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State of Utah
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Heather Patno
Co-chair, Flaming Gorge Working Group
Upper Colorado Region, Bureau of Reclamation
125 South State Street
Salt Lake City, UT 84138

Ed Vidmar
Co-chair, Flaming Gorge Working Group
Provo Area Office, Bureau of Reclamation
302 East 1860 South
Provo, UT 84606

Re: 2011 Green River flows

Dear Ms. Patno and Mr. Vidmar,

Flows released from Flaming Gorge Dam have had profound effects on the Green River aquatic ecosystem, both positive and negative. Results include the creation of a world class sport fishery in the tailrace and the decline of a suite of native fishes currently classified as endangered. Studies undertaken to explore the causes of native species declines have resulted in specific recommendations for flows in the Green River, including seasonal flow patterns (Muth et al. 2000). While much research has been conducted on the endangered fish, less attention has been given to the effects of flows on sportfish in the tailwater portion of the river below Flaming Gorge Dam.

Current (post-dam) spring flows released from Flaming Gorge Dam are generally 4,600 cubic feet per second (cfs) or power-plant capacity, though peaks have ranged from 3,900 to 13,700 cfs. This is reduced from pre-dam peaks, which ranged from 7,000 to 19,600 cfs. In only five years since the 1962 impoundment of the Green River (1983, 1984, 1986, 1997, and 1999) have post-dam spring flows approached or exceeded bypass flows of 8,600 cfs (power-plant capacity at ~4,600 cfs and full use of the bypass tubes at 4,000 cfs combined), as measured at the USGS Greendale gage (#09234500) located immediately below the dam. Although the effects of these high flows were not well-documented, some evidence exists that these flows were beneficial to the system.

The Bureau of Land Management/Utah State University National Aquatic Monitoring Center (aka The BugLab) has monitored aquatic invertebrate and macrophyte trends at seven sites located between the dam and Swinging Bridge in Browns Park (16.2 mi. downstream of the dam) on a quarterly basis since 1993. Following the spring flow of 1997, which peaked around 8,600 cfs and exceeded 8,000 cfs for approximately four days, Vinson (1998) documented measurable post-flood changes in the invertebrate community, including increases in taxa richness in all habitat types, a 50% decrease in aquatic plant biomass, and movement of streambed sediments as measured by bathymetric mapping. Aquatic plant biomass increased slightly over the next couple of years, until a 1999 flood decreased plant biomass again by 50% (M. Vinson, pers. comm. April 29, 2010).

Spring peak flows between 2000 and 2010, as measured at the Greendale gage, were near 4,600 cfs, excluding 2005 and 2006 when the bypass tubes were opened briefly and flows reached 6,900 cfs and 6,800 cfs, respectively. After 1999, invertebrate taxa richness increased to a high in 2007, and then declined to near-1999 levels thru 2010. Total invertebrate abundance has

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declined since 2000, hovering at pre-flood levels from 2007 to 2010. Concurrently, aquatic plant biomass was greater in three of the last four years (2007, 2008, and 2010) than any other year since 1995 (Vinson 2010).

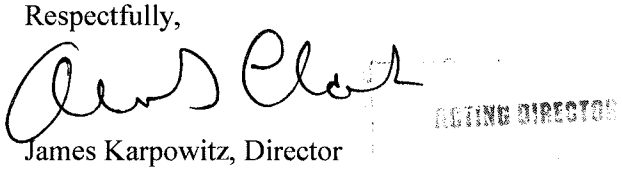
The Utah Division of Wildlife Resources (Division) is formally requesting a spring peak of 8,600 cfs in 2011, maintained for 5 to 7 days, to improve sportfish habitat and benefit the invertebrate community in the tailwater portion of the Green River. We have reached this recommendation based on the positive results of the 1997 and 1999 spring peak flows and the recent decline in invertebrate taxa, presumably due to the lack of a recent flushing flow of this magnitude. Timing of spring flows is not as critical in the tailwater reaches as in the lower portions of the Green River near Jensen, Utah. Therefore we request that this flow be timed to best assist in the recovery of the endangered fish downstream. We will rely on the Upper Colorado River Endangered Fish Recovery Program to address this timing issue in a separate letter.

In the event this request is implemented, Division biologists, in coordination with the BugLab, will monitor the effects of the spring flow, including (but not limited to) aquatic invertebrate and macrophyte sampling, photo point monitoring, and fish population surveys. We do not expect adult fish escapement since we are not requesting the use of the spillway; however, we will report any reservoir fish escapement verified through electrofishing to the Recovery Program.

The Division concurs with flow recommendations in Muth et al. (2000), and is therefore requesting flows that follow a natural hydrograph. Although Muth et al. (2000) primarily made recommendations for flow magnitude, timing of flows is also an important consideration for a more natural hydrograph. Thus, in addition to higher than normal spring flows, we are also requesting stable base flows during the remainder of the year, including stable winter flows as requested by the Division in a previous letter (Re: 2010 Green River base flows, dated August 23, 2010). While we acknowledge the need to study the effects of double peaking on the tailrace, the Division is very concerned with the ongoing, overwinter double-peak flow regime, including potential effects on invertebrate drift and trout feeding behavior, the negative perceptions of these flows among the angling public, and the socio-economic impacts to local businesses, fishing guides and outfitters whose livelihood depends on recreational use of this resource.

We appreciate your careful consideration of this request. If you have any questions, please contact Matt McKell or Ryan Mosley at 435-885-3164 or Trina Hedrick at 435-781-5314.

Respectfully,



James Karpowitz, Director
Utah Division of Wildlife Resources

cc: Clayton Palmer, Western Area Power Administration
Kevin Clegg, Green River Outfitters and Guides Association
Casey Snider, Trout Unlimited
Robert King, Utah Division Water Resources
Walt Donaldson, Utah Division Wildlife Resources
Kevin Christopherson, Utah Division Wildlife Resources

Literature Cited:

Muth, R. T., L. W. Crist, K. E. LaGory, J. W. Hayse, K. R. Bestgen, T. P. Ryan, J. K. Lyons, and R. A. Valdez. 2000. Flow and temperature recommendations for endangered fishes in the Green River downstream of Flaming Gorge Dam. Upper Colorado River Endangered Fish Recovery Program Project FG-53. Final Report, September 2000.

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