

**Contact: Wendy Christensen, Columbia-Cascades Area Office, (509) 575-5848, ext. 203
Derek Sandison, Washington Department of Ecology, (509) 457-7120**

Yakima River Basin Water Enhancement Project (YRBWEP) 2009 Workgroup

Meeting Notes

September 23, 2009, Yakima Arboretum in Yakima, Washington

Review of September 8, 2009 Meeting Notes

The workgroup had the following comments on the September 8, 2009 meeting notes:

- Urban Eberhart would like the last bullet on the first page clarified in the notes. It should reflect his comment that the workgroup should focus on improving TWSA, consistent with previous efforts, and not create competition between entities over water supply. HDR will update the notes with this clarification.
- Add Taneum Creek to the third bullet of the Group Discussion write up. HDR will add this to the notes.
- There are great opportunities for getting fish into Naneum and Coleman Creeks, and other areas. HDR will add this as a bullet under Group Discussion.

Breakout Group Findings

The group discussed the previous meeting's breakout group sessions. Based on the last meeting, the workgroup has preliminary consensus on the groundwater and conservation elements and many questions on the structural/operations and storage elements. HDR will prepare a summary matrix of the breakout group results for the workgroup.

Keechelus to Kachess Pipeline by Wendy Christensen

Wendy Christensen presented information about the previously studied Keechelus-to-Kachess (K-K) pipeline project. The purpose of the pipeline is to divert water from the Keechelus Reservoir to the Kachess Reservoir, which has a lower natural refill capability, to increase stored water supply. The project would entail approximately 5 miles of gravity-flow pipeline, following the proposed path shown on the project handout. The 2004 cost was estimated at approximately \$25 million.

The group discussed the following points related to the K-K pipeline project:

- Look at the project in conjunction with inactive storage tunnel projects as it would have greater fish value.
- This project, when combined with other projects, may have fish benefits that have not yet been examined.
- If the workgroup considers this project, it may want to consider a larger pipe and reevaluate the pipeline path.
- This can reduce flows in the 12-mile reach below Keechelus to Easton, improving habitat conditions.



- Look specifically at the effects on the reaches below Keechelus and Kachess, rather than just at Parker.
- Potential for cumulative flow reduction effect below Keechelus.

Inactive Pool Storage Potential by Chris Lynch

Chris Lynch presented a PowerPoint titled Yakima Project Current Operations which provided information on Inactive Pool Storage. There are five project reservoirs in the Yakima Basin: Bumping, Kachess, Keechelus, Rimrock, and Cle Elum. The presentation contained graphs depicting the distance of tunnel needed to get specific amounts of storage from Cle Elum, Kachess, and Keechelus (without pumping). Kachess has more inactive storage than Cle Elum or Keechelus because it is deeper. The upper lake above Kachess is not included in inactive storage estimate.

The group discussed the following points related to the inactive storage presentation:

- Use as storage outside TWSA and only in emergencies, then refill under normal conditions
- Modeling is needed to determine effects of taking water in drought years.
- Climate change will result in less water than normal during irrigation season, making reservoirs more valuable because snowpack is melting earlier.
- The workgroup needs to consider the effects that taking water from inactive storage and being unable to refill the reservoir will have on sockeye and bull trout. One group member felt that this would have less of an ecological effect than other projects and that the group should explore this further.
- If water is pumped and the outlet stays at the same elevation, there will still be recharge after pulling out water, therefore water in the next year should not be reduced.
- The workgroup wants to look at inactive storage in more detail, especially at Kachess reservoir in conjunction with the K-K pipeline. The group would also like to evaluate fish benefits in Keechelus reach that were not previously identified.
- There may be impacts to fish passage due to construction of facilities that need to be considered.
- Reclamation will research additional information on Cabin Creek water availability and provide to the workgroup.
- The workgroup can't assume that all the reservoirs but Kachess will fill.
- If this project were pursued, there would need to be coordination with fish passage plans.
- The workgroup would like additional information on the effects on irrigation supply.
- A workgroup member suggested that Reclamation evaluate 200,000 AF as an option.
- Inactive storage could be a tool to reduce the effects of flip flop because it would provide for water out of Cle Elum later in the year and reduce the amount of water needed from the Naches.

Cle Elum Dam 3-foot Pool Raise by Wendy Christensen

Wendy Christensen presented information about previous studies on a Cle Elum Dam 3-foot raise. The purpose of this project is to store an additional 14,600 AF of water which would be used for instream flows for fish and wildlife in the Yakima Basin, and provide for Cle Elum Reservoir shoreline protection. The red outline on the project map in the handout shows where the 3-foot raised boundary would be. This project was authorized in 1994 as part of YRBWEP Title XII legislation, however no action has been taken since estimated project costs were more than legislation provided and there were property impacts. The total estimated project cost in 2002 dollars is \$17 million.

Reservoir Fish Passage Recommendations

Wendy Christensen, along with John Easterbrooks and Joel Hubble, presented the Fish Passage Subcommittee's recommendations to the workgroup. The workgroup will discuss these recommendations and make a preliminary consensus decision on them in the October 7, 2009 meeting. In the near-term, the subcommittee recommends the following:

- Providing clear Congressional authorization for Reclamation to provide fish passage at all six Yakima Storage Dams
- Securing funding for the final design and construction of fish passage structures at Cle Elum Dam
- Securing funding for fish passage structures at Bumping Lake Dam
- Securing funding for modifications to Clear Lake Dam spillway

In the long-term, the subcommittee recommends funding and completing a Phase II evaluation of Keechelus, Kachess, and Tieton fish passage alternatives.

The group discussed the following points related to the recommendations:

- Alternative 2 – refined cost estimates will be available at the end of 2009 (update recommendations)
- Clear Lake passage improvements would likely cost less than \$2 million.
- There is a rediscovered bull trout population that migrates through Clear Lake into the upper North Fork Tieton River. It is believed, although not proven, that these are adfluvial fish coming from Rimrock Reservoir and negotiating the Clear Lake spillway to reach their spawning habitat. Reclamation has made operational changes in 2008 and 2009 that have facilitated passage on spillway (held pool longer/more steady, flows going over spillway for longer period).
- A possible project is improving the passage route from the tailwater to the bridge.
- The Subcommittee recommends allocating approximately \$125 million on passage at 3 of the 6 dams (Cle Elum Dam, Bumping Lake Dam, Clear Lake Dam).
- The recommendations assume no change in current operations.
- Reintroduced populations are not eligible to be listed under the Endangered Species Act.
- **When** (not “if”) new sources of water are developed through additional storage, then fisheries managers would seek a portion of this additional water to enhance all salmonids, including ESA listed ones.
- Fish passage is an important mitigation consideration for potential new storage impacts to bull trout habitat.
- Tributary passage projects are improving passage in some areas irrespective of YRBWEP. In addition to fish passage, instream flow and temperature need to be addressed.
- Existing projects in the basin are improving fish passage in certain areas.
- USFWS needs additional mitigation in order to support the integrated package if the small Bumping project is included.
- The Yakama Nation never agreed to storage in conjunction with fish passage at Cle Elum.
- There needs to be a commitment to fish passage and new supply in the integrated package.

Public Comment

The workgroup meeting was opened for public comment. The following comments were received:

- The workgroup needs to determine how different factors such as climate change, drought, and water demands affect each other.
- Alec Maule from USGS commented that the USGS is developing a model that could help the workgroup account for climate change. It is a conceptual model of factors that climate change may impact. Two groups, Climate Change Collaboration and R20, are focusing on climate change in the Pacific Northwest (the former) and in the Columbia River Basin (the latter).
- We should be concerned about removing natural lakes that existed prior to dams. When we do this, we create problems in the future.
- A member of the public asked how the Yakima River Basin study grant recently awarded to Reclamation and Ecology would affect the workgroup process? The workgroup will prepare a first cut of the integrated package and then will refine with the latest information available from this study.

Hydrologic Framework of the Yakima River Basin Aquifer System by John Vaccaro

John Vaccaro of the US Geological Survey gave a presentation titled Hydrologic Framework of the Yakima River Basin Aquifer System. This presentation reviewed the information in a study by the same name published by the USGS in cooperation with Reclamation, the Washington State Department of Ecology, and the Yakama Nation. The presentation covered nine main topics:

- Hydrogeologic units
- Hydraulic characteristics of units
- Hydrochemistry
- Groundwater occurrence
- Conditions of occurrence
- Flow system
- Groundwater use
- Water-level trends
- Water budget for the Yakima River Basin

The workgroup discussed the following points after John's presentation:

- From a water quality point of view, it may be good to reuse polluted groundwater before it migrates into the alluvial aquifer.
- The USGS is open to evaluating scenarios for the Workgroup or other interested parties using the Yakima groundwater model.

A Framework for Water Demand in the Yakima River Basin

Joel Freudenthal of Yakima County gave a presentation providing preliminary estimates for future water demands. Agriculture and food processing make up a large portion of economic activity in the Yakima Basin. The presentation contained tables with estimated economic losses due to unmet water demand. The County estimated the unmet need based on the 2005 drought year at 395,000 AF and 520,131 AF based on the 1994 drought year. Joel noted that the WIP number presented in the slide accounting for unmet need would need to be changed to reflect the number WIP identifies as its unmet drought need. WIP is developing a drought need estimate.

The group discussed the following points related to Joel's presentation:

- Joel was not sure how unmet demand numbers would change as the county gathered additional data, but expected they would increase.
- There would need to be rules for the use of firm water supply regarding who pays, how payments are made, etc.
- This presentation does not take into account the effects of climate change or the expansion of the local economy.
- The Department of Ecology is working on getting numbers from water users such as KID. These numbers should be ready by the October 22, 2009 workgroup meeting.
- The Roza Irrigation District number used was not endorsed by Roza. The presentation needs a disclaimer stating this.
- Modeling can help ground truth demand.
- The integrated package needs to provide for economic and fish sustainability.

Bumping Lake Enlargement (Small option)

Jeff Thomas, USFWS and Bob Montgomery, Anchor QEA, presented information about the impact the Bumping Lake enlargement would have on bull trout and spotted owl habitat. Jeff presented maps showing inundation lines for the proposed project and reviewed the Bumping Lake Enlargement Summary handout identifies the percentage of Deep Creek that would be inundated for each storage option and the percentage of total bull trout redds located in the inundation zone.

The group discussed the following point related to Jeff's presentation:

- The Falls on Deep Creek are about 50 to 60 feet high. Jeff believes there is good habitat above the Falls but he has not viewed this habitat.
- Migration out of Bumping Lake into Deep Creek does not seem to be a challenge now, but Jeff is not sure what the situation would be like if the Bumping Lake enlargement was completed.
- After many years of operation where pool elevation fluctuates, the mouth could look different than today.
- The dam site is the same for all the enlargement options, and is downstream from the existing dam.
- The workgroup needs to consider how this project would affect Camp Fife.

Public Comment

The workgroup meeting was opened for public comment. The following comments were received:

- Cost estimates have not been developed for Bumping with 100,000 or 150,000 AF storage. Cost estimates have been developed for 458,000 AF only.
- If additional new storage is provided for the Basin, Bumping Lake should be made a natural lake. Workgroup member noted that Bumping Lake was a natural lake prior to 1910. Some workgroup members noted their opposition to this.
- How is irrigation demand defined? Is there a price value of crops, etc.?

Action Items

HDR will update the previous meeting's notes.

HDR will prepare a summary matrix of the breakout group results for the workgroup.

Reclamation will research information about water from Cabin Creek and provide to the workgroup at a future meeting.

Workgroup Members in Attendance

Brad Avy, Washington Department of Agriculture
Dale Bambrick, NOAA Fisheries Service
Max Benitz, Benton County Commissioner
Dave Brown, City of Yakima
Alex Conley, Yakima Basin Fish & Wildlife Recovery Board
Charlie de la Chappelle, Yakima Basin Storage Alliance
Rick Dieker, Yakima-Tieton Irrigation District
John Easterbrooks, Washington Department of Fish and Wildlife
Urban Eberhart, Kittitas Reclamation District
Michael Garrity, American Rivers
Mark Johnston, Yakama Nation – Yakima/Klickitat Fisheries Project
Mike Leita, Yakima County Commissioner
Bill Lover, City of Yakima
Scott Revell, Kennewick Irrigation District
Phil Rigdon, Yakama Nation - Natural Resources
Derek Sandison, Washington Department of Ecology
Jeff Thomas, US Fish and Wildlife Service
Ron VanGundy, Roza Irrigation District
Dawn Wiedmeier, Bureau of Reclamation

Other Attendees

Melissa Bates, Aqua Permanente
Scott Boelman, Bureau of Reclamation
Brent Bohan, American Rivers
Kevin Bouchey, Yakima County Commissioner
Deb Boyle
Phil Brown, Golder Associates
David Child, Yakima Basin Joint Board
Wendy Christensen, Bureau of Reclamation
Dan Church, Bureau of Reclamation
Tim Collett, Roza Irrigation District
Stuart Crane, Yakama Nation
James Davenport
Sharon Edgar, HDR Engineering
Rand Elliot, Yakima County Commissioner
Ben Floyd, HDR Engineering
Joel Freudenthal, Yakima County
Adam Fyall, Benton County
Chuck Garner, Bureau of Reclamation
Andrew Graham, HDR Engineering
Jennifer Hackett, Central Washington University
Bob Hall, Yakima Basin Storage Alliance/Yakima Auto Dealers

Justin Harter, Naches-Selah Irrigation District
Joel Hubble, Bureau of Reclamation
Chuck Klarich, Yakima Basin Storage Alliance
Chris Lynch, Bureau of Reclamation
Steven Malloch, National Wildlife Federation
Mike Marvich, Aqua Permanente
Alec Maule, US Geological Survey
Jim Milton, Yakima-Tieton Irrigation District
Tom Monroe, Roza Irrigation District
Bob Montgomery, Anchor QEA
Bryan Myre, Yakama Reservation Irrigation District
Tom Myrum, Washington State Water Resources Association
Autry Richardson, Washington Department of Ecology
Tom Ring, Yakama Nation
Mike Schwisow, Schwisow & Associates
Jan Sharar, Aqua Permanente
Elaine Smith
Michael Tobin, North Yakima Conservation District
Rick Valicoff, Roza Irrigation District
Joanne Wellner, Washington Department of Ecology

Next Workgroup Meeting

The next meeting will be held on October 7, 2009 at the Yakima Area Arboretum.

Where to Find Workgroup Information

Meeting materials, notes, and presentations from the workgroup's 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, will be posted on the website. If anyone needs help finding an information source, contact those listed at the top of page 1 or Ben Floyd at HDR Engineering's Pasco, Washington office, (509) 546-2053, or ben.floyd@hdrinc.com.