

Basin Study Work Group: Crooked River Subgroup Meeting

January 14, 1:00– 3:30 pm

Prineville City Hall, 387 NE 3rd St, Prineville, OR 97754

ATTENDANCE

Dan Bruce, Terrebonne Water District
Phil Chang, U.S. Senator Merkley's Office
Dave Dunahay, Central Oregon Flyfishers
Chris Gannon, Crooked River Watershed Council
Nancy Gilbert, U.S. Fish and Wildlife Service
Brett Golden, Deschutes River Conservancy
Mike Kasberger, Ochoco Irrigation District
Eric Klann, City of Prineville
Bonnie Lamb, Oregon Department of Environmental Quality

Peter Lickwar, US Fish and Wildlife Service
Kate Miller, Trout Unlimited
Jeff Perreault, interested individual
Kimberly Priestley, WaterWatch of Oregon
Betty Roppe, City of Prineville
Garry Sanders, Crooked River Watershed Council
Gail Snyder, Central Oregon LandWatch
Bob Spateholts, Portland General Electric
Mike Tripp, Trout Unlimited

Kate Fitzpatrick of the Deschutes River Conservancy attended as the BSWG Process Co-Coordinator. Mary Orton of The Mary Orton Company facilitated the meeting. Anne George from TMOC also attended.

AGENDA

The group used the following agenda as a guide during the meeting:

Subgroup Purpose: Recommend to the BSWG Steering Committee what should be included in the Plan of Study with regard to the Crooked River basin.

1. Welcome: Betty Roppe, Chair
2. Introductions
3. Overview and approval of agenda: Mary Orton, Facilitator
4. Overview of Crooked River Legislation
5. Revisit Nov 12 Consensus Agreements: Kate Fitzpatrick, BSWG Process Co-Coordinator
 - Water Supply: modeling updates may no longer be needed in Plan of Study (POS) as BOR will be using the model for legislation implementation?
 - Instream Needs:
 - Agreement on revised objectives
 - Discussion of POS tasks related to objectives
6. Identify structural and non-structural options to improve operations and infrastructure to supply adequate water in the future to be included in the Plan of Study: Kate Fitzpatrick, BSWG Process Co-Coordinator
7. Next steps
 - Action items and parking lot
 - Report to BSWG
 - Next meeting of the Crooked Subgroup
 - Agenda for next meeting
8. Meeting evaluation

WELCOME, INTRODUCTIONS, AND OVERVIEW AND APPROVAL OF AGENDA

Betty welcomed everyone and asked for self-introductions. Mary reviewed the agenda; no changes were made.

OVERVIEW OF CROOKED RIVER LEGISLATION

The Crooked River Collaborative Water Security and Jobs Act of 2014 passed Congress and was signed into law by the President. Betty said that this was the result of many years of effort by many of the people in the room, and would provide new tools to meet water needs in the Crooked River basin. Kate Fitzpatrick noted that the discussion today is to understand the major points of the legislation at a high level to inform our discussion of what we would like to see in the Plan of Study. Mike Kasberger gave an overview of the major points of the legislation, using the one-page summary that had been sent to members (Attachment 1).

During that overview, he made the following points:

- The City of Prineville 5100 AF of mitigation water will stay instream and will be a portion of the shapable flows from Bowman Dam.
- Irrigators now have certainty they didn't have in the past. Even if the reservoir is only half full, irrigators will receive 100% of their contracted water.
- The NUID 10,000 AF will also benefit instream flow.
- OID members can now put water instream through the Oregon Conserved Water program and instream leasing.

