



April 24, 2017

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Major General Scott A. Spellmon
Commander, Northwestern Division
U.S. Army Corps of Engineers
P.O. Box 2870
Portland, Oregon 97208-2870

RE: Missouri River Management Plan and Draft Environmental Impact Statement Comments

Dear General Spellmon:

The Missouri and Associated Rivers Coalition (MOARC) was established in 1952 in response to severe flooding that ravaged the Midwest in 1951. Since then, MOARC has advocated for better water and related land resources management in the Missouri River basin, and for the past 35 years we have advocated an "integrated water resources management" approach. We support responsible management of the Missouri River for all eight of its authorized purposes based on sound science and in keeping with the Circuit Court's ruling that flood control and navigation are primary. While we support all purposes, our membership is largely focused on the three areas around which our committees are formed and our comments are framed: Flood Control & Risk Management; Navigation, Shipping & Trade; and Water, Power & Permitting.

MOARC welcomes opportunity for stakeholder involvement and input into Missouri River management, evidenced by several of our Board members serving on the Missouri River Recovery Implementation Committee (MRRIC). The Missouri River Management Plan - Draft Environmental Impact Statement (DEIS) is a complex, technical, and extremely long document with the potential to have adverse effects on many of our members operations depending on the alternative chosen and the subsequent record of decision (ROD). The attached comments are submitted to illustrate concerns and inform a responsible decision-making process.

We were very involved in the extensive process undertaken to revise the Missouri River Master Water Control manual and remain supportive of its use (i.e., No Action Alternative), but without the problematical bimodal spring pulse. With regard to the Action Alternatives in the DEIS, our review leads us to determine that Alternate 3 will have the least effects on the authorized purposes and our members, despite concern with a possible out year spawning cue flow regime. Alternatives 2, 4, 5 and 6 all have unacceptable significant adverse impacts on the river's primary purposes and critical water supply function. More detailed information is contained in the attachments. Lastly, we also wish to acknowledge the detailed comments of the Coalition to Protect the Missouri River, and for those we express our general support.

We thank you for this opportunity to make comments on this very important issue.

Very Truly Yours,

Tom Poer, P.E., PMP, ENV SP

CC: U.S. Army Corps of Engineers, Omaha District
ATTN: CENWO-PM-AC – Management Plan Comments
1616 Capitol Avenue
Omaha, NE 68102

PO Box 22647 · Kansas City, MO 64113

Flood Control & Risk Management

Upon review of the identified alternatives for the Missouri River Management Plan and Draft Environmental Impact Statement (DEIS) MOARC respectfully requests the following comments be taken into consideration when determining the best alternative so as to have the least effect on flood control and risk management in the lower reach of the Missouri River (downstream of Gavins Point), particularly in the greater St. Joseph and greater Kansas City metropolitan areas.

- All alternatives presented in the DEIS indicate actual likely potential of increases of river stages in the downstream reach which will, to one degree or another, cause the following:
 - Beginning flood action stage to occur more often
 - River to advance to higher flood fight action levels (Minor, Moderate & Major)
 - Duration of elevated river stages to be extended, thus increasing the saturation levels of levees, which research shows will adversely affect the functioning of levees over time and repeated saturation events
- The St. Joseph and Kansas City metropolitan areas each have several units that function together as a flood protection system for those respective communities. Some units are separated only by an invisible boundary and are thus affected by bordering levee units. Coordination of operations and flood fighting activity becomes increasingly critical and costly as river stages increase due to increased manpower, pump station operation, stop log and sandbag gap closure, levee patrolling, etc.
- Levee systems in the lower Missouri reach are already and still subject to flood risks, as evidenced by impacts in 2011 and several other significant events in recent years, including the overtopping of the levee's in St. Joseph in 1993. A similar failure today would result in more than \$2 Billion in damages and potential loss or dislocation of 6,000 jobs. As such, and considering the many uncertainties associated with the proposed alternatives, we would not recommend giving up factors of safety or margins of risk to areas protected by levees.
- Another concern are long-lasting peak flows or sustained high-water events, as these type of flood events create even more issues for levee protection, due to seepage and continued weakening of levees during these longer duration inundations.
- Furthermore, specific to each of the Alternatives, we ask you take into account:
 - The No Action Alternative already subjects levee systems in downstream reach of the Missouri River to bi-modal spring rises. In the Kansas City area this has some moderate impacts on the local levee operations due to the fact that some units begin closing sluice gates and activating pump stations as early as Stage 19.5 ft., and in other areas with lesser levels of protection has greater impact. Without the spring rises local levee districts would not need to take action as often or for as long, thus conserving operational cost, flood fight activity and risk.

- Alternative 3, even with the provision for a potential one-time spawning cue test release after year nine (9), stands to have the least adverse effect on levee district operations. This could be supported with the anticipation that the one-time test release will not significantly impact levee integrity or district operations, or otherwise impose increased risk to Missouri River levees in the reach downstream from Gavins Point.
- Alternatives 2, 4, 5 & 6 would all have significant adverse effects on the local levee districts due to the projected increased discharges ranging from 87 Kcfs to 126 Kcfs which corresponds to increases in river stages of up to 8 ft. in the Kansas City reach. Such radical flow increases would increase the annual cost of local levee districts as they must implement more frequent and higher flood protection management. Such high flows will unnecessarily increase flood risk in the lower Missouri reach, especially so when considering that regional and local precipitation events occurring after any Gavins Point releases are uncontrolled. The naturally occurring peak with the Gavins Point release can, and will, combine to increase the already unacceptable river stage that would be produced by the proposed Gavins Point releases in each of these alternatives.
- Interior drainage is a critically important aspect of flood control and risk management for levee systems, and we draw your attention to the extensive comments on this issue prepared by the Coalition to Protect the Missouri River, which we hereby endorse.

Navigation, Shipping & Trade

Upon review of the identified alternatives for the Missouri River Management Plan and Draft Environmental Impact Statement (DEIS) MOARC hereby expresses our preference is the “No Action” alternative, with no changes or modifications except for elimination of the bi-modal spring pulse. There are several ports within the MOARC region, including Port KC and the St. Joseph Port, both on the Missouri River. MOARC understands that uncertainties associated with the Master Manual review process resulted in the loss of much of the Missouri River navigation network, including some shippers, terminals and ports. Nonetheless, by law, navigation remains a primary purpose for which the Missouri River is to be operated. That was confirmed by the 8th Circuit Court during the extended Master Manual review process. In recognition of that fact, efforts to revitalize Missouri River navigation began several years ago and, having achieved some success, were increased in recent years. Despite uncertainty being introduced through the current effort to again revise the Missouri River operations, and to do so without due consideration to the operating parameters previously established in the Master Manual, navigation is increasing.

The Port Authority of St. Joseph has been making steady investments in their facilities, with shipping of grain and other commodities increasing. It is of utmost importance that a viable navigation environment be preserved and enhanced to secure the sustained viability of the water-shipping mode in addition to road and rail services. Navigation is a primary authorized purpose on the Missouri River, and whatever option is selected needs to keep that paramount.

As previously stated, the MOARC preference is the “No Action” alternative, with no changes or modifications with the exception of eliminating the bi-modal spring pulse.

The trade analysis was based on 2014 data with little or no research in changing trade flows from the gulf ports, emergence of regional agricultural export markets to Asia, increased movement of petrochemicals and petroleum products by water and the effects of an expanded Panama Canal on shipping volumes. These updated factors should be evaluated. Within the past few weeks a major carrier announced a direct New Orleans to Asia service, a first of any major steamship line to offering a direct service from the Gulf to Asia. This will enable central U.S. shippers alternative access to U.S./Asia routes and will definitely influence freight rates in favor of agricultural products from the Midwest.

Certainly, the navigation industry has had some hard times but, with rail capacity becoming less and an over-the-road driver shortage showing no abatement, one can the evidence that inland waterways are becoming critical in the movement of freight. The first full year of operating Port KC (the Kansas City port facility) was tremendously successful. KC Port had a throughput of 45K tons, but this also generated an additional 60K tons of freight moved from private terminals in the KC area. Therefore, over a 100K tons of freight moved, up from zero in 2014. This has a positive impact on the local economy. Not only did shippers enjoy competitive rates but the elimination of approximately 1 million truck miles impacted road transportation as this freight originally was routed through Tulsa, Oklahoma instead of Kansas City.

KC Port expects to replicate its success in 2017 with a modest increase of at least 20%, the port is presently constructing an additional 12K tons of storage capacity that is committed to bulk fertilizer and salt storage. This will give them the ability to increase their throughput to 100K tons for 2018 for fertilizer only. They are also looking to expand and diversify other

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commodities to include scrap, steel and other bulk commodities such as mill scale, sand, gravel and composted tree bark. There is also a strong interest in transporting empty containers to the lower Mississippi to load resin & chemicals. KC Port's business plan for the near-term looks positive as other KC terminals are looking to load empty barges the port generates with grain, aggregate and cement. Agri-Services of Brunswick Missouri moved in excess of 250K tons in 2016 as well as freight moving from private terminals in Nebraska City and Lexington Missouri. These regional advances in navigation should be acknowledged, discussed and studied in the DEIS.

As stated earlier, our preference is for no change to the current operation, but if we had to choose one of the alternatives that would be #3. Any of the other alternatives would have serious adverse impacts to navigation, perhaps so much as to eliminate it altogether but, without navigation having been given due consideration in the study of alternatives, the full impact remains unclear. The shippers in the MOARC region can and will greatly benefit from using the Missouri River as an alternative transportation mode. The environmental discussion in the DEIS makes it abundantly clear that the environmental and safety aspect of waterway transportation should be embraced whenever possible. The adoption of any new management practice, particularly those in Alternatives 2, 4, 5 and 6, would nullify these environmental advantages by reducing navigation options.

Water, Power & Permitting

Of the proposed action alternatives in the DEIS, MOARC sees Alternative 3 as having the least impact to stakeholders, including water supply, power generation and permitting, with the most likely potential to recover the protected species. As previously noted, there are concerns with an out-year pulse and we encourage further study with completion of additional analysis prior to its implementation to determine both its real value to the species as well as its associated costs imposed on others. There are several water and power utilities within the MOARC region, and these industries are heavily regulated and permitted. MOARC's membership includes utilities operating on the Missouri River, including: the City of Kansas City, Missouri; WaterOne of Johnson County, Kansas; and the Kansas City, Kansas, Board of Public Utilities, the City of St. Joseph, Missouri; among others. Reliable water supply is essential to these utilities and the communities they serve.

Water supply entities on the Missouri River provide customers water for drinking, sanitation, firefighting, recreation, and industrial uses. Their Missouri River intakes have been designed based on anticipated flows from the Missouri River based on the Pick-Sloan dam and reservoir construction and its anticipated operation as outlined at the time. Many million dollars of intake modifications have been made to accommodate flow releases from Gavins Point due to changes in Master Manual operation guidelines and reduced flow due to drought conservation measures. The access to water at lower flows has been exacerbated by several feet of channel degradation in many reaches over the last 15 years. This degradation has resulted in a regionally supported study by the Corps of Engineers, which must be taken into consideration when evaluating flow effects on intakes.

The fixed intake structures relied upon by large water suppliers to divert water from the Missouri River and its major tributaries are dependent on the on the channel created and maintained by Corps Bank Stabilization and Navigation Project (BSNP). Most public water suppliers have limited or no access to alternative sources of water. It is extremely expensive or impossible to adjust these intakes to substantial changes in river levels. These intakes were designed and constructed with the advice, consent and approval of the Corps and it is imperative that the Corps ensure these intakes remain capable of continuous operation. Interrupting water supply for even one day would have catastrophic impacts on people who live and work in the Missouri River basin. Interruptions of water supply can be troublesome to residential customers but can have catastrophic impacts to health care facilities and major economic impacts to education, businesses and industry. A 2017 report by the Value of Water Campaign entitled "The Economic Benefits of Investing in Water Infrastructure" documents that water service disruptions put \$43.5 billion in daily economic activity at risk.

