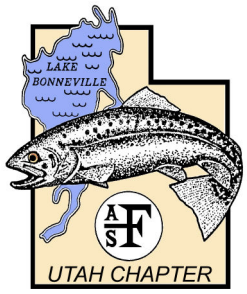

June 11, 2009

Rena Brand, Project Manager
US ACOE, Omaha Dist.
Denver Regulatory Office
9307 S. Wadsworth Blvd.
Littleton, CO 80128-6901

Ms. Brand,

The Utah Chapter, in conjunction with the Colorado/Wyoming Chapter and the Western Division of the American Fisheries Society appreciates the opportunity to comment on the Regional Watershed Supply Project. This project, which proposes to move up to 250,000 acre-feet of water from the Green River or Flaming Gorge Reservoir to the Front Range of Colorado, would have serious impacts that you must consider as you evaluate the alternatives.

The mission of the American Fisheries Society, the oldest and largest professional society representing fisheries scientists and managers, is to improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals. The Western Division of American Fisheries Society in particular, consists of approximately 3,500 members from the 11 western states. Given our mission, the Utah Chapter and Colorado/Wyoming Chapters in particular along with the society members from the other western states are concerned that the proposed project will negatively impact fishery resources and aquatic ecosystems in Flaming Gorge Reservoir and downstream in the Green River System. This project has the potential to affect three major aquatic systems. Descriptions, impacts, and possible mitigation for these impacts follow. Please consider our comments as you analyze impacts from the project and develop/select your preferred alternative.

<u>Green River Endangered Fish</u>
The four big-river endangered fish, the Colorado pikeminnow *Ptychocheilus lucius*, the razorback sucker *Xyrauchen texanus*, the humpback chub *Gila cypha*, and the bonytail *Gila elegans*, are the focus of 20-plus years of ongoing research and management with the intent of down- and de-listing the species (i.e., removing them from the Endangered Species List) as soon as the Recovery Goals are met. These fish are legally protected under the Endangered Species Act of 1973 and were listed in different years ranging from 1967 to 1991 (USFWS 1990a;

USFWS 1990b; USFWS 1990c; USFWS 1998; USFWS 2002a; USFWS 2002b; USFWS 2002c; USFWS 2002d). These species are highly specialized and very well adapted to fluctuating flow regimes that were historically present in the Colorado River Basin, including the Green River (Vanicek and Kramer 1969; Holden 1979; Ward and Stanford 1979; Stanford et al. 1996; Poff et al. 1997). All four species have already been significantly impacted in terms of number and extent of populations and numbers within populations (Carlson and Muth 1989; Bezzerides and Bestgen 2002; Mueller and Marsh 2002; Bestgen et al. 2005). In conjunction with listing the species, the Service identified critical habitat for each (Federal Register 1994) (critical habitat is habitat essential to the recovery of the species). The Green River from the Yampa River confluence to the Colorado River confluence is one such location in the drainage and covers critical habitat for the Colorado pikeminnow, razorback sucker, and humpback chub.

Although the cooperators to the Upper Colorado River Endangered Fish Recovery Program (Recovery Program) are often frustrated with the slow progress of the recovery of these fishes, there have been some bright spots resulting from recovery actions. Hatchery razorback sucker have returned to the two known spawning bars in the middle Green River near Jensen every year since 2007 (Utah Division of Wildlife Resources, unpublished data). Biologists in the lower Green River have observed age-1 razorback suckers and bonytails (meaning that the species has begun overwintering in this reach, a feat that hasn't been noted since the 1990's). The Colorado pikeminnow population in the Green River continues to persist, and the adult razorback sucker population in the middle Green River continues to expand due to hatchery stocking. There is concern that removing the flexibility of Flaming Gorge Dam operators to increase releases during the spring will harm the life history of these endangered fish, especially the razorback sucker and bonytail that rely on available floodplain habitat for certain life history stages (Modde et al. 1996; Wydoski and Wick 1998; Muth et al. 1998; Modde et al. 2001; Bestgen 2008), and will incrementally improve habitat for nonnative fishes that have been shown to be predatory and competitive threats to the native fishes (Hawkins and Nesler 1991; Lentsch et al. 1996; Tyus and Saunders 1996). Although improvements to populations of these native fish have been observed, they are not yet near recovery. Cooperators to the Recovery Program are continually working to improve and protect habitat, to monitor populations, and to report findings and improvements in the status of each of the four species. It is unclear whether recovery of these fish would ever be possible if the proposed project were allowed to proceed.

The one thing that these species have to their benefit is a group of very dedicated individuals from agencies, environmental groups, water users, and power interests that have worked together for the last 20 years to implement some of the aforementioned management actions. These individuals recently completed the Operation of Flaming Gorge Dam Final Environmental Impact Statement (EIS) and began implementing the flow recommendations contained therein. The EIS, finalized in September 2005, discusses the need for returning the Green River flow regime to a more natural regime. The Service issued a Biological Opinion in 1992 that operations of Flaming Gorge Dam were likely to jeopardize the continued existence of the endangered fishes. This was due to the species' adaptation to the highly fluctuating flow regime, the lack of floodplain habitat accessible with the reduced spring peak, and the improved habitat for nonnative fish. Each year, user groups submit requests to the Bureau of Reclamation (Bureau), the operators of Flaming Gorge Dam. The Bureau reviews these requests and evaluates them based on the amount of flow entering Flaming Gorge Reservoir. This project has the potential to

seriously limit the flexibility the Bureau currently has in dam operations to meet or partially meet requests from user groups. We are concerned that this project will return the river to pre-flow recommendation flows and return all four species to a jeopardy situation.

Numerous state, federal, and private agencies and entities are working to recover and conserve native fishes according to each agency's jurisdiction. Many millions of dollars have been spent on these efforts over the last 20-plus years. Members of the Utah and Colorado/Wyoming chapters and the Western Division leadership look forward to reading through the EIS for assurances that the proposed action will not adversely affect the persistence of these species during the next 100 years (the accepted amount of time in conservation and recovery planning). If these species are likely to be negatively impacted by this project, we request that you enlist biologists and managers who work with these fish to identify potential alternatives or mitigation measures that will help the species overcome this significant additional alteration to their habitat.

Flaming Gorge Fisheries

Flaming Gorge Reservoir is a significant source of tourism to this part of Utah and Wyoming, as it is well known for its blue ribbon fishery (a fishery with a minimum of 500,000 angler hours per year). Rainbow, lake, and brown trout, kokanee salmon and smallmouth bass are highly prized in this reservoir and further drawdowns (beyond the current drawdowns for power generation and the endangered fish flow recommendations) are likely to seriously impact these fish species.

Kokanee salmon are known to not have a depth preference when spawning, thus reservoir drawdowns, depending on the time of year, have the potential to de-water 10-40% of redds depending on the timing and extent of the drawdown (Gipson 1992). Because the majority of kokanee salmon in the reservoir are also spawned in the reservoir, drawdowns that de-water redds will have significant adverse impacts to this fishery over time. If kokanee numbers decline, a decline in piscivores throughout the lake (especially lake trout) is possible (Yule and Luecke 1993). Declines in numbers of kokanee salmon numbers also can be caused by entrainment of fry at two of the points of diversion (near Wildhorse Bay and near the Seedskadee Wildlife Refuge).

Other indirect impacts to the fisheries in Flaming Gorge reservoir can result from further drawdowns. These include changes in the depth at thermal stratification, changes in nutrient loading in the summer, and reduction of primary productivity. Trout have very specific temperature, dissolved oxygen, and nutrient requirements and further reductions to the reservoir inflow have the potential to alter the level of the thermocline and limit the extent of adequate trout habitat in the summer. In addition, diversions from the reservoir would likely take nutrients with them, thereby decreasing the overall primary productivity. Nutrient loss could severely impact fish in the already oligotrophic lower end of the reservoir near the dam, and potentially in the tailrace below the dam as well.

Green River below Flaming Gorge Dam

The likely flow regime below the dam will be very stable if the proposed action is approved. The Bureau currently operates the dam based on inflows to the reservoir and current storage levels. As inflows decrease and reservoir levels decline, the Bureau will likely be forced to operate the dam in perpetually "dry" conditions (for the purposes of dam operations) and only able to release

minimum flows (800 cfs). Research suggests that stable flows at the dam will detrimentally impact aquatic macroinvertebrate populations, which are essential prey items for the tailrace trout fishery. These organisms benefit from the periodically flushing flows released at the dam (usually in the spring). Overall diversity, which can be a measure of stream health, is increased due to these activities and nonnative species that might benefit from a more stable flow regime (i.e., New Zealand mudsnail) are minimized.

There are numerous other impacts that must be considered in the analysis of developing a preferred alternative. I hope that the descriptions contained herein provide you with a basis with which to proceed. If you have any questions, please consider me (Michael Slater) as the primary contact and feel free to contact me at: mikeandronda2@juno.com.

Again, as representatives of the oldest and largest professional society representing fisheries scientists and managers, we hope you will consider our comments, concerns and recommendations as you proceed.

Sincerely,

Michael T. Slater
President, Utah Chapter American Fisheries Society

Sincerely,

Katharine Foster
President, Colorado/Wyoming Chapter American Fisheries Society

Sincerely,

Scott Bonar
President, Western Division American Fisheries Society

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