Comments/discussion included:

- Kate Miller and Kimberley Priestley said that development of the annual release schedule for the uncontracted storage is in the hands of the federal agencies, and that they believed the BSWG process has no role in influencing those releases because these are independent processes. They said that negotiations with regard to fish/irrigation water had taken place over the previous three years, and that fish water was not up for re-negotiation: according to the legislation, fish get all the remaining water after first fill. They added that the directive to all three federal agencies is that the uncontracted water, under the legislation, is by law to be shaped for the maximum benefit of downstream fish.
- PGE has filed with FERC for hydropower on Bowman Dam. Reclamation has three years to decide if it wants to site hydropower there itself. Hydropower could result in benefits to fish by reducing gas bubble disease.
- There was a clarification that the legislation did not address pumped storage.
- There are no provisions for recreation contracts in Prineville Reservoir in the legislation. There is a requirement to notify the public about reservoir levels.
- There is a 10 cfs minimum year round without interruption.
- Carryover for irrigation and fish were discussed. Kate Miller, Kimberley, and Mike Kasberger clarified that the carryover for the fish account could be used for fish and wildlife through April (or the next "maximum fill date"). The fish account and the irrigation account are separate and have different carryover provisions.
- Mike Kasberger said the parties are working to implement the legislation as quickly and fairly as possible.
- Phil Chang said the Senator's office was thrilled the legislation passed and is available to help support the implementation process in any way that is needed. Adrian, Sen. Merkeley's lead staff person on the Act, would like to have a phone session with interested people.

Mayor Roppe reminded everyone that it was important to have open communication, and the group would work well when everyone speaks her or his mind at the table.

REVISIT NOV 12 CONSENSUS AGREEMENTS

Kate Fitzpatrick reviewed the two agreements from the November 12 meeting (Attachment 2) and suggested revisiting and making further progress on them.

The group discussed the first agreement from November, which was:

1. Refine Existing Water Supply

The group agreed by consensus that the Crooked River Subgroup recommends to the BSWG Steering Committee that the Plan of Study (POS) include budget for the Bureau of Reclamation to update the water supply modeling for the Crooked River, with involvement of the Crooked River Subgroup and requesting the involvement of Jonathan La Marche from OWRD. The Crooked River Subgroup will work with Reclamation to agree on assumptions and inputs. *(Purpose: Resolve the issues with the two existing models: MODSIM and that developed by Bob Main.)*

Since that agreement, the Crooked River legislation passed. Kate Fitzpatrick suggested that BOR might be updating and using MODSIM to implement the legislation (releasing uncontracted storage as directed by the Act). If this is the case, it may not be necessary to recommend as a POS task.

Action Items: After discussion, the group agreed that:

- Kate Fitzpatrick would clarify and confirm that Reclamation will be updating and using MODSIM (or another model) to refine the understanding of water supply in the Crooked as part of legislation implementation, and what the projected timeline for the update would be.
- Kate Fitzpatrick would recommend to Reclamation on behalf of the Crooked River Subgroup that additional forecasting tools (snotel sites and gages) in the upper Crooked would be useful to improve water supply forecasting.

The group discussed the second Nov 12 agreement (Attachment 2). The group **agreed by consensus** to the following priority objectives related to instream needs in the lower Crooked River:

1. Identify the conditions necessary for steelhead upstream and downstream migration to and from Ochoco and McKay Creeks and for those creeks to support all life stages of steelhead;
2. Identify the conditions necessary for steelhead upstream and downstream migration to the Crooked River between the Crooked River Feed Canal (RM 57.2) and the North Unit Pumps (RM 14.1) and for those reaches to support all life stages of steelhead ;
3. Identify the conditions necessary for spring Chinook upstream and downstream migration to and from Ochoco Creek and for that creek to support all life stages of spring Chinook ; and,
4. Identify the conditions necessary for spring Chinook upstream and downstream migration to the Crooked River between Bowman Dam (RM 70) and the North Unit Pumps (RM 14.1) and for those reaches to support all life stages of spring Chinook.

Chris Gannon offered to circulate smoother language on objective 1 via email after the meeting for the group to consider.

