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25 November 2013

Mr. Joshua Koontz
Upper Delta Environmental Compliance Branch
167 N. Main, Room B-202
Memphis, TN 38103-1894
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RE: Comments on the draft Environmental Impact Statement for the St. Johns Bayou – New Madrid Floodway Project

Mr. Koontz,

The Nature Conservancy (Conservancy) appreciates the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the St. Johns Bayou – New Madrid Floodway Project (Project). We understand that the mission of the U.S. Army Corps of Engineers Memphis District (Corps) is to provide innovative solutions for delivering flood risk management, navigation, environmental stewardship, emergency operations, and other authorized civil works to benefit the region and the Nation. Due to our organizational interests and overlap in mission areas, we partner extensively with the Corps nationally which has led to TNC-Corps MOU's at the national level and within the Mississippi Valley Division. We understand that the Corps has selected Alternative 3.1: "Construct and operate flood control improvements in both the St. Johns Bayou Basin and the New Madrid Floodway, with seasonal flood pulse management and measures to avoid and minimize environmental impact" from eight alternatives for achieving this mission under the DEIS for the Project. We were pleased to see the Corps used an independent external review and locally collected fish data in this DEIS. However, we have outlined several serious concerns in the selection of Alternative 3.1 and respectfully request that the Corps reevaluate the DEIS to address fundamental problems with floodplain size and function, mitigation, management, and other issues described in the DEIS.

In a 2008 article co-authored by the Corps and the Conservancy, floodplains are described as:

> *"extremely productive ecosystems that support high levels of biodiversity and provide valuable ecosystem services that directly benefit society. One high profile study concluded floodplains ranked second among ecosystem types based on the monetary value of their ecosystem services, which include flood attenuation, fisheries, groundwater recharge, water filtration and recreation. However, to function as diverse, productive ecosystems, floodplains must periodically flood."*[1]

Despite this recognition, we believe that the EIS does not adequately calculate these values within the DEIS for the Project. First, we believe that the Corps greatly underestimated the value of floodplains and the amount of wetlands affected by the Project because it used the federal Jurisdictional Wetland Definition (JWD) and limited the evaluation to elevations below the five-year flood to calculate these acreages. The Corps used a hydrogeomorphic model (HGM) to evaluate the impact to wetland function, but without the inclusion of wetland acres above the five-year flood elevations, the HGM significantly underestimates the impact to wetland function. Additionally, wetland areas in agriculture that were in the five-year flood zone were also eliminated from inclusion based on the Corps' conclusion that farmed wetlands had no functional value. This assertion was supported by reference to several scientific papers

[1] "Projects restore floodplain ecosystem services while reducing flood risk", 2008, by J. Opperman and L. Buss.

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and is true for some function such as nutrient cycling, but does not apply to other functions such as the provision of fish spawning habitat. Because these calculations provide the foundations for all of the alternatives in the DEIS, it is paramount that they are calculated correctly. The USFWS Coordination Act Report (Appendix Q) provides details about various methodologies used by the USEPA, USFWS and USACE to determine wetland acres impacted by the project. These agencies concluded the total impact from the entire project to be 88,600, 80,560, and 13,971 acres, respectively. It is disappointing that one of three federal agencies charged with the various aspects of the management of our nation's waters could come to such a divergent conclusion. These differences make review of the document difficult and should be reconciled in a scientifically justified manner. Excluding the impact to wetlands above the five-year flood zone, but then including the benefits from the zone in the Benefit-to-Cost Ratio (BCR in the DEIS) analysis is not justifiable. Excluding the impacts to wetlands in agricultural production, but then including the benefits in the BCR analysis is equally erroneous. Therefore we request that the Corps recalculate the floodplains and wetlands affected by the Project once agreement is reached among the agencies as to the most appropriate analysis method.

Second, the mitigation proposed for floodplains and wetlands is insufficiently calculated. Whereas thorough and comprehensive calculations are provided for the potential agricultural, infrastructure, and social impacts, comparatively little to no similar calculations are provided for the numerous ecosystem services provided by floodplains and wetlands. This compounds the problem above, resulting in only approximately 9,000 acres as compensatory mitigation for Alternative 3.1, when as much as 50,000–80,000 acres of floodplain are likely affected. In addition, the economic importance to local economies and ecosystem services provided by those acres are essentially absent from the calculations in the DEIS. No attempt was made to assign any monetary value to environmental services in spite of some discussion on how that can be accomplished for carbon sequestration in Appendix B. FEMA's Mitigation Policy FP-108-024-01 has incorporated a value of $37,493 per acre/year into the BCA for environmental benefits of riparian areas. Whether or not this value is appropriate for this project can be debated, but the monetary value of the ecosystem services in functional floodplains is certainly not zero. The value of a connected, functional floodplain is of the upmost importance in a Lower Mississippi River, considering that approximately 93% of its floodplain is isolated behind levees.

This also undermines the Corps' mission for floodplain and protection upstream of the project area in the Upper Mississippi River Basin (UMR). Specifically, the congressionally authorized Navigation and Ecosystem Sustainability Program is seeking 100,000 acres of floodplain restoration opportunities in the UMR. Similarly, the Mississippi River Commission has endorsed the UMR Comprehensive Plan with the caveat that flood risk reductions strategies do not elevate flood stage on the Mississippi River and Tributaries Project area. But Alternative 3.1 would elevate local flood stages, requiring a levee raise of the mainline levee within the floodway. These conflicting programs and positions should be reconciled and decisions made based on the true value of functional floodplains to society. Therefore we request that the Corps recalculate the economic value provided by potentially affected floodplains and wetlands accounting for the comprehensive ecosystem services they provide within and beyond the Project area.

Apart from the serious issues described above, we also have concerns that Alternative 3.1 is not likely to be environmentally protective. As described, Alternative 3.1 is similar to Alternative 3.2, excepting that Alternative 3.2 would explicitly limit springtime floodplain and wetland connectivity ("seasonal flood pulse management affording greater springtime flood protection", p. 20). Alternative 3.1 is less specific and would provide "seasonal flood pulse management and measures to avoid and minimize environmental impact." Considering that the DEIS described no administrative structure, safeguard, or similar feedback for real-time management of the Project, we are concerned that Alternative 3.1 would be

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managed essentially as Alternative 3.2, which the Corps recognizes would significantly degrade floodplains and wetlands in the Project area. If so, we expect that economically valuable floodplain and wetland resources (which we already believe are underestimated) would be similarly affected. For example, largemouth bass provide an important sport fishery in the Project area. Largemouth bass is categorized as a "Mid-Season" (April–May 15) spawner that uses floodplains as primary spawning and rearing habitats (DEIS, Appendix G). Largemouth bass populations and sport fishery would be affected with reduced floodplain flooding during this time period, as described in the DEIS for Alternative 3.1: "Indirect impacts to recreational resources include benefits from the management plan which allows varying levels of flood waters to naturally inundate the Floodway between November and May each year" (DEIS, p. 208). These affects could be substantial considering the lack of management oversight to prevent Alternative 3.1 from being managed essentially as Alternative 3.2. Therefore we request that the Corps develop a management structure/advisory group which reflects all Project resources (agricultural, infrastructure, social impacts, and environmental) to assure proper management, regardless of selected alternative.

Finally, we have several specific concerns and recommendations we would like the Corps to address:

- We suggest the Corps use the current discount rate rather than the congressionally authorized discount rate of 2.5%. We are pleased to see the BCRs were calculated for both rates. The 2.5% rate significantly reduces the project costs and therefore increases the BCR from 2.4 to 2.9 (Table B-24). Although authorized, it is inappropriate to use an arbitrary discount rate.
- Provide more specificity on bank stabilization methods for reducing erosion and sedimentation to minimize water quality degradation and maximize fish and wildlife habitat. In general, we strongly recommend approaches which use natural materials and native vegetation to achieve these objectives, as used by the Corps and other federal agencies nationwide[2]
- Census data in the DEIS is inaccurate and needs to be updated, specifically the number of residents within the New Madrid Floodway ("according to the 2010 Census, there were 307 residents in NMF, though that number may be smaller due to impacts within the floodway from the 2011flood"); and New Madrid Floodway relocations ("although relocations are combinable with other preliminary alternatives, they were not retained because the current amount of structures is unknown following the activation of the Floodway").
- Text from page 158 implies that the Conservancy has installed culverts along the Illinois River at the Emiquon Refuge and that they have been successful at restoring floodplain function as an alternative to levee removal. We have not installed them and therefore no measure of success can be implied or inferred, and thus those references should be removed from the DEIS.
- There are assumptions within the DEIS about landowner behavior that are problematic. For example, landowner interest in the Wetland Reserve Program is assumed to follow past trends. Recent commodity prices have already negatively impacted past trends and the selected project would improve conditions for commodity agriculture in the project area, further eroding landowner interest in conservation programs provided by the Farm Bill. These same pressures will also impact the Corps ability to find willing sellers for mitigation lands. Finally, this may lead to the conversion of existing natural lands to agriculture in the absence of a program to protect them. Related to this issue is the fact that the village of Pinhook has requested assistance to relocate outside of the floodway which would greatly reduce future flood risk and lessen the need for the proposed project.

[2] "Stream Restoration Design", Part 654, National Engineering Handbook, United States Department of Agriculture, Natural Resources Conservation Service.

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- There are significant differences in the St. Johns Bayou portion of the project and the New Madrid Floodway portion. Despite some similarities, these projects should be evaluated on their individual merits and should be separated in the DEIS.
- Since the floodplain impact was underestimated as described above, it also leads to underestimation of the impact to fisheries by the elimination of agricultural lands and lands above the five-year flood event. Further, some mitigation for fisheries impacts occurs on batture land. It is assumed that batture land between the levee and the river is of equal value since access is not impaired by a levee. However, other conditions may be much less desirable such as current velocities, suspended sediment levels, and rate of sedimentation in these locations. These issues need to be addressed before accepting mitigation in the batture as a replacement for lost backwater habitat.
- While it is commendable that the restoration of the hydrologic conditions of Big Oak Tree State Park is included, this is mitigation for past impacts from the frontline levee and should not be considered as mitigation for the current project.

The Conservancy believes that there are significant problems in the calculation of floodplains and wetlands, mitigation of those areas, potential project management, and other issues which undermine and bias the foundation for selecting a preferred alternative in the DEIS for the Project. The Corps should make every effort to address these concerns and comprehensively revise the DEIS using methods consistent with other Corps/federal projects to best meet its mission in the Project area.

Sincerely,

Todd Sampsell
Missouri State Director
The Nature Conservancy