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## Yakima River Basin Study– Instream Subcommittee Meeting Notes, October 14, 2010, Yakima Arboretum in Yakima, Washington

### Introductions

Bob Montgomery, Anchor QEA, welcomed the subcommittee and reviewed the meeting materials, which included two modeling result handouts and the instream flow objectives developed earlier in the year. The modeling handouts show the Future with Integrated Plan compared to the future without the Integrated Plan (FWIP), with two different variations of outflows from Bumping Lake to illustrate the range of possible effects.

### **Instream Flow Models** by Bob Montgomery, Anchor QEA

Bob presented hydrologic modeling results addressing instream flows in the Yakima Basin. Results for prorationing, total water supply available (TWSA), and relative improvements in instream flows were discussed. Steve Thurin, HDR, explained that some modeling issues were encountered with Bumping Reservoir expansion, which is why the subcommittee received two modeling result handouts, with and without shaping Bumping Lake outflow releases. Subcommittee comments include:

- There was concern about May 1<sup>st</sup> as the starting date for drought years release. *Water supply would be affected if an earlier start date was used. It also wouldn't necessarily serve dual purposes of instream flow and irrigation supply. May not have enough information at this time to know whether May 1 is the right time to release flows or not. This date works for illustrative purposes for the modeling results.*
- Concerns were also expressed about downstream temperature impacts from an enlarged Bumping that would likely turn over in October, and warm up the lower river.
- Suggest developing a priority rule for refilling reservoirs. The daily hydrographs (wet years 2000-2003) for Bumping River and Lower Naches River further demonstrate the need to reconsider May 1<sup>st</sup> flow release date. Releases starting in June may better mimic the natural hydrograph.
- An earlier start date of mid-April was discussed. *Moving the start date affects the river differently at each reach. However, adjusting the date may reduce overdraft of Bumping, but could also slightly reduce flows (primarily just below the reservoir).*
- For the Cle Elum River, the model should ramp down flows to 300 cfs gradually.
- Modeling results show “flip flop” operations were only slightly modified. The Integrated Plan may help reduce day to day fluctuations particularly in normal or wet years. This would be more difficult in drought years.
- For Cle Elum, if you have reservoirs full, can you improve instream releases? *Yes, if there's enough carryover in place, and if the water is “picked up” at Wymer.*
- There is a lot of flexibility for flow management in average and wet water years.



- Can we adjust targets for carryover storage? *Currently, trying to balance fill in reservoirs in the modeling effort. Reclamation has rules that account for ocean conditions (assumptions are used for ocean conditions and other factors in setting the water management regime each year), climatic effects, and carryover amounts; the rules define whether to carryover or release flows.*
- Additional carryover can improve fish flows in the next year's spring freshet.
- Why wasn't the Yakima River - Selah Reach included in summary? *Flow objectives were not developed for this reach, so Selah wasn't specifically modeled.*
- The Future without Integrated Plan hydrographs does include YRBWEP Phase II conservation actions.
- Need to improve flows in spring and fall on the Tieton River. Ramp down flows more gradually
- During flip flop, it is important to look at impacts to flow and Tieton fish passage (e.g. sockeye).
- Regarding the spike in 11/99 and 1/00 for Bumping River, should there be a ceiling on release rates, or some trade-off considerations with the Naches River downstream? *Years 2002 and 2003 are skimming years. Need to optimize among storage reservoirs to enhance flows.*
- It is difficult to define what is 'good snowpack'? *The Reclamation System Operations Advisory Committee (SOAC) provides input on risk boundaries, triggers, and methods to evaluate flow and reservoir management alternatives.*

Bob summarized the instream flow discussions and described the following items the Consultant team will take away from today's meeting:

- Bumping enlargement.
  - Evaluate whether the May 1 release date is too late?
  - Identify how much to store and release (i.e. percent of runoff to skim, and percent of natural inflow to bypass).
  - Better characterize biological effects from operations.
- Lower Naches Reach
  - Overall shape looks pretty good.
  - Degree of skimming looks okay biologically.
  - Revisit 1994/95 again to confirm results are acceptable for this period.
- Easton Reach
  - Sep 01 release is problematic.
  - Check spawning flows for Sep 10 – Oct 15 (220 cfs)
- Cle Elum
  - Need to further evaluate the hydrograph for this reach.
    - Reduce summer flows by 1000 cfs.
    - Revisit peak releases - they are higher and later than they need to be.
- Ellensburg Reach
  - Could operate Thorp by 1000 cfs and further reduce peak in summer (currently only running during winter).
- Selah Reach
  - Subordination is primary project.
  - Bracket the subordination amount that could be left in the river.
- Parker Gauge
  - Flows look pretty good.

- Evaluate whether Sunnyside Valley Irrigation District conservation savings and releases from Wymer can be shaped to meet biological objectives.
- Kiona Gauge
  - Adjust model to show Kennewick Irrigation District (KID) diverting from Yakima instead of Columbia River.
- Kachess reservoir and bull trout access
  - Showed time series comparing summer pool elevations between FWIP and Integrated Plan (Bumping flows not shaped).
  - Modeling results show August bull trout conditions are worse 19 out of 25 years and so the team will revisit how to improve this condition.

### **Meeting Wrap up**

Bob asked the Subcommittee members if the modeling effort is on the right track regarding instream flows? The following responses were made:

- Maximize benefits with carryover storage in good years. Define operational risks and address policy question on how to manage operations in drought and good water years.
- Identify more detail on how to use additional supply to meet flow objectives (e.g. how Wymer would be used to improve the spring hydrograph upstream)
- Develop water-year specific flow targets and model it
  - Don't assume static conditions.
  - Consider increasing storage carryover.
- Consider identifying water block from carryover to use to increase spring flows on the Yakima. The Naches River takes care of itself.
- May not need to pulse in average and high flow years. Perhaps keep this water in storage. Incorporate SOAC pulse rules into the plan.
- Add Selah and Parker reaches to the table summary at the beginning of each handout. Bumping releases can be smoothed out.
- Consider modeling a scenario without water being diverted for power at Roza and Chandler.
- Operations discussions are still needed.
- Bull trout critical habitat ruling affects Deep Creek and Bumping. May make some project issues insurmountable?
- Bumping enlargement project deserves the opportunity to see if challenges can be overcome. It was excluded early from the Reclamation storage study.
- Use new storage more effectively to balance between fish and agriculture, lakes, lake levels and productivity, with passage needs considered.

### **Next Meeting**

No additional meetings are planned at this time.

### **Attendance**

David Child, Yakima Basin Joint Board

Alex Conley, Yakima Basin Fish and Wildlife Recovery Board  
Stuart Crane, Yakama Nation Water Resources  
John Easterbrook, Washington Department of Fish and Wildlife  
Charlie de la Chapelle, Yakima Basin Storage Alliance  
Ben Floyd, Anchor QEA  
Joel Freudenthal, Yakima County  
Sean Gross, National Marine Fisheries Service  
Joel Hubble, Reclamation  
Jerry Kelso, Reclamation consultant  
Jonathan Kohr, Washington Department of Fish and Wildlife  
Paul LaRiviere, Washington Department of Fish and Wildlife  
Chris Lynch, Reclamation  
Jim Milton, Yakima-Tieton Irrigation District  
David Minner, HDR Engineering, Inc.  
Bob Montgomery, Anchor QEA  
Tom Ring, Yakama Nation  
Ted Shannon, HDR Engineering, Inc.  
Jeff Thomas, US Fish and Wildlife Services  
Steve Thurin, HDR Engineering, Inc.  
Keith Underwood, HDR Engineering, Inc.

### **Where to Find Additional Information**

Meeting materials, notes, and presentations from the Workgroup meetings and subcommittee 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 or Ben Floyd at Anchor QEA, Richland office, (509) 392-4548, or [bfloyd@anchorqea.com](mailto:bfloyd@anchorqea.com).