UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
11201 RENNER BOULEVARD
LENEXA, KS 66219

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OFFICE OF
THE REGIONAL ADMINISTRATOR

Colonel Jeffery Anderson
Commander
Memphis District Corps of Engineers
ATTN: CEMVM-PM-E
167 North Main Street, B-202
Memphis, Tennessee 38103-1894

Subject: Review of Draft Environmental Impact Statement for the St. Johns Bayou New Madrid Floodway Project

Dear Colonel Anderson:

The Environmental Protection Agency has completed its review of the above referenced Draft Environmental Impact Statement in accordance with this Agency's responsibilities under Section 102(2)(C) of the National Environmental Policy Act and Section 309 of the Clean Air Act, as well as Section 404 of the Clean Water Act. The Corps of Engineers has invested significant effort in developing this DEIS and we appreciate the Corps' engagement with us on this project.

I want to emphasize EPA's commitment to work with the Corps to identify necessary flood damage reduction measures that improve protection for communities in southeastern Missouri and maintain existing protections for upstream and downstream communities. Vulnerable riverside communities above and within these basins, such as Cairo, Illinois, and East Prairie, Missouri, benefit from Corps flood-protection projects. The EPA acknowledges the Corps' continuing duty to these communities and recommends considering alternatives that improve floodway operations without avoidable, unnecessary adverse environmental impacts.

We continue to believe options are available to meet these goals, minimize environmental impacts, and that can be presented to the public in a more transparent and comprehensive DEIS. Our primary concerns focus on the proposal to close the existing opening in the New Madrid Floodway. This opening currently allows water from the Mississippi River to enter the Floodway and support the critical fish and wildlife functions performed by thousands of acres of shallow, temporarily flooded wetlands. Extensive scientific data demonstrate that closing the levee would reduce the seasonal supply of water to these wetlands and significantly degrade existing wetland functions. As documented by the US Fish and Wildlife Service, a variety of waterfowl, numerous other wetland dependent birds, amphibians, invertebrates, and mammals benefit from these habitats. Moreover, some of the largest remaining forested wetland tracts in southeast Missouri are found in the project area and would be negatively affected. Seasonal backwater flooding in the New Madrid Floodway provides important floodplain

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habitat that supports an extremely abundant and diverse fish fauna (both floodplain and riverine), some of which are becoming regionally scarce. In addition, we are concerned that the proposed project may potentially put other communities along the Mississippi River at increased risk of flooding. Recognizing the opportunity available to improve flood protection in southeast Missouri, avoid exacerbating flooding concerns for upstream and downstream communities, and minimize impacts to thousands of acres of natural resources, we recommend that the Corps give increased consideration to a project alternative that focuses solely on actions to reduce flooding. EPA also continues to be concerned that the DEIS does not adequately identify the full extent of impacts to waters of the US caused by the proposed project, does not adequately consider the full range of potential project alternatives, and does not adequately address mitigation to compensate for the environmental impacts of the proposed project. These concerns should be addressed prior to publication of a Final EIS. The following provides a basis for EPA's review of the proposed project and rating of the DEIS.

Environmental Impacts

If implemented, the proposed project's impacts to approximately 13,376 acres of wetlands will cause the greatest loss of wetlands function in EPA Region 7's history. Furthermore, the majority of affected wetlands in the project area consist of distinctive bottomland hardwood wetlands, which provide critical watershed functions, including wildlife habitat, pollutant reduction and floodwater storage.[1] These ecologically important systems represent some of the most diverse, complex, and productive freshwater wetlands in the Nation. The forested wetlands that would be impacted are a highly valuable and increasingly scarce remnant of a once-extensive floodplain ecosystem. Mature bottomland hardwood habitat has become so rare that the Missouri Department of Conservation considers it a critical "red flag area" where impacts should be completely avoided because there may not be any mitigation that would adequately offset impacts.[2] To further highlight the significance of any additional loss or impact to freshwater forested systems, it is reported in the US Fish and Wildlife Service Status and Trends report (2011) that, between 2004 and 2009, freshwater forested wetlands declined by an estimated 633,100 acres. This proposed project would add significantly to that negative trend for freshwater forested wetlands.

Loss of connectivity to the Mississippi River floodplain through closure of the NMF basin outlet will cause significant impacts to the area's aquatic ecosystems. Closure of the levee gap in the New Madrid Floodway will cut off one of the last remaining connections between the River and its floodplain, thus significantly altering fish and wildlife resources of regional and national importance. The river-floodplain connection that would be severed by the proposed project functions as an integral part of a unique ecosystem in Missouri that is critical to fish and wildlife. This ecosystem supports highly diverse plant, mussel, fish, amphibian, reptile, bird, and mammal communities; provides vital habitat for a large number of rare and endangered species such as the pallid sturgeon and the Interior least tern; and the wetlands serve as important fish habitat during backwater flooding from the Mississippi River. The magnitude of the project's impacts, coupled with the severity of the adverse impacts on rare and highly valuable resources, greatly concerns EPA. Potential impacts to these resources should be more clearly depicted and assessed.

