21 January 2011

Lenny Duberstein
Bureau of Reclamation
Billings, Montana

Re: Draft Revised Criteria for Yellowtail Dam

Dear Lenny:

Thank you for the opportunity to comment on the proposed Draft Operating Criteria for Yellowtail Dam. Though we believe the Draft Operating Criteria don't adequately address the needs of all Yellowtail stakeholders, they are certainly a good start. We sincerely hope the bureau will continue to view the operating criteria as a work in progress, implement them using precepts of adaptive management and accept future comment in order to create equity and reduce risk in water management at this project.

Below we outline our concerns and offer in good faith reasonable alternatives and modifications to the Draft Operating Criteria. Our recommendations are based on a detailed review of past river releases, lake elevations and long-term reservoir management.

OVERVIEW

The Draft Operating Criteria came about after a significant drought period, when local, state, tribal and federal entities expressed concern to Reclamation that "the Bighorn River System was not being managed in a way that fully protects and utilizes the system's resources for the multiple demands, needs, and expectations of the public[1]". Many stakeholders believed their interests were being ignored, and that Reclamation's management has failed to recognize the multi-purpose nature of the reservoir, and is purposely favoring lake interests at the south end of Bighorn Lake over nearly all other interests. It is important to note that these same stakeholders hold similar concerns with the National Park Service and their management practices of Bighorn Canyon National Recreation Area. Prior to the release of the Draft Operating Criteria in November 2010, stakeholders were not aware of the development of the Draft Operating Criteria, only that rule curves had been designed and tested, and that Reclamation was compiling feedback from quarterly stakeholder meetings. It is regrettable that no private or tribal interests, or state agencies, were asked for comments before publication of the Draft Operating Criteria, a time when such information could have helped shape the initial draft. It is further disappointing that during the only public meeting in Montana to discuss the Draft Operating Criteria, attendees were specifically asked *not* to comment on or "shoot holes[2]" in the draft, but only to ask questions that might better prepare them to make written comments. As a result, this letter is our first official opportunity to address the Draft Operating Criteria. We first outline concerns with regard to Yellowtail reservoir operations, then identify issues that still need to be addressed, and conclude with specific recommendations for the Draft Operating Criteria.

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[1] Draft Bighorn Lake Operating Criteria Evaluation Study & Report, Page 2, November, 2010
[2] Dan Jewell, Area Manager, MTAO, Bureau of Reclamation, Public Meeting, Billings, MT, January 4, 2011

ADDITIONAL STAKEHOLDER CONCERNS

We believe the bureau overlooked a number of stakeholders that utilize the resources of the Yellowtail project. Most public meetings have had ample representation from the south end of the lake (representing the lake fishery and flat water recreation) and the river (representing the river fishery and river recreation). The Draft Operating Criteria addresses a few of those interests, but additional stakeholders seemed to have been overlooked, including:

- Lake recreationists at the north end of the lake
- Landowners adjacent to the river below the project
- Downstream river recreationists
- Outfitters, guides, lodge owners and other economic interests
- Waterfowl habitat and hunting enthusiasts
- Taxpayers concerned about lost hydropower revenues

Lake recreation at the north end of the lake

Based on access, facilities, seasonal water availability and observation, it appears that boaters and campers using the north end of the lake comprise the majority of lake recreationists. However, the National Park Service says, "Visitor use statistics are collected in each district but are not broken down to specific sites within the park[3]." Therefore an accurate comparison of lake usage in the north and south ends is not possible. Regardless, a substantial number of recreationists count on summer boating and camping opportunities on Bighorn Lake each year. Unfortunately, Reclamation's recent desire to maintain unprecedented high lake levels has caused most of the lake recreation at the *north* end of the lake to be lost for significant periods during the height of the lake recreation season. (See Exhibit 1). The Park Service recognizes that recreation is impacted at lake elevations above 3,642ft. Lake elevations have exceeded those levels each of the last three years.

Downstream river recreation and river habitat

Sustained high releases affect more than just adjacent private or tribal landowners. River recreationists a considerable distance from Yellowtail Dam have also been adversely affected. In 2008, high releases destroyed a state Fishing Access Site seven miles downstream of Hardin, MT, (See Exhibit 2). Damage was so severe that it appears there might not be enough property left to restore the site. River habitat is also affected. Recent years have seen higher rates of side-channel occlusion and loss, degradation of island complexes or loss, and a significant increase above normal in the trend of channelization. It should be noted that flood control is one of the project's authorized purposes.

Landowners adjacent to the river

Residents owning or leasing property along the banks of the Bighorn River below Yellowtail Dam have enjoyed the benefits of flood mitigation since the dam was built. Protection from inordinately high flooding is one of the authorized benefits of Yellowtail Dam. However the bureau's recent desire to maintain unprecedented high lake levels while providing insufficient storage to accommodate spring runoff has

[3] Response to Dr. Alan Shaw from Kira Finkler, Deputy Commissioner, BOR and Herbert Frost, Associate Director, National Park Service, December 22, 2010

caused downstream flood damage that would not have otherwise occurred in previous years when lake elevations were kept lower. In the last three years, landowners have lost significant portions of property at unprecedented rates due to sustained high water and flooding (See Exhibit 3).

Outfitters, guides, lodge owners and other economic interests

A recently updated Montana Fish, Wildlife, and Parks report estimates that angling on the river below Yellowtail generates approximately $50 million to Montana each year. Sustained river releases that are too high or too low can dramatically affect the economic potential of the river, just as pool elevations affect the economic potential of the lake. Releases that are habitually too low reduce or destroy important side-channel habitat, harm the river fishery and result in poor angling opportunities. That leads to decreased visitation, lodge bookings and outfitter/guide services. Sustained high releases discourage anglers because of the increased danger they pose for navigating drift boats, and because they decrease the quality of the angling experience. Angling quality suffers because wading becomes difficult or impossible, and it requires anglers to then procure a boat (See Exhibit 4). In contrast to lake recreation at the south end of the lake, the river economy continues to be a vibrant, thriving economy which exists in one of the three poorest counties in the United States. However, if full consideration is given our recommendations, with additional thought given to operating criteria, this economy need not be put at risk each year.

Waterfowl habitat and hunting

Waterfowl hunting is a large scale-economy unto itself on the Bighorn River. Waterfowl enthusiasts should receive the same consideration from Reclamation as the waterfowl enthusiasts on the lake. Though similar consideration might but not expected from the Park Service, the bureau should treat lake and river waterfowl hunting interests equitably.

Taxpayers

The bureau stated that $2 million was lost in the fall of water year 2008 on potential hydropower revenues because water was spilled at Yellowtail Dam. Though weather played a part in making water management difficult that year, had more storage been available in the reservoir prior to spring runoff, revenue losses could have been minimized. According to data available on the bureau's website, historically 97% of the water released out of Yellowtail passes through the turbines. Under the draft criteria however, spillage (releases in excess of the turbine capacities) would increase on the order of 5 to 10 percent.

ISSUES STILL NEEDING TO BE ADDRESSED

Proactively identify, expand and engage stakeholders

At the 1-4-11 public meeting and in response to a question from the public, the lead bureau engineer for developing the draft operating criteria stated they will produce NO ADVERSE IMPACTS. Similarly, when asked how the river benefitted from the Draft Operating Criteria, another bureau engineer stated in essence that though the river might not be gaining anything from implementation of the draft operating criteria, it also wasn't "losing anything". Many of the stakeholders at the meeting disagreed and in turn identified existing and potential impacts. The issues and concerns identified by the public are missing from the draft, and certainly the bureau has revealed no analysis that counters the public concerns.

River Releases for fishery flows

The bureau is doing what it can to accommodate recommended fishery flows where possible *under the existing criteria*. However, we believe several simple changes to the proposed criteria can improve on this. The first change is to recognize that 2,500cfs *is neither an optimal nor a target release for the river*. Montana FWP, based on years of fishery data it has collected that correlates flows with population abundance and other fishery metrics, states that 3,500cfs is an optimal river release. We recognize that maintaining this discharge year round can practically occur only during high to normal water years. However, 2,500cfs should not be the optimum target. This discharge is the level at which every attempt will be made to stay at or above it, when conditions permit.

Maintain lake elevations at or below 3,640ft prior to and during the Fourth of July holiday.

Reclamation should make every effort to maintain lake elevations at or below 3,640ft before and during the Fourth of July holiday. This limitation benefits all lake recreationists. Adherence to this goal each year would allow the flood pool to be used judiciously and only rarely, instead of routinely.

Investigate and implement strategies for gradually lowering river releases

Sudden drops in river flows create river conditions that not only are stressful for fish and can eliminate macroinvertebrate populations, but can contribute to substantial bank erosion. During water year 2008, river releases plummeted on July 10 from 12,500cfs to 4,500cfs just 10 days later. The bureau should investigate and implement strategies for gradually lowering river releases after spring runoff—perhaps mimicking natural rates -- whenever peak discharges in the spring exceed average in duration and flow. Certainly a gradual ramping down should occur when peak discharges also occur at other periods of the year.

Stop blaming Mother Nature

One of the authorized purposes of Yellowtail Dam is flood control. Achieving this authorized benefit is complicated by overly conservative approaches to water storage in the spring because, as has occurred in recent years, it can result in drastic increases in releases when moisture appears outside those planned for in predictive models. Spring freshets of varying intensities happen. It appears the climate in the region is shifting towards drier winters, wetter springs and a higher frequency of high-intensity rainstorms, which in our view dictates that the bureau manage its flood pool more conservatively to accommodate larger spring precipitation events. The concept behind the use of rule curves is to spread the risk among authorized purposes and resources. The bureau should diverge from its management objective to fill the lake as its number one priority, thereby enabling its pool management to be better prepared for accommodating outside the norm storm events and runoff patterns.

Identify adverse consequences

The last three years have clearly shown us that operating a reservoir the size of Yellowtail within a 20 foot lake elevation window can have adverse and unintended consequences. The bureau should endeavor to identify all reasonably expected adverse consequences of its operational management for these management criteria, as well as any future modifications of operations.

Reclamation flexibility

We don't endorse the bureau straying from adaptive management, but we ask that operational flexibility be used more judiciously. In years that deviate from average conditions, measures that deviate from normal operating conditions are warranted, including in cases of prolonged drought, extreme moisture conditions, or when critical maintenance is necessary or public safety compromised. However, we recommend that the bureau identify upfront measurable criteria that trigger deviations from normal operating measures and pool and discharge levels.

SPECIFIC RECOMMENDATIONS

Maintain lake elevations at or below 3,640ft prior to and during the Fourth of July weekend. Monthly operating plans that intend to make use of the exclusive flood pool should be documented beforehand.

Move the spring minimum target lake elevation and its concomitant decision point from 3,618ft in March to 3,614ft in April. The benefits to this include:

- an additional month of data and forecast information;
- in most cases, provide for a more conservative fall/winter release rate and tend to provide a higher reservoir content at the end of March than previous plans;
- in dry years, would improve chances of filling, and in wet years still allow adequate time to evacuate storage by the end of May;
- a lower lake elevation from where it can begin to fill, but lake elevations will continue to pass through old March target elevations, hold at the April target elevation and not require further drafting of the reservoir;
- an improved view of water conditions, helping prevent lake elevations from entering the flood pool;
- more time to evaluate all stakeholders needs and coordinate with upstream reservoirs;
- supporting deadlines for recreation on the southern portion of the lake.

Implementation of the above removes the calculation of adjustments to the November through March Release for Calculated Release Below 2,000cfs or Above 2,500cfs[4] as they will no longer be needed.

Recognize that 2,500cfs discharge in the river is not an optimal river fishery flow, but a minimum fishery flow for drought periods.

Investigate and implement a method to schedule a gradual ramp down of river releases following a period of sustained, high releases.

Identify and document potential or actual adverse consequences of the Draft Operating Criteria for t the next draft.

Continue to investigate ways to improve coordination of reservoir operations within the whole Bighorn River Basin. This should include coordination of seasonal runoff forecasting procedures and timely communications with the Wyoming Area Office.

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[4] Draft Bighorn Lake Operating Criteria Evaluation Study & Report, Page 19, November, 2010

Please recognize that in addition to stakeholders related to authorized purposes and the Recreation Area, adjacent private, public, state, and tribal landowners, as well as outfitters, guides, lodge owners, river recreationists, and lake recreationists at both ends of the lake all have legitimate interests in the Yellowtail project.