The group discussed how to refine study questions and Plan of Study tasks and budgets related to these objectives. Discussion included:

- Peter noted that one of the objectives in the Northwest Power Planning Council Subbasin Plan that the Crooked legislation references is “to meet state temperature standards for salmonid spawning and rearing.” This may be an area where we want to focus in on getting additional information.
- Bonnie mentioned that DEQ has a HeatSource model, but that it was never finalized and may need to be tweaked. She also recently talked with Jennifer Johnson about the possibility of using RiverWare to understand flow-temperature relationships. RiverWare operates on a daily time step and takes a mass balance approach to understanding flow-temp relationships.

Action Item: The group recommended that a smaller group with instream expertise work to refine study questions and Plan of Study tasks and budgets related to the agreed-upon objectives and bring back to the group. Those interested in being on that group include: Bonnie, Chris, Garry, Peter, and Bob. Scott Carlon and Brett Hodgson should also be invited. Brett Golden offered to coordinate the group.

IDENTIFY STRUCTURAL AND NON-STRUCTURAL OPTIONS TO IMPROVE OPERATIONS AND INFRASTRUCTURE TO SUPPLY ADEQUATE WATER IN THE FUTURE TO BE INCLUDED IN THE PLAN OF STUDY

The group discussed a table (Attachment 3, drafted by Kate Fitzpatrick) of structural and non-structural options to improve operations and infrastructure to supply adequate water in the future. Kate noted that this is an inventory of projects that are happening or could happen, and those the group agreed to could be recommended to the BSWG Steering Committee for inclusion in the tradeoff analysis in the POS. She asked for any additional items, and then for the following feedback on each line:

- Is it an option the group is interested in including in the Basin Study tradeoff analysis?
- What information exists?
- Is there a need for new information that could be provided in the Basin Study?
- In some cases, no information is needed, but the project should be documented as a water supply option in the Plan of Study.

The group recommended adding the following options, to be considered and discussed as part of the table:

- Upland management (e.g., juniper thinning)
- Change in water releases from Bowman to address total dissolved gas problem (this could go in the instream needs refinement category, or it could go in options because it is a structural solution)
- Structural improvements to Bowman and Ochoco dams to enable enhanced management of releases (i.e., the ability to automate changes in release to accommodate more frequent changes)
- Improved forecasting above dams (i.e., additional snotel sites and gages)
- Identify barriers and possible opportunities associated with modification of rule curves (this could fit under an existing option that explores legal barriers already in the table)
- On-farm efficiencies (district and non-district)

The group reviewed the table row by row. Comments by CRS members that were captured are included below each task in bulleted paragraphs.

1. Release of uncontracted storage for fish and wildlife and groundwater mitigation (to be implemented as directed in H.R. 2460)
 - Shaping of the flow releases will happen through an independent process by federal agencies. How this is implemented is not appropriate as a BSWG decision. This is not an “action item” for this chart or for BSWG.
 - While not an action item for BSWG, flow releases could be analyzed in combination with other options to understand how they could be optimized to meet goals.
 - Treating it as an input is tricky because the water may be released differently each year, so the input would be changing.
 - Can we distinguish it as a constant that is not changed through an optimization process?
 - As the legislation is implemented and adaptively managed, agencies will be continually trying to optimize this water against other tools, so this does not need to be emphasized in the Basin Study; it will be an ongoing process in the Crooked.
 - Basin Study can play a role in generating instream information that the federal agencies might find useful for implementation, although implementation will not necessarily wait for this information.
 - Might be useful to add an “Action Needed” column to the table to clarify that no action is needed in the Plan of Study on this. Other options would fall in this category as well (i.e., Prineville wetlands; McKay water switch).
 - This list of options can be seen as an inventory of projects that are or could be done to improve water supply in the Crooked

ACTION ITEM: Kate Miller and Kimberley offered to send, within a week, proposed language to accompany this option (“Release of uncontracted storage for fish and wildlife and groundwater mitigation [to be implemented as directed in H.R. 2460]”), or a proposed way to treat it in the Plan of Study.