Adequacy of Draft EIS

The DEIS does not fully account for the extent of environmental impacts resulting from the proposed

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[1] See "Focus on Forests," Our Mississippi newsletter, USACE, Summer 2013

[2] Missouri Aquatic Resources Mitigation Guidelines, http://www.dnr.missouri.gov/env/wpp/401/mitigation_guidelines.pdf

project. In particular, the DEIS fails to adequately assess the extent to which the proposed project will affect stream and wetlands resources; the extent of the proposed project's secondary and cumulative impacts; potential land use changes that could result from the proposed project; and impacts associated with the loss of river connectivity to the floodplain.

The DEIS identifies the proposed project as the least environmentally damaging practicable alternative (as required pursuant to the Clean Water Act Section 404(b)(1) Guidelines (Guidelines). However, the DEIS does not provide adequate information to demonstrate such a finding. It is apparent from the information provided in the document that there may be additional practicable alternatives which would have less adverse environmental impacts than the proposed project. Given the significant levels of impacts to wetlands, we recommend that the Corps give careful consideration to a project alternative that would address flooding concerns in East Prairie and not include the proposed work in the New Madrid Floodway.

Furthermore, the Guidelines prohibit discharges of dredge or fill material that will "cause or contribute to significant degradation of waters of the United States," including discharges that lead to the loss of fish and wildlife habitat or significantly degrade wetlands. Without adequate compensatory mitigation, the proposed project's impacts to wetlands, fish and wildlife could constitute significant degradation. Of significant concern is the Corps' proposed compensatory mitigation plan for wetlands and stream impacts. The DEIS acknowledges that the mitigation plan is incomplete, including identification and purchase of lands to be used for mitigation purposes. The DEIS indicates these details will be finalized during the construction phase of the proposed project. This delay does not appear to be consistent with the Corps' own statutory provisions covering mitigation for fish and wildlife losses, which require that the Corps acquire all mitigation lands before project construction commences (33 U.S.C. 2283). Moreover, the uncertainty over which lands will be used for mitigation and the extent of mitigation practices makes it impossible for the Corps and EPA to determine if the mitigation plan complies with the 404(b)(1) Guidelines. Therefore, because the DEIS does not quantify the extent of impacts resulting from the proposed project or demonstrate how environmental losses will be compensated, the Corps has not demonstrated in the DEIS how the proposed project will comply with the Guidelines.

Finally, the DEIS would be strengthened by providing greater detail regarding future activation of the Birds Point-New Madrid Floodway Operations Plan. The DEIS should discuss the anticipated effects such activation would have on the various mitigation efforts across the different alternatives.

Conclusion

Based on our review, EPA has rated this DEIS as "EU-2" (Environmentally Unsatisfactory - Insufficient Information), in accordance with EPA's national rating system (an explanation of which is enclosed). This rating is based primarily on the EPA's conclusion that the proposed project may significantly degrade unique, rare, and valuable wetland resources in one of the last remaining areas of the Mississippi River floodplain where connectivity regularly occurs. The EPA's concerns are magnified by the uncertainties in both the efficacy of the compensatory mitigation plan detailed in the DEIS and the potential availability of practicable, less environmentally damaging alternatives.

My colleagues and I recognize the extensive work completed by the Corps during the DEIS preparation. The EPA is committed to working with you to resolve our concerns and assisting the Corps in developing a project that provides appropriate flood damage reduction measures and minimizes adverse environmental impacts.

Detailed versions of these concerns and other aspects of the project are provided as an enclosure to this letter. The EPA looks forward to working with the Corps and local project sponsors to resolve the issues outlined in this letter and detailed in the enclosure. If you have any questions or comments, please contact me at (913) 551-7006, or Ronald F. Hammerschmidt, Ph.D., EPA Region 7 Director of the Environmental Services Division, at (913) 551-7566.

Sincerely,

Karl Brooks

Enclosure

EPA DETAILED COMMENTS - ST. JOHNS BAYOU NEW MADRID FLOODWAY PROJECT DRAFT EIS (CEQ# 20130223)

Compliance with CWA Section 404(b)(1) Guidelines

As currently drafted, the Draft Environmental Impact Statement (DEIS) does not provide adequate information to demonstrate compliance with several aspects of the Clean Water Act (CWA) Section 404(b)(1) Guidelines (Guidelines). EPA has previously provided comments noting that the level of detail of the alternatives analysis and assessment of impacts is insufficient for purposes of informing a determination of compliance with these regulations given the complexity of issues, scale of the project, and the potential severity and magnitude of adverse impacts to the aquatic ecosystems. We recommend that the following issues be addressed in the Final EIS:

- *Significant Degradation* – The Tentatively Selected Plan (TSP) will adversely affect approximately 13,376 acres of wetlands primarily in the New Madrid Floodway (NMF), including rare bottomland hardwood forests, up to 23 miles of stream in the Saint Johns Bayou (SJB), and fish and wildlife habitat by cutting off one of the last remaining connections between the Mississippi River and its floodplain. In light of these impacts and current uncertainties regarding the proposed mitigation to offset these impacts, the DEIS does not provide adequate information to demonstrate that the TSP will not result in "significant degradation to the waters of the United States" as required by 404(b)(1) Guidelines (40 C.F.R. 230.10(c)(3)).