Thank you again for your time.

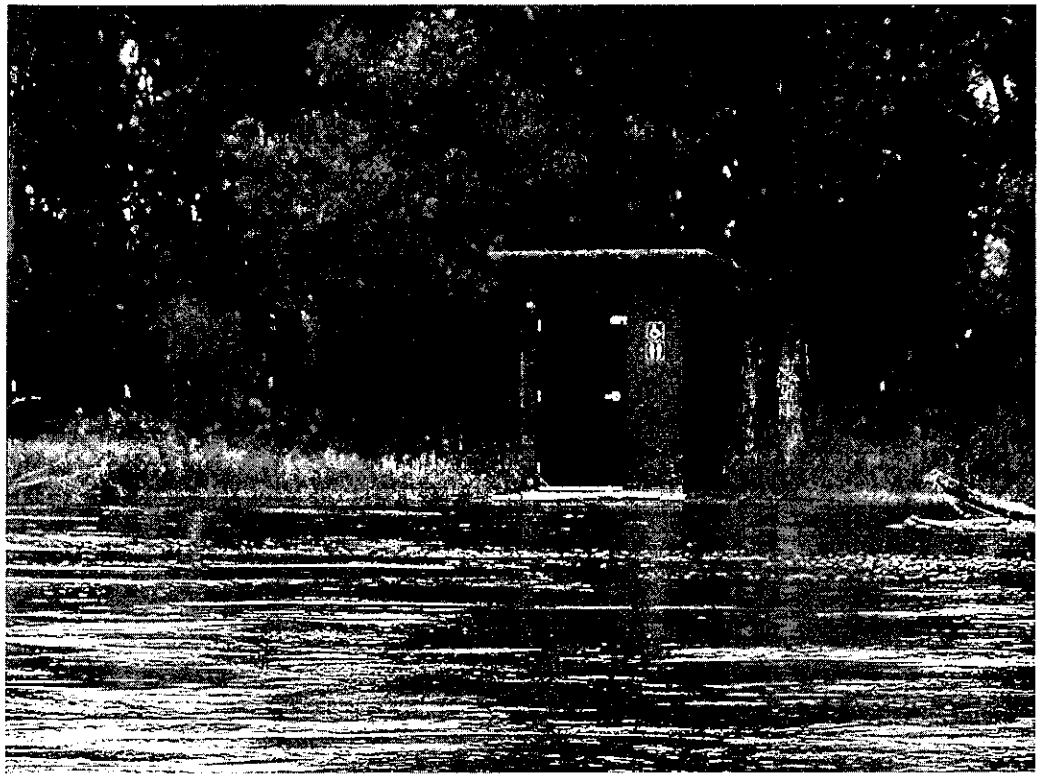
Respectfully,

Doug Haacke
Friends of the Bighorn River
Magic City Fly Fishers

Bruce Farling
Executive Director
Montana TU

Laura Ziemer
Director
Montana Water Project,
Trout Unlimited

Exhibit 1. An inundated Black Canyon Campground, Fourth of July weekend 2009.



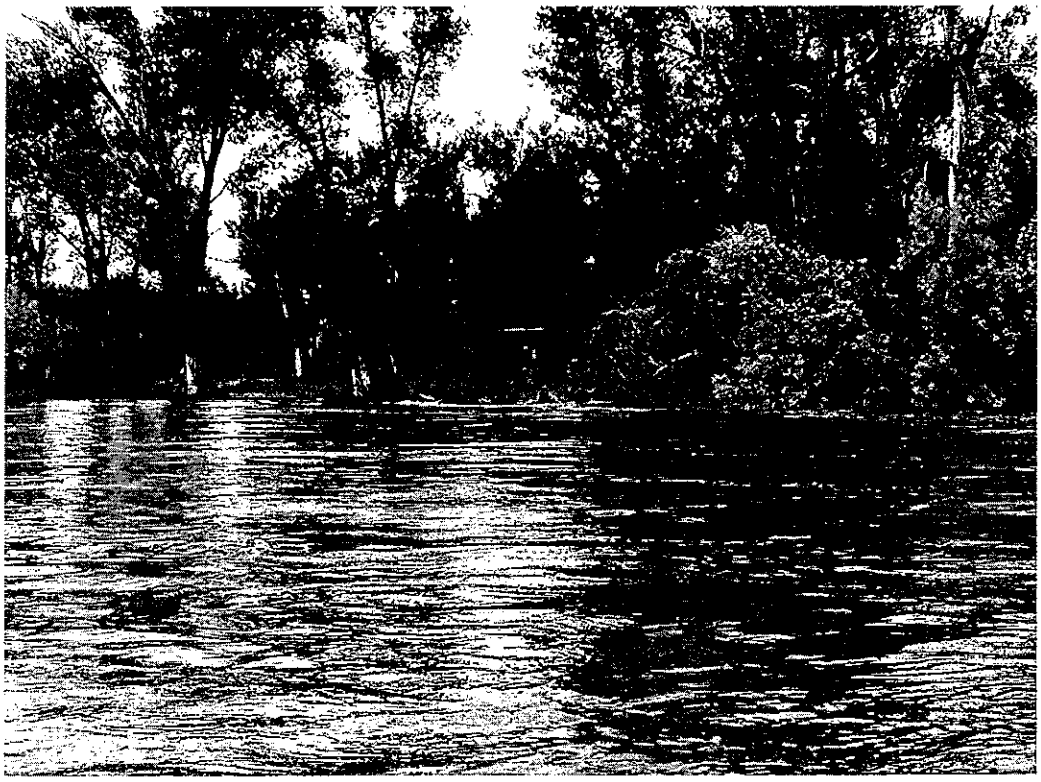


Exhibit 2. Grant Marsh Fishing Access Site, Bighorn River, Summer 2008

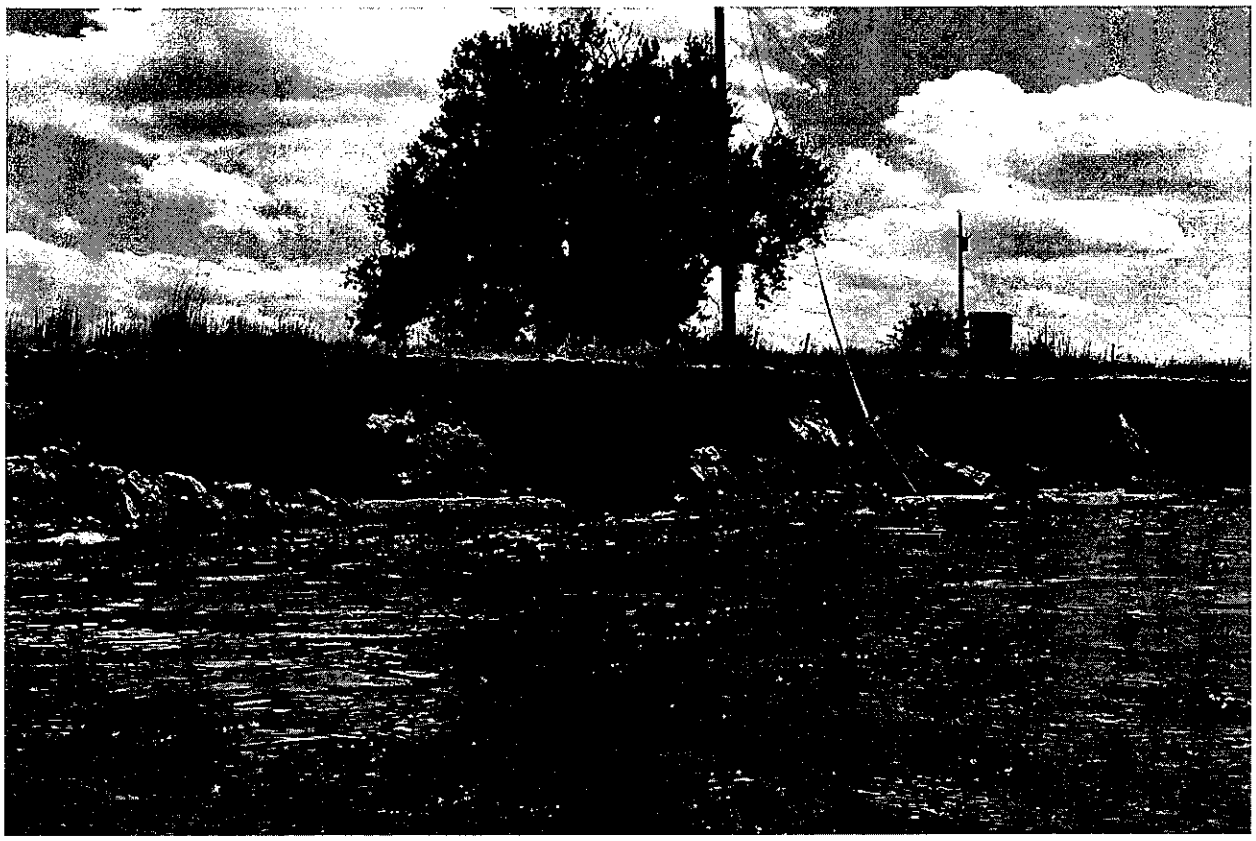


Exhibit 3. Bighorn River bank erosion caused from sustained high river releases.

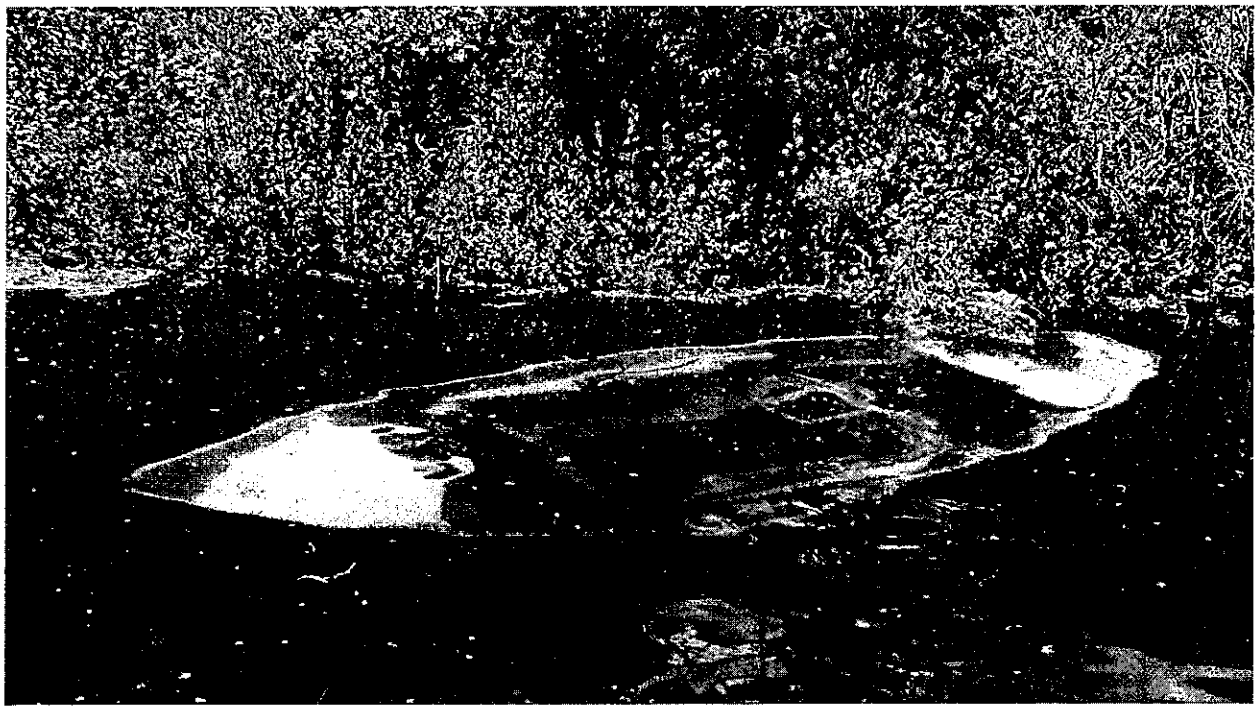


Exhibit 4. One of four boats in four days that swamped during high river releases in 2008.