2. Instream Leasing
 - This is already happening.
 - DRC will be working with OID to optimize this program, particularly with passage of legislation creating more leasing opportunities.
 - No cost to the Plan of Study.
 - **Consensus** to include in optimization of options/tradeoff analysis.
3. McKay Creek Water Rights Switch
 - No cost in Plan of Study.
 - **Consensus** to include in optimization of options/tradeoff analysis.
4. Prineville Wetlands
 - This project is designed and funded.
 - Water quality and quantity benefits should be documented.
 - This could be incorporated under nonstructural storage.
 - **Consensus** to include in optimization of options/tradeoff analysis.
5. NUID Water Supply Program
 - This is an ongoing program; it will move NUID off Crooked River pumps. It moves Deschutes River water through transfer of urbanized acres to NUID or Conserved Water.

- No information needed in Plan of Study, but the district plans being proposed in the Deschutes subgroup will inform this.
 - Better understanding of flow-temperature relationships in the Crooked may inform this as well.
 - **Consensus** to include in optimization of options/tradeoff analysis.
6. Move OID diversion downstream
- Temperature-flow information should help with evaluation of this project.
 - Broad support for keeping this option on the table.
 - ODFW has indicated good fish habitat benefits associated with this project due to good spawning gravels in the restoration reach.
 - **Consensus** to include in optimization of options/tradeoff analysis.
7. Pipe OID system and protect conserved water instream
- Information on piping the whole system is included in OID's System Optimization Review.
 - Information on cost-benefits of project phasing would be useful.
 - The conserved water protected instream would be applied proportionately to first fill as well.
 - The group was curious if there are other ways to fund this work:
 - Pelton Water Fund?
 - BOR has a \$25,000 Water Conservation Field Services competitive grant window coming up in February, which requires a 50:50 cost-share; OID is already submitting a grant for a seepage run, however.
 - **Consensus** to include in optimization of options/tradeoff analysis.

Action Item: Mike Kasberger and Kate Fitzpatrick will work together to refine costs and investigate potential match for phased piping in OID.

8. New Storage/Increasing Existing Storage
- Mike Kasberger said when Bowman Dam was considered, there were feasibility-level studies on a few different sites.
 - Is there a need for new storage?
 - Kimberley indicated that opportunities for new storage are limited due to the state process: any new water right has to go through a water availability analysis and Division 33 review, the maximum period you can store water is about six weeks or less, and there is no or very little water available. Even in creeks that show some water is available, the state is becoming stricter because new storage above existing storage is creating regulatory issues.
 - Is it possible to raise the elevation of Bowman Dam to increase storage capacity?
 - Climate change may affect supply, making new storage more important.
 - Discussion of prioritizing modifying existing storage over new storage.
 - Discussion on considering structural and nonstructural storage together, including in the upper watershed.
 - Prioritize lower cost solutions.
 - Assess and possibly update previous analysis on storage sites.
 - Be careful that this might look like a greater priority in the reach than it is, based on it costing more money to study (although the other options may be equally or more important but do not need additional study).
 - Assessment of legal and administrative constraints might be step 1, to guide how much time and money is worth putting into further appraisal.
 - **Consensus** to include in optimization of options/tradeoff analysis.

Action Item: Kate Fitzpatrick will work with Mike Relf to understand the different levels of analysis available in a Basin Study and associated costs.

Kate Fitzpatrick noted that at this point, the group was not prioritizing; they were approving options to be included in the Plan of Study.

9. Nonstructural storage (i.e., enhancing wetland and floodplain capacity)
 - Include upper Crooked watershed
 - Assess the potential for this option (floodplain restoration/beaver introduction).
 - Assess potential costs for enrolling lands for private landowners to do that work.
 - Garry estimated the cost as the higher part of low, or the lower part of medium.
 - The group agreed to keep this item separate from structural storage in case the latter was dropped.
 - It was clarified that this would not require new water withdrawals or water rights.
 - **Consensus** to include in optimization of options/tradeoff analysis.
10. Assessment of legal and policy barriers
 - This could include protecting water instream, rule curves in reservoirs, and storage limitations (i.e., state water availability).
 - **Consensus** to include in optimization of options/tradeoff analysis.
11. Upland Management (i.e., juniper thinning)
 - Some assessment of this would be useful; some felt only a small amount should be spent
 - **Consensus** to include in optimization of options/tradeoff analysis.
12. How water is released from Bowman to address Total Dissolved Gas (TDG) problem
 - Discussed as a structural solution because it might be a structural fix, but Bonnie agreed it could be captured under instream questions.
 - Perhaps the legislation implementation would reduce frequency of TDG?
 - **Consensus** to move this to the study questions, though it could move back to options/tradeoff analysis as needed.
13. Structural modifications to improve forecasting (snotel sites, gages)
 - **Consensus** to include in optimization of options/tradeoff analysis.
14. Structural modifications to improve the ability to manage releases (i.e., automation)
 - This would allow a more nuanced release that some felt would benefit fish.
 - These two structural modifications(13 and 14) could be done if a hydropower facility were developed.
 - **Consensus** to include in optimization of options/tradeoff analysis.
15. Cost estimate and feasibility for water measurement devices at all points of diversion in the Crooked River basin
 - One basin study output could be to identify a plan for this.
 - It could be overseen and enforced by OWRD.
 - Consider as a cross-cutting task across the Deschutes Basin?
 - **Consensus** to include.
16. On-farm efficiencies, without diminishing certificate differentially among patrons
 - Mike Kasberger was clear that his district supports on-farm efficiency, but is not open to protecting this water instream by diminishing the district's water rights certificate differentially amongst patrons.
 - **Consensus** to include in optimization of options/tradeoff analysis.

ACTION ITEMS AND NEXT STEPS

Action Items

- The group recommended that a smaller group with instream expertise work to refine study questions and Plan of Study tasks and budgets related to the agreed-upon objectives and bring back to the group. Those interested in being on that group include: Bonnie, Chris, Garry, Peter, and Bob. Scott Carlon and Brett Hodgson should also be invited. Brett Golden offered to coordinate the group.
- Kate Miller and Kimberley offered to send, within a week, proposed language to accompany the option: “Release of uncontracted storage for fish and wildlife and groundwater mitigation [to be implemented as directed in H.R. 2460],” or a proposed way to treat it in the Plan of Study.
- Mike Kasberger and Kate Fitzpatrick will work together to refine costs and investigate potential match to phased piping in OID.
- Kate Fitzpatrick agreed to talk with Mike Relf at Reclamation about the following topics:
 - Will MODSIM (or other model such as RiverWare) be updated as part of Reclamation’s process to implement the Crooked River legislation?
 - Will water supply forecasting be improved through additional snotel sites or gages?
 - Is collecting new data allowable within a Basin Study?
 - What levels of storage analysis are available and what is their cost?
 - How have other basin studies accounted for constraints associated with state water availability analyses when looking at storage options?
 - Is there a possibility of considering modification of rule curves as part of a Basin Study?

The meeting adjourned.

Attachment 1: Crooked River Collaborative Water Security and Jobs Act (Summary)

1. Modifies the Wild and Scenic River Boundary, allowing the installation of a hydroelectric turbine on Bowman Dam.
2. Provides the City of Prineville with 5100 af of mitigation water, allowing them to draw more groundwater to meet city's needs.
3. Provides contracted water to irrigators on a "first fill" basis, ensuring a more reliable supply of water to farmers.
4. Provides an additional 10,000 af of "first fill" water to the North Unit Irrigation District and other contract holders.
5. Directs Bureau of Reclamation (BOR) to release a sufficient amount of remaining stored quantities, as well as the 5100 af of Prineville water, to be released based on an annual release schedule developed with National Marine Fisheries Service and US Fish and Wildlife Service. The annual release schedule is developed to maximize benefits to fish and wildlife downstream of Bowman Dam.
6. Additionally directs the BOR to provide, to the maximum extent practicable, a minimum of 80 cfs of in-stream flows from Bowman Dam to Lake Billy Chinook.
7. Requires the BOR to project reservoir water levels over the course of the year and make those available to the public.
8. Allows members of Ochoco Irrigation District to make early repayment of construction costs of project facilities, and allows contract amendments to authorize the use of water for instream purposes for water conservation projects and temporary instream leasing.
9. Allows McKay Creek water users to enter into the Ochoco Irrigation District boundary and draw water from the Crooked River, providing them more reliable water supply, and enhancing habitat for fish in McKay Creek.
10. Establishes a Dry-Year Management Planning Process to convene stakeholders to evaluate voluntary measures to minimize drought impacts.

Attachment 2: November 12, 2014 Agreements of the Crooked River Subgroup

1. Refine Existing Water Supply

The group agreed by consensus that the Crooked River Subgroup recommends to the BSWG Steering Committee that the Plan of Study include budget for the Bureau of Reclamation to update the water supply modeling for the Crooked River, with involvement of the Crooked River Subgroup and requesting the involvement of Jonathan La Marche from OWRD. The Crooked River Subgroup will work with Reclamation to agree on assumptions and inputs. *(Purpose: Resolve the issues with the two existing models: MODSIM and that developed by Bob Main.)*

2. Refine Instream Needs

The group agreed by consensus to the following priority objectives related to instream needs in the lower Crooked River:

1. Identify the conditions necessary for steelhead upstream and downstream migration to and from Ochoco and McKay Creeks and for those creeks to support all life stages of steelhead;
2. Identify the conditions necessary for steelhead upstream and downstream migration to the Crooked River between the Crooked River Feed Canal (RM 57.2) and the North Unit Pumps (RM 14.1) and for those reaches to support all life stages of steelhead ;

The group tasked several members to refine wording to include objectives for spring Chinook. The following objectives were circulated by email and received no comments.

3. Identify the conditions necessary for spring Chinook upstream and downstream migration to and from Ochoco Creek and for that creek to support all life stages of spring Chinook ; and,
4. Identify the conditions necessary for spring Chinook upstream and downstream migration to the Crooked River between Bowman Dam (RM 70) and the North Unit Pumps (RM 14.1) and for those reaches to support all life stages of spring Chinook.

Attachment 3: Draft Structural & Nonstructural Options to Improve Water Supply

Action	Benefit	Existing Information	Information Needed	Estimated Cost
Release of uncontracted storage for fish and wildlife and groundwater mitigation (to be implemented as directed in H.R. 2460)	Instream flows; muni		*None. To be implemented as directed by H.R. 2460	zero
Instream leasing	Instream; ag	Ten years experience with the program	Analysis of policies/pricing to optimize	low
McKay Creek water rights switch	instream; ag	Sufficient	*	zero
City of Prineville Wetlands	instream; muni; public	Sufficient; project designed and funded	*	zero
NUID Water Supply Program	muni; ag; instream	Project ongoing; pilot mitigation project in process	Information from Deschutes district plans will add value	zero
Move OID diversion downstream	instream; ag	Feasibility engineering and cost analysis	*	zero
Pipe OID system & protect conserved water instream	instream; ag	System Optimization Review	cost-benefit by phases	low
New storage: structural	instream; ag; muni		Analysis of enhancing existing storage; new sites	low-med?
New storage: nonstructural (i.e., enhancing wetland and floodplain capacity)	instream; ag; muni	CRWC plans or emerging plans in McKay Creek and lower Crooked River?	*?	
Assessment of Legal/policy barriers	all	Most barriers known and identified	documentation; further analysis?	low

**Where information is not needed, we may just need a review of existing plans and incorporation of actions into tradeoff analyses.*