- *Identification of the Least Environmentally Damaging Practicable Alternative (LEDPA)* - Given the complexity of issues, scale of the project, and the potential severity and magnitude of adverse impacts to the aquatic ecosystem, the range of alternatives and level of detail of analysis is insufficient for informing identification of the LEDPA as required by 40 CFR Part 230.10(a) of the Guidelines. The information presented in the DEIS indicates that alternatives 4.1 and 4.2 (recommended for inclusion by the Corps' Independent Expert Peer Review) and alternative 2.1, are less environmentally damaging than the TSP, and are all economically justified, yet were not given potential consideration as the TSP. Additionally, two alternative levee alignment scenarios (6,500' and 18,500') in the New Madrid floodway were screened in determining the reasonable range of alternatives that would be evaluated in detail in the DEIS. Both appear to satisfy the Corps screening process in terms of meeting project objectives, cost-effectiveness, and feasibility. Both would also result in significantly less environmental impacts than the TSP by maintaining an open connection with wetlands in the lowest reaches of the floodway. However, neither alternative was carried forward for further evaluation. The rationale for this determination is not clearly explained in the DEIS. Additionally, the DEIS does not provide a range of alternatives associated with stream activities in SJB and therefore it is not clear that alternative 2.1 represents the LEDPA for the SJB, since it is the only alternative provided for the SJB.

- *404(b)(1) Sequencing Process* - For purposes of compliance with 404(b)(1) the comprehensive mitigation plan must be revised to clearly document the "avoid and minimize" sequencing process required by the Guidelines.

- *Insufficient Valuation of Aquatic Resources* - Generally the DEIS undervalues the aquatic resources in the SJB and NMF basins and does not fully consider the direct, secondary/indirect and cumulative impacts to area resources as required under 40 CFR Part 230.11 (g) and (h). Special aquatic sites (i.e., mud flats, sanctuaries and refuges) are not specifically identified and assessed in the 404(b)(1) analysis. For example, mud flats are identified in the shorebird section of the DEIS but are not evaluated as special aquatic sites in the Section 404(b)(1) Evaluation Report.

- *Loss of Connectivity has not been adequately addressed in the NMF* -The DEIS does not fully consider the impacts associated with the loss of connectivity of the Mississippi River and local streams and their floodplain. The information found in the DEIS lacks a clear articulation of what the secondary effects of the proposed project would be on the aquatic ecosystem in terms of altered hydrology, e.g., timing, extent, rates of rise and fall, frequency, duration and depth of inundation and/or saturation. EPA also continues to have concerns that the evaluation of potential wetland impacts is limited to the current 5-year floodplain, especially in light of the fact that benefits are derived from areas beyond the 5-year floodplain.

- *Lack of Assessment of Impacts to Streams in SJB* – Despite past and ongoing modifications to streams in the project area, they are subject to the CWA as waters of the US and therefore require a more detailed assessment than what is provided in the DEIS to ensure that degradation of these resources do not occur as a result of the proposed activities.

The Corps should provide additional information in the Final EIS sufficient to address the specific deficiencies noted above for purposes of informing a determination of compliance with the Section 404(b)(1) Guidelines.

Mitigation (40 CFR Part 230, Subpart J)

The Compensatory Mitigation for the Losses of Aquatic Resources Final Rule (40 CFR Part 230, Subpart J) establishes standards and criteria for the use of all types of compensatory mitigation, to offset unavoidable impacts to waters of the United States authorized through the issuance of permits by the U.S. Army Corps of Engineers (Corps) pursuant to section 404 of the Clean Water Act. EPA continues to believe that the information found in the DEIS regarding compensatory mitigation does not provide adequate information to demonstrate compliance with 40 CFR Part 230, Subpart J. Proposed stream and wetlands mitigation is lacking documentation sufficient to indicate compliance with the Rule and does not sufficiently address the numerous previous comments provided by the EPA, including concerns regarding technical and ecological feasibility of planned activities. Additionally, the DEIS does not follow

processes outlined in the Rule or contain all the elements of a mitigation plan required under 40 CFR § 230.94(c). We recommend that the following specific deficiencies be addressed in the Final EIS:

- *Compensation for Loss of Connectivity and Hydrologic Alteration in the NMF-* The DEIS lacks a clear, detailed articulation of how proposed compensatory mitigation features specifically compensate for the project's effects on area hydrology, in particular, the timing, extent, frequency, duration and depth of inundation and/or saturation. The impacts due to elimination of the flood pulse as a result of the TSP are not adequately mitigated in the DEIS.

- *Likelihood of Success and Location of Proposed Mitigation in the NMF-* Specific parcels of land have not yet been identified for mitigation, therefore it is impossible for the public and agency reviewers to discern whether the proposed plan demonstrates that unavoidable impacts to aquatic resources can be adequately compensated consