



December 15, 2009

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Subject: Comments on the Draft EA for the Bowman Safety of Dam Modifications

The Draft EA is well written and easy to understand and that is appreciated.

There are a number of additional, but closely related Bowman Dam issues that are currently under consideration, so a comprehensive USBR feasibility report and EIS are essential. These should address the Crooked River and tributaries, the impact of USBR facilities and irrigation activities on it and the mitigation alternatives. These are particularly important with the reintroduction of Chinook salmon and the ESA listed steelhead above the Pelton-Round Butte (PRB) Dam complex.

I'll try to be brief.

1. **Numerous issues** regarding Prineville Reservoir are in play right now and attempting to avoid them by sidestepping on this important Safety of Dams project is not only a missed opportunity, but also likely to be a costly exercise in prematurely choosing a poor alternative.
2. The **total dissolved gas** (TDG) water quality problem caused by Bowman releases is very important and now is the time to address it. Moving forward and not doing so as suggested in the EA is not a good strategy from both cost and efficiency perspectives.
3. **Fish passage** at Bowman is essential for the reintroduction and habitat restoration of the ESA listed steelhead to be successful. Before upstream diversions and habitat damage began over a century ago the majority of steelhead spawning and rearing habitat in the Crooked River system occurred above Bowman and Ochoco dams. This critical habitat must be made available to steelhead once again. A major part of the over \$300 million being invested by the public and PGE is for Crooked River steelhead, so this points unequivocally toward passage at Bowman.
4. Utilizing the Big Bend Campground as a **staging area** would involve excessive disturbance close to the River and the riparian - stream bank areas. This should not be a staging area for construction, regardless of the eventual nature of the project.
5. The PGE proposal for a **hydroelectric facility** at Bowman must be considered in a feasibility evaluation of all the projects that can address the numerous challenges and needs, and in an EIS.
6. Over 82,000 acre-feet of **unallocated storage** is available in Prineville Reservoir. Much of that should be allocated to the ESA listed steelhead for downstream flow, including from Bowman Dam to PRB in the winter and below the Crooked River Feed Canal during the summer when water temperatures are a problem. This would also provide an important economic windfall – a 12- to 15-mile tailwater fishery below Bowman. For comparison the four-mile tailwater fishery in New Mexico's San Juan River below the USBR Navajo Dam provides \$20 to \$30 million annually in economic values according to the State.

http://www.wildlife.state.nm.us/recreation/fishing/documents/SanJuanRiverWhitePaperFinal_11-20-08.pdf

7. The Crooked River irrigation diversions and Bowman Dam have resulted in a complex flow system from Bowman to Lake Billy Chinook (LBC). One important aspect of the needed feasibility study is to evaluate the delivery alternatives for **flow augmentation in various reaches** of the River system. The objective would be to preclude and eliminate thermal blockages to steelhead, Chinook and bull trout passage by providing cold water at critical release points. Using the existing water delivery systems, such as the North Unit Canal, and new delivery systems should be evaluated.
8. The **release structures** should be upgraded so that flow releases can always be at least 70 cfs.
9. Based on my cursory review, the "**parapet wall**" alternative appears to be a marginal solution. Given the threat to Prineville from any type of failure, I recommend an independent review of the structural and hydraulic aspects. This alternative may appear to obviate the need to consider passage, but it is possibly shortsighted and counterproductive.
10. The USBR determined the **probable maximum flood (PMF)** for Bowman Dam. I'm familiar with the methodology having performed PMF studies for potential dam sites in the Umatilla basin while working at the Bureau in the mid '60s. It is misleading and technically inaccurate to say the PMF is equivalent to a 3500-year event. Data is not available for a period long enough to compare deterministic/stochastic results with such statistics. This also applies to the comparison on page 7 involving a 21,000-year event.

The Crooked-Ochoco system is complex and the reintroduction of Chinook and ESA listed steelhead makes it essential to look at solutions to all the water/fish related opportunities and problems. The stumbling blocks are many, but there are many economic, biologic, endangered species and safety opportunities. This is the time to professionally examine them.

The Native Fish Society would be glad to help obtain funding for such a feasibility study and the implementation of win-win solutions.

Thank you,



H. Tom Davis, PE

Native Fish Society
Volunteer River Steward - Upper Deschutes

CC –
Trout Unlimited
Association of Northwest Steelheaders
Central Oregon Flyfishers
Water Watch of Oregon
American Rivers
ODEQ
ODFW

Governor's office
Senator Wyden
Senator Merkley
Congressman Walden
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Crooked River Watershed Council
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