



Jeremiah W. (Jay) Nixon, Governor • Kip A. Stetzler, Acting Director

DEPARTMENT OF NATURAL RESOURCES

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B.G. John R. McMahon, Commander
Northwestern Division
U.S. Army Corps of Engineers
PO Box 2870
Portland, OR 97208-2870

Dear General McMahon:

Thank you for providing the opportunity to review and comment on the Missouri River Mainstem Reservoir System 2010-2011 Draft Annual Operating Plan (AOP). Management of the Missouri River impacts millions of Missourians in a variety of ways. The citizens of Missouri depend on the river for their water supply and electricity. The majority of the one million acres of Missouri River floodplain in the State of Missouri is classified as prime farmland and as such is some of the most productive farmland in rural America supporting a vibrant agricultural industry. The Inland Waterway System, which includes the Missouri River, is an extremely important transportation artery to both the State of Missouri and our Nation. The Inland Waterway System provides the most energy efficient means of transporting bulk commodities, helps reduce congestion on our roadways, reduces air emission impacts, and is an integral part of our economic vitality.

The State of Missouri experienced prolonged flooding along the Missouri River during 2010. Significant damages occurred in the northwest region of the state where a number of levees were breached or damaged and thousands of acres of agricultural lands were flooded. Flood damages to communities as well as a state park were significant. Given the fact that many levees may not be repaired by the spring of 2011 and those that are repaired will not have adequate vegetative cover to protect levee embankments from high river levels, the implementation of the spring rise in 2011 would put property and livelihoods at significant risk of being damaged again next year by floodwaters.

Recently, the U.S. Fish and Wildlife Service (Service) clarified the expected outcomes of the Gavins Point spring rise flow element that was mandated in the 2003 Amended Biological Opinion (BiOp). Not only was the spring rise to provide a spawning cue for the pallid sturgeon, but it also was intended to scour spawning areas for the pallid sturgeon; and to increase nutrients, invertebrates and forage fish for larval and juvenile pallid sturgeon with floodplain connectivity and constructed shallow water habitat.



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Since the BiOp was released, the U.S. Army Corps of Engineers (Corps) has spent countless dollars conducting research and constructing habitat in an effort to recover the pallid sturgeon. As part of that research effort, several key discoveries have been made that addresses each outcome. First, USGS researchers now believe that spawning is likely cued by a combination of other factors (i.e. water temperature) rather than a spring pulse (DeLonay et al. 2009). Pallid sturgeon have also been determined to have spawned in years in which no Gavins Point spring pulse was conducted (CERC 2005; CERC 2008; U.S. Fish and Wildlife Service 2007; DeLonay et al. 2009). Additionally, pallid sturgeon have been shown to be protracted spawners further nullifying the likelihood that a single pulse event triggers spawning (DeLonay et al. 2009; USFWS 2007). These findings provide reasonable doubt that a Gavins Point spring rise is a critical element in cueing pallid sturgeon to spawn.

The second expected outcome was that the spring pulses would scour spawning areas that would then increase pallid sturgeon egg survival. Research has shown that pallid sturgeon utilize hard, coarse substrate and habitat of that type is abundantly available throughout the Missouri River (Laustrup et al. 2007; Reuter et al. 2008). This indicates that availability of spawning habitat is probably not a limiting factor in sturgeon reproduction for some reaches (Elliott et al. 2009; DeLonay et al. 2009; DeLonay et al. 2010). Modest flows of 21,000 cubic feet per second (cfs) are adequate to provide sediment transport (U.S. Army Corps of Engineers 2006; Elliott et al. 2009; Jacobson et al. 2009) to flush fine sediment from spawning substrate. Flows to support navigation generally equal or exceed this level. Therefore, it has been found by researchers that navigation flows are adequate for this purpose and a spring pulse is not needed.

The third expected outcome identified also is likely false. The Missouri River downstream of Gavins Point Dam has flooding annually that connects available low-lying lands and constructed shallow water habitats with the river. The river immediately below Gavins Point Dam is highly incised. Stream ratings are not readily available for locations between Gavins Point and Sioux City; however, the National Weather Service river forecast plots show flood stage at Sioux City equates to a flow of 137,000 cfs. This is well beyond the magnitude of the spring pulse, and is much higher than flood stage at some of the locations downstream (e.g. flood stage at St. Joseph Missouri is approximately 88,700 cfs, U.S.G.S. Rating Table 8). Research has shown that larval pallid sturgeon would drift for hundreds of miles before they settle out of the water column (DeLonay et al. 2009). Therefore, larval and juvenile pallid sturgeon may not be present in the Gavins Point reach.

Based on the findings of this research and the lack of science that supported the BiOp, the Corps should request approval from the U.S. Fish and Wildlife Service to suspend the Gavins Point spring pulse, while additional research is being conducted. The State of Missouri continues to support funding by the Corps to collect scientific information that will assist in the recovery of the pallid sturgeon, but does not believe that the continuation of the spring rise is critical to the research.

The volume of runoff in the Missouri River basin in 2010 was the third highest on record. As a result of the high runoff, the Corps is continuing to evacuate excess water from the Missouri

River mainstem reservoirs. There is the potential to use this additional water in storage to provide logistical benefits to the region by increasing flows to meet navigation targets early in 2011. As an example, this would permit inbound fertilizer, asphalt, and other materials to be delivered to help meet early demands. We understand that reservoir releases early in the year are dependent on ice conditions; however, historically there have been many springs in which ice conditions on the Missouri would allow navigation flows prior to April 1. If conditions are conducive to increased flows, we request that the Corps coordinate with the navigation industry to provide navigation support where needed, earlier than the normal opening date of April 1, at the mouth. We also are requesting that the U.S. Coast Guard assist in this endeavor, including its role in providing aids to navigation as early as feasible.

Again, thank you for providing the opportunity to comment on the AOP. If you have any questions regarding this letter, please feel free to contact me at (573) 751-4732 or at mike.wells@dnr.mo.gov.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES



Michael D. Wells

Deputy Director and Chief of Water Resources