In analyzing flow regime effects, Alternatives 4, 5, and 6 would appear to offer the least impacts on water intake operation during the release periods. However, there are concerns of these releases creating a cause for low flows in the later winter periods of the year if the system does not receive enough inflow to replenish reservoir levels. The No Action Alternative (current operation) has created situations coupled with drought and channel degradation such that several utilities have spent extensive amounts for intake pump alterations and the ability to install low water stage auxiliary pumps to address short term low stages. These units are not designed for continuous operation over long periods of time and cannot provide ample flow under extensive circumstances. Notably, per the MRRIC Independent Science Advisory Panel (ISAP) current operation is not effective for the species, thus its continuation seems unlikely.

Water, Power & Permitting

Alternative 2 poses the most concerns for intake operations. Included in this regime is a summer low flow.., “iv. Beginning on or about June 15, 2006 but no later than July 1, 2006 the Corps shall begin reducing flows to provide a minimum 30-day summer low flow release of no greater than 25 Kcfs.” Op. cit. 2003 BiOp. If tributary input is low, stages at many intakes will also be low thus reducing pumping capacity when consumer demand may be the highest. As alternative 2 contemplates these low summer flows, there has been no effort made to evaluate the impacts and cost associated with those low summer flows on the Water Supply intakes. Although this is not the preferred alternative; we feel it is important to document these impacts for the record. In addition, there are concerns with the method the Corps used to model the impacts of the alternatives on Water Supply. Flow requirements, which are much higher than the minimums mentioned in Master Manual due to riverbed degradation, especially in the Kansas City, Leavenworth and St. Joseph areas, should be considered. This was identified several times in the DEIS, including page 3-504 of the DEIS, wherein it states, “...the No Action Alternative does not reflect actual past or future conditions...” Worst case scenarios of the Period of Record were used and hypothetical Master Manual minimum flows to create a baseline. Because of bed degradation, the minimum flows mentioned in the Master Manual could not and would not support the Water Supply Intakes on this stretch of the River. As a result, the Corps has assumed that the 33 of the 55 water intakes would experience 57 days below operating thresholds and 21 intakes would experience 14 days below shutdown elevations. This assumption is not reasonable to correctly estimate the impacts and costs. The Corps should reevaluate its approach and model realistic flow requirements to keep water supply intakes in operations at all times. Additionally, the Corps analysis of rental pumping submersible pump costs and sizes are unrealistic for a major utility intake.

Water Quality

Inherent in Water Supply is continuously supplying a high-quality product meeting Safe Drinking Water Act (SDWA) requirements. This task is dependent to an extent on the quality of the source water. The DEIS addresses this issue in Vol 2; 3.7.1-3.7.2.9. We must take issue with statements in 3.7.1.3 concerning other pollutants. This paragraph addresses substances as pesticides. It states”...at Rulo, the pesticides...atrazine... were present but not at levels that exceeded water quality criteria”. Some utilities routinely treat for atrazine removal to meet the potable water contaminant level of a maximum of 3 ppb. Of further consideration is the use of average temperatures for the lower River. Utilities routinely experience high water temperatures during low flow periods coinciding with warm summer season. These high temperatures along with low turbidity normally associated with low summer flows create the condition for the potential formation of cyanotoxins. Although no firm maximum contaminant level has been established by EPA, Health Advisories have been issued by EPA. In accordance with EPA, Health Advisories, Missouri is one of the states, “reviewing or developing an approach to address cyanotoxins in water, with others in various stages of development.” (JAWWA Vol. 109 p. 42.) Anecdotally, some utilities have experienced “Algae like blooms” characteristic of cyanotoxin formation during previous low flow summer periods. At that time, no attempt was made to analyze for toxins as methods are just being developed and no EPA requirements were in place. This is no longer the situation. We are concerned that any Alternative with low summer flows may create river conditions requiring, at the least, extensive treatment. Again Alternative 3 appears to offer the least problems for water quality as it enables the most reliable source of water supply at the appropriate times to assure water quality.
