The DC Leadership Group was surprisingly familiar with the Integrated Plan. There was also great attendance at the DC Leadership Group meeting. The DC Leadership Group recognizes the Integrated Plan as a positive and unique example of a multipurpose initiative. The 10-Year Plan (Initial Development Phase) was also discussed and appeared to be well received.
- Jennifer Quan (WDFW): It was apparent that congressional staff were very familiar with the Integrated Plan and that there was bipartisan involvement and support. The Integrated Plan was also well received by those members of the Appropriations Committee that were unfamiliar with it.
- Scott Revell: Overall, discussions went well and the (Implementation) Committee was well received.
- Peter Dykstra: Several years ago, when first introducing the Integrated Plan to D.C. officials, it was viewed as a generalized plan with limited depth. During this trip, it was evident that these officials are aware of the progress that has been made and now view the Integrated Plan as a model for implementing other similar initiatives. The DC Leadership Group was engaged and

showed support for the Integrated Plan; this suggests that the Integrated Plan will receive funding.

- Dan Silver: Overall, the largest difficulty facing the Implementation Committee will be acquiring funding and authorization.

Executive/Subcommittee Updates

Updates were provided on recent activities by the Watershed Lands and Habitat subcommittees and the Executive Committee.

Watershed Land Conservation Subcommittee

Peter Dykstra discussed the work of the Watershed Lands Subcommittee. Now that the State has ownership of the Teanaway Community Forest (TCF), the subcommittee has been having regular briefings from DNR and WDFW on the development of a joint management plan. The subcommittee has been working to align land management goals for the TCF with the goals of the Integrated Plan. DNR and WDFW recently created the TCF Advisory Committee. Nine of the twenty TCF Advisory Committee members have been involved in developing the Integrated Plan. This suggests an ongoing commitment by the management agencies to align management goals with the Integrated Plan. The subcommittee is moving forward with efforts to promote the additional land acquisitions from the Integrated Plan, such as those in the Little Naches and Manastash basins. Funding and project implementation opportunities have significantly increased from 2013 to 2014.

Other subcommittee members expanded upon Peter's discussion:

- Rick Roeder and Mike Livingston: The agencies are also working with the TCF Advisory Committee to determine how projects will be implemented for improved watershed and land management within the TCF.
- Sid Morrison: Consolidation of checkerboard lands that date back to the 1800s is a valuable part of improving land management.
- Paul Jewell: It is great to see the collaborative work being undertaken between DNR and WDFW.

Habitat Subcommittee

Jeff Tayer said the Habitat Subcommittee is using the 10-year Initial Development Phase to define the target for habitat investments. There is about \$100 million in projects identified over 10 years, and the subcommittee is looking at how to split that into 1- or 2-year packages. They have met twice this year and will meet again in April.

The list of projects will consider ways to meet the Integrated Plan's environmental goals while also providing symmetry in achieving water supply goals. As an example, the subcommittee is coordinating efforts with those looking at bull trout habitat improvement projects that relate closely to the KKC and KDRPP projects.

The subcommittee agrees that science should be the basis of the projects. Plans are being formulated to hold workshops with project sponsors on feasibility and constructability. There will also be a review of the viability of proposed projects in attracting funding.

Jeff Tayer also discussed funding from the Federal Land and Water Conservation Fund (LWCF). Funds will go toward land management, watershed management, and water supply improvements. Monitoring is being conducted on the Teanaway to provide feedback on the progress of habitat and water supply initiatives.

Workgroup Discussion

- Alex Conley: It is apparent that subcommittee initiatives overlap and it would be useful to discuss when and how joint efforts can be brought together.

Workgroup Roundtable Discussion

Ben Floyd introduced Peter Dykstra as the newest member of the Workgroup. Ben then opened the floor to Workgroup members. Specific comments included:

- Mike Leita: The Implementation Committee is aware that water storage is a large part of this plan; support for this initiative has been strong.
- Ron VanGundy: The Implementation Committee is faced with many significant issues. The number one priority should be to work diligently to get authorization legislation for implementation of the Integrated Plan over the next 10 years.
- Michael Garrity: Mike agrees with Ron Van Gundy's comment above. Additionally, it's important that the Cle Elum Fish Passage be ecologically effective and transport fish correctly.
- Paul Jewell: It is fortunate that the Yakima basin has received so much precipitation this year; allowing for greater efforts to be focused on the Integrated Plan instead of being spent on drought response. The droughts in California are a reminder of the importance of the Integrated Plan.
- Lisa Pelly: Two comments: 1) the U.S. Department of Agriculture, Washington State Conservationist, is very supportive of the Integrated Plan. The Integrated Plan helps to focus project prioritization and funding in the Yakima basin. 2) The Cowiche Creek project has been completed.
- Sid Morrison: A Yakima Basin Storage Alliance research effort is underway. This research effort is intended to verify the benefits of the Integrated Plan. Results from the study will be available in several months.
- Kirk Cook: It was fortunate that the Yakima basin received precipitation this year. This shows how important it is to continue to move the Integrated Plan forward to reduce the impacts of future droughts.
- Dale Bambrick: There is a potential for conflicting interests as Integrated Plan projects move forward. Workgroup members need to be prepared for potential conflicts that arise in the future.

- Dave Fast: The work currently being carried out is impressive. Dave is personally excited about Rimrock (Tieton) Dam fish passage being selected next; this project will have benefits for two listed fish species.
- Rick Roeder: Looking forward to hearing more about the progress of projects. He is also in the process of getting the Teanaway Community Forest Advisory Committee started.
- Seth Defoe: He is interested to see what the TCF Advisory Committee comes up with for the Teanaway Community Forest and how closely it ties into the Integrated Plan.

Public Comment

- Chris Maykut: Chris represents the cabins and recreationists on Bumping Lake Reservoir. He was pleased to see that the recreation and cabin owner interests are being considered as part of the project's cost-benefit analysis. A large dam at Bumping Lake Reservoir could hurt recreation, bull trout populations, and other cabin owner interests.
- Bill Campbell: Bill represents Kachess homeowners association. There are 177 homeowners around Kachess Reservoir. It is important to consider the impact that the projects will have on homeowners around Kachess Reservoir. Paul Jewell and Urban Eberhart provided a productive and informative session, discussing impacts these projects may have on homeowners. Bill hopes that homeowners will continue to be involved. In particular, homeowners are concerned about the 85-foot drawdown that will impact recreation and property values. He also expressed concern about impacts to future fisheries on the proposed KDRPP project. These impacts should be considered in the EIS. Bill hopes that discussion and partnership will be expanded beyond the Workgroup to include users of the reservoir.

Workgroup Members in Attendance

Dale Bambrick, National Marine Fisheries Service
 Dave Brown, City of Yakima
 Kirk Cook, Washington State Department of Agriculture
 Alex Conley, Yakima Basin Fish & Wildlife Recovery Board
 Seth Defoe, Kennewick Irrigation District
 Rick Dieker, Yakima-Tieton Irrigation District
 Peter Dykstra, Washington Wildlife and Recreation Coalition
 Urban Eberhart, Kittitas Reclamation District
 David Fast, Yakama Nation - Yakima/Klickitat Fisheries Project
 Michael Garrity, American Rivers
 Paul Jewell, Kittitas County
 Mike Leita, Yakima County
 Mike Livingston, Washington Department of Fish and Wildlife
 Sid Morrison, Yakima Basin Storage Alliance
 Lisa Pelly, Washington Water Project and Trout Unlimited
 Scott Revell, Roza Irrigation District

Phil Rigdon, Yakama Nation
Rick Roeder, Washington State Department of Natural Resources
Derek Sandison, Washington State Department of Ecology
Mike Shuttleworth, Benton County
Ron VanGundy, Roza Irrigation District
Dawn Wiedmeier, Bureau of Reclamation

Other Attendees

Justin Bader, North Yakima Conservation District
Rob Baldwin, Pace International, Inc.
Justin Bezold, Trout Unlimited
David Bowen, Kittitas County Chamber of Commerce
Bill Campbell, Lake Kachess Homeowners Association
Marie Cobb
Wendy Christensen, Bureau of Reclamation
Stuart Crane, Yakama Nation
Dean Dennis, Kennewick Irrigation District
Lisa Dilley, WSU
John Easterbrooks, Washington Department of Fish and Wildlife
Jack and Beneitta Eaton
James Fitch
Ben Floyd, Anchor QEA
Joel Freudenthal, Yakima County
Mike Frey, Kennewick Irrigation District
Don Gatchalian, Yakima County
Raelene Gold, Seattle Audubon
Andrew Graham, HDR Engineering, Inc.
Ken Hasbrouck, Kittitas Reclamation District
Tim Hill, Ecology
Lynn Holt, Bureau of Reclamation
Justin Iverson, Golder Associates
Chuck Klarich, YBSA
Walt Larrick, Bureau of Reclamation
Barb Lisk, Office of Representative Doc Hastings
Chris Lynch, Bureau of Reclamation
Steve Malloch, Western Water Futures LLC (alt. for American Rivers)
Chris Maykut, Friends of Bumping Lake
Jason McCormick, Washington Water Trust
Tim McCoy, Bureau of Reclamation
Keith McGowan, Bureau of Reclamation

David McKenzie, Kennewick Irrigation District
Linda Murtfeldt, Seattle Audubon
Tom Myrum, Washington State Water Resources Association
David Ortman, Sierra Club
Elaine Packard, Water/Salmon Committee, Cascade Chapter, Sierra Club
Sarah Pistorese, HDR Engineering, Inc.
Kate Prengaman, Yakima Herald-Republic
Jennifer Quan, WDFW
Joye Redfield-Wilder, Washington Department of Ecology
David Reeploeg, Office of Senator Maria Cantwell
Tom Ring, Yakama Nation
Mike Schwisow, Schwisow & Associates
Dan Silver, Consultant
Rob Swedo, BPA
Jeff Tayer, WDFW
Tom Tebb, Washington State Department of Ecology
Michael Tobin, North Yakima Conservation District
Jonathan Yoder, Washington State University

Where to Find Workgroup Information

Meeting materials, notes, presentations, and materials submitted during public comment for the Workgroup meetings will be posted on the project website (<http://www.usbr.gov/pn/programs/yrbwep/index.html>). A bibliography of information sources, many of which are available online, is also posted on the website.

If anyone needs help finding an information source, contact those listed at the top of page 1 of these notes or Ben Floyd at Anchor QEA, Kennewick office, (509) 491-3151, or bfloyd@anchorqea.com.