RECLAMATION
Managing Water in the West

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Yakima River Basin Water Enhancement Project (YRBWEP) 2009 Workgroup

Meeting Notes
August 12, 2009, Cascade Gardens in Yakima, Washington

Review of July 29, 2009 Meeting Notes

The work group made the following comments on the July 29, 2009 meeting notes:

- The workshop comments should make clear that "irrigation demand during drought conditions needs to meet 70% reliability" is a general goal rather than a requirement.
- The consent decree supply limit is a legal requirement. The consultant team will update this description in the notes.
- In the Workshop Comments attachment to the July 29th meeting notes, the second bullet under the Fish Passage heading currently implies that there is no interest in modifying this Flip Flop operation, which is not correct. Fundamentally, Flip Flop may not be changed, but there may be some additional operational changes that could be made to further reduce impacts. The consultant team will change the notes to reflect this.
- The notes currently say that the "large bumping option may be problematic for fish agencies." This *is* problematic because of bull trout and spotted own habitat (ESA species concerns). The consultant team will change the notes to reflect this.

The revised July 29th notes will be available on the project website (http://www.usbr.gov/pn/programs/yrbwep/index.html).

The purpose of the meeting notes is to provide an overview of key discussions and issues. They specifically will record consensus decisions, information needs, and tabled items (that the group may address later) as they arise.

General Discussion

The goal of these Work Group meetings is to have a Congressional authorization request for the integrated package ready by the end of December 2009. Prepare detailed implementation plan in spring 2010.

The group identified several information needs, including climate change, updating demand estimates, establishing a value for fish, and defining goals and relationships among the seven elements. Many of these items will be addressed at future meetings.

Proposed Work Plan

HDR Engineering reviewed the recommended work group's work plan that was developed by the project team. It consists of the following three tracks:

- The middle track provides a plan to develop a package of actions and projects to address water supply and flow issues in the Yakima River Basin. This track will address the following five of the seven integrated package elements: surface storage, groundwater storage, conservation, market allocation, and structural/operational changes.
- The other two tracks, the Reservoir Fish Passage and Habitat Enhancements tracks, will be addressed by subcommittees consisting of work group members up to the point of making recommendations to the work group. Subcommittees will prepare work plans and present them to the work group at the August 26th meeting.
- The work group will combine the findings from the three tracks into one integrated package for which they will seek congressional and state legislative authorization. The integrated package will consist of projects and actions from the seven elements, with adjustments as necessary.

These tracks may be further subdivided at the group's request, such as subcommittees off the main track to address instream flow, groundwater storage, conservation, etc. Modification to existing diversion structures could be covered in the Habitat Enhancement track or another track. The work group is still discussing how to address some overlapping areas.

The work group discussed the following after reviewing the work plan:

- So called "fatal flaws" that would prevent an action or project from being implemented need to be addressed early in the process.
- If individual work group members are focused only on accomplishing specific objectives, this could prevent the group from reaching consensus on an integrated package.
- Work group members will need sufficient detail and context to able to determine whether they can support specific projects or an integrated package.
- Collectively, the seven elements may not increase water supply in the basin, but rather shift water supplies or change water use/management.
- The work group needs to consider both instream and out-of-stream water uses as they discuss water demand and supply in the basin.

The work group decided it is important to define goals and identify relationships among the seven elements early so work group members can provide better input on whether they will support it. They also came to a consensus that the integrated package will come from the seven elements, approved the proposed work plan, and identified work group members who would help prepare the Reservoir Fish Passage and Habitat Enhancements subcommittee work plans. They are:

<u>Reservoir Fish Passage Subcommittee</u>
Dave Child, Contract Biologist (Irrigation Districts)
John Easterbrooks, Washington Department of Fish and Wildlife
Joel Hubble, Bureau of Reclamation

<u>Habitat Enhancements Subcommittee</u>
Alex Conley, Yakima Basin Fish & Wildlife Recovery Board
Jeff Thomas, US Fish and Wildlife Service
Perry Harvester, Washington Department of Fish and Wildlife
Scott Nicolai, Yakama Nation
David Child, Contract Biologist (Irrigation Districts)

The revised work plan will be available on the project website and will be presented to the work group at the next meeting.

HDR presented the proposed approach for the Water Supply and Flow track. Work plans for the other two tracks are expected to be completed by the August 26th meeting.

Step 1: Develop Goal Statements
In Step 1, the work group will develop goal statements to define what they are trying to accomplish. Goal statements should be specific, but not necessarily quantitative, unless specific number would be helpful. The group should seek to strike a balance between specificity and generality to provide flexibility and creativity in developing the integrated package. The work group will discuss goals at the next meeting on August 26.

The work group will have to deal with the uncertainty of climate change and consider it periodically as they move forward. A climate change presentation will be scheduled for the September 23rd meeting.

Step 2: Develop a Complete List of "Candidate" Projects/Actions
The consultant team will develop a preliminary list of projects and actions for discussion at the next meeting. The list will be arranged by categories (surface storage, groundwater storage, conservation, market allocation, and structural and operational changes). The work group will discuss the benefits and limitations of the different projects and actions.

Step 3: Rank Projects Against Goals
The work group agreed to remove this step because they felt it would be difficult to rank projects and actions without details. They decided instead to characterize their benefits and limitations in Step 2. The consultant team will update the approach to reflect this change, which will reduce the number of steps from 10 to nine.

Step 4: Attend a Workshop
The work group agreed to hold a September 8 workshop to develop a first draft of a consensus package. They will divide into breakout groups to foster creativity and assess similarities and differences among the group. Each group will develop their integrated package to meet the goals identified in Step 1 and then reconvene to present and discuss the packages they developed. The work group also discussed the number of break-out groups for the workshop.

Step 5: Address Uncertainties
The work group will work together to make the best decisions they can to address uncertainties, such as climate change, with the available information and move forward to develop a package of projects and actions for which they will seek congressional and state legislative authorization. While resources are available to complete some technical work related to uncertainties, many will not be resolved.

Step 6: Integrate the Package
In this step, the work completed for the Water Supply and Flow Track will be combined with the Reservoir Fish Passage and Habitat Enhancements tracks to develop an integrated package of complementary projects.

Step 7: Validate Integrated Package
In this step, the consultant team will work with the U.S. Bureau of Reclamation and Washington State Department of Ecology to document the factual basis of the integrated package. After this process, the

consultant team will present any findings to the work group to refine the integrated package. The integrated package differs from the implementation plan, which will also consider funding and other elements. A group member said this process will be vital because the integrated package will be heavily scrutinized and people and agencies will value project benefits differently.

Step 8: Select Integrated Package
In this step, the work group will select a single integrated package.

Step 9: Refine Integrated Package
The work group will refine the integrated package summary report, including cost estimates.

Step 10: Develop Implementation Plan
The work group will develop the implementation plan by the end of spring 2010.

The work group is seeking congressional and state legislative authorization beginning in federal fiscal year 2011 and agreed to follow the recommended approach outlined above (revised to a 9-step process). The revised approach will be available on the project website and will be presented to the work group at the next meeting.

Overview of Water Supply in the Basin

Bob Montgomery with Anchor QEA, an environmental science and engineering firm, provided an overview of water supply in the Yakima River Basin. He noted that several sources are available to provide information about water supply (many on the project website); that basin flows are shaped by water storage and releases for irrigation and instream flow; and that more research needs to be done to estimate the future water demands of communities in the basin.

The work group discussed the following points related to water supply in the basin:

- Lower Yakima pump exchange should be considered in the package.
- A member suggested that a brief summary of water issues be prepared for the group. It was also noted that this information needs to be made understandable for a lay audience, not just experts.
- The amount of water needed to satisfy municipal uses, fish needs, and irrigation district needs was identified as an information need.
- The group identified low- and high-flow areas on a map.

The consultant team will prepare an overview of water supply and flow issues and needs for the work group.

Public Comment

The meeting was opened to allow the members of the public (non-work group members) in attendance to provide verbal comments and ask questions. The following comments were received:

- There are scientists at the USGS Columbia River Research lab that have studied fish passage for many years. John Bayman with USGS may be able to assist the Reservoir Fish Passage track subcommittee.
- What are the instream flow requirements of species? What species will be affected?

- A lot of effort was put into developing the Reclamation Yakima Project Interim Operating Plan. This document contains a lot of valuable information. There is no need to re-create information that has already been prepared.
- The 2010 federal fiscal year budget has already been passed. Reclamation did not get as much stimulus funding as some other federal agencies.

Definition of Consensus

The group discussed a handout prepared by HDR titled the "Definition of Consensus." The handout identifies levels of consensus ranging from a group member's full endorsement ("I like it") to a member's formal disagreement but willingness to go along with the majority ("I want my disagreement to be noted in writing but I'll support the decision"). The work group agreed that "blocking" or not supporting a decision, will not be considered consensus. The group also decided to add numerical values to the degrees of consensus on the handout. The revised consensus handout will be available on the project website and will be presented to the work group at the next meeting.

Work Group Ground Rules

Members reviewed and approved work group ground rules that were prepared by HDR, making one notable change. The third bullet under "Desired Results" will be updated to reflect that the group is seeking congressional and state legislative authorization beginning with the federal fiscal year 2011 budget process.

The group agreed that seating will be changed at future meetings so everyone will have an opportunity to associate with fellow work group members who represent different interests.

Groundwater Storage

Two presentations were provided on groundwater storage, which was identified as an information need in the July 29 meeting. Tom Ring of the Yakama Nation staff gave a presentation titled "Potential for Aquifer Storage in the Yakima River Basin." He stated that the information is from a staff perspective and should not be viewed as policy or endorsed by the Yakama Nation.

Mr. Ring said the concept of aquifer storage is to store water in aquifers prior to storage control to use after storage control with the goal of having more carryover storage at the end of the irrigation season. During these times, water is conveyed from the river using existing irrigation works and recharged through facilities such as recharge ponds. Water is later recovered when needed via wells, drains, or passive recovery (discharged to streams). Mr. Ring showed graphs depicting when and where available water may exceed needs. SOAC would need to make the determination of thresholds above which water can be diverted. One benefit of this aquifer storage concept is that there would be more water in reservoirs and greater carryover storage between years. This would hedge against drought the following year and provide better fish passage and outmigration conditions in non-drought years. A USGS groundwater model that will help analyze aquifer storage is expected to be completed this fall.

The work group made the following points during a discussion of aquifer storage:

- Could old mine shafts in the Kittitas Valley be used to store water? Mr. Ring was not sure if storing water in mine shafts would be as effective as other approaches.

- Improperly done groundwater storage could reach a total saturation point, resulting in an inability to farm. Drainage districts and features exist to dewater certain areas currently.
- The potential for more groundwater storage on the Wapato Project could provide supply improvement on the lower Yakima River.
- Parker gauge is the furthest point to which the reservoirs deliver water.
- The Kittitas Valley groundwater recharge area ends below Lookout Mountain and extends into the Kittitas Reclamation District service area.
- Once the irrigation season ends, shallow groundwater and drainage water outflows to drains and streams.
- Modeling is needed to quantify how much storage could be achieved in this way.
- What percentage of recharge is from leaky canals versus applying water from irrigation? Mr. Ring thought it is less from leaky canals and more from irrigation, but the USGS model could help resolve this question.
- Mr. Ring is not sure how effective it would be to use existing Roza Irrigation District canals.
- Groundwater rights that are overdrafting would likely be resupplied by artificial recharge.
- Would water stay in the canal system because these systems were not designed for freezing/thawing/safety issues? Mr. Ring agreed that this is an important issue. It is a concept that needs modeling/engineering and pilot projects to be further understood. Modifications to delivery systems and maintenance schedules would likely be needed.
- There is an aquifer storage pilot project in Walla Walla and other case studies in other states.

Bob Anderson of Golder Associates, an engineering firm, gave a presentation titled "Groundwater Storage Assessments for the Yakima Basin." The concept of aquifer recharge is to divert and store water underground when it is available and recover water in a way that benefits streamflows and supply. He described different aquifer recharge options, including surface infiltration and return flow, municipal aquifer storage and recovery (ASR), and agricultural ASR. He said surface flow and infiltration requires the most additional study of the options, while municipal ASR requires the least. Agricultural ASR is the highest cost of the three options. Mr. Anderson discussed the type of feasibility or other work that would need to be completed and the costs and constraints of implementing these options.

The work group agreed groundwater storage has potential and that it should consider potential projects in the integrated package, including one or more pilot projects.

Public Comment

The meeting was opened to allow the members of the public (non-work group members) in attendance to provide verbal comments and ask questions. The following comments were received:

- The group should include management of shallow groundwater resources such as natural and artificial resources, increasing recharge, and natural and artificial withdrawal.
- It is important to look at the timing of water rights. If we could start irrigation earlier, we could take more water pre-storage control, but if irrigation start dates are fixed, then this wouldn't be possible. It was noted that this may present contractual problems.
- A member of the public who had groundwater wells in the area is concerned that proposed changes could result in negative impacts to groundwater quality.
- If river flows were more natural, groundwater would recharge.

Meeting Wrap-up

Summary of Consensus Decisions

- The integrated package will come from the seven elements
- Approved the proposed work plan
- Approved the Water Supply and Flow Track Approach (as modified)
- Approved Definition of Consensus (as modified)
- Approved the work group Ground Rules (as modified)

Summary of Identified Information Needs

- Estimate climate change effects on water supply
- Refine municipal and rural domestic demand estimates
- Estimate value of fish
- Define goals and identify relationships among seven elements early so people can provide better input about whether they will support it.
- Identify the amount of water necessary to satisfy municipal, fish, irrigation districts (agricultural supply) needs.

Action Items

- The consultant team will revise the meeting notes from the July 29, 2009 meeting.
- Reclamation and the consultant team will develop a goals handout and a list of projects organized by the seven elements for the August 26th meeting.
- The consultant team will revise the Proposed Work Plan, the Water Supply and Flow Track Approach, Definition of Consensus, and the work group Ground Rules per the group's comments.
- The consultant team will coordinate with group members to begin the Reservoir Fish Passage Track and Habitat Enhancements Track subcommittees.
- The work group support team will prepare a brief handout summarizing basin water supply and flow needs for the work group.

Work Group Members in Attendance

Lee Faulconer, Washington Department of Agriculture
Max Benitz, Benton County Commissioner
Alex Conley, Yakima Basin Fish & Wildlife Recovery Board
Rick Dieker, Yakima-Tieton Irrigation District
Michael Garrity, American Rivers
Urban Eberhart, Kittitas Reclamation District
Mike Leita, Yakima County Commissioner
Dave Brown, City of Yakima
Mark McClain, Kittitas County Board of Commissioners
Sid Morrison, Yakima Basin Storage Alliance
Scott Revell, Kennewick Irrigation District
Phil Rigdon, Yakama Nation - Natural Resources
Derek Sandison, Washington Department of Ecology
John Easterbrooks, Washington Department of Fish and Wildlife

Jeff Thomas, US Fish and Wildlife Service
Jim Trull, Sunnyside Valley Irrigation District
Ron VanGundy, Roza Irrigation District
Wendy Christensen, Bureau of Reclamation
Dawn Wiedmeier, Bureau of Reclamation

Other Attendees

Susan Adams, Washington Water Trust
Bob Anderson, Golder Associates
Melissa Bates, Aqua Permanente
Kevin Bouchey, Yakima County Commissioner
Tom Carpenter, Yakima Basin Storage Alliance
David Child, Yakima Basin Joint Board
Stuart Crane, Yakama Nation
James Davenport
Charlie de la Chapelle, Yakima Basin Storage Alliance
Sharon Edgar, HDR Engineering
Rand Elliot, Yakima County Commissioner
Stephen Fanciullo
Ben Floyd, HDR Engineering
Joel Freudenthal, Yakima County
Adam Fyall, Benton County
Don Gatchalian, Yakima County
Andrew Graham, HDR Engineering
Jennifer Hackett, Central Washington University
Bob Hall, Yakima Basin Storage Alliance/Yakima Auto Dealers
Justin Harter, Naches Selah Irrigation District
Jackie Hertel, League of Women Voters
Ken Hasbrouck, Kittitas Reclamation District
Lynn Holt, Bureau of Reclamation
Joel Hubble, Bureau of Reclamation
Eleanor Hungate
Terry Keenhan, Yakima County
Jerry Kelso, Bureau of Reclamation
Chuck Klarich, Yakima Basin Storage Alliance
Edwin Lewis, Wapato Irrigation Project
Barb Lisk, Office of Representative Richard Hastings
Bill Lover, City of Yakima City Councilman
Steven Malloch, National Wildlife Federation
Mike Marvich, Aqua Permanente
Alec Maule, US Geological Survey
Jason McCormick, Washington Water Trust
Jim Milton, Yakima-Tieton Irrigation District
Bob Montgomery, Anchor QEA
Bryan Myre, Yakama Reservation Irrigation District
David Reeploeg, Office of Senator Maria Cantwell
Tom Ring, Yakama Nation

Ann Root, ESA Adolfson
Mike Schwisow, Schwisow & Associates
Jan Scharar, Aqua Permanente
Dan Silver

Next Work Group Meeting

The next meeting will be held on August 26, 2009 at the Yakima Area Arboretum. Group members will be provided with a goals handout and a preliminary draft of projects and actions for discussion.

Where to Find Work Group Information

Meeting materials, notes, and presentations from the work group'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 Wendy Christensen in Reclamation's Columbia-Cascades Area Office, (509) 575-5848, ext. 203 or Ben Floyd at HDR Engineering's Pasco, Washington office, (509) 546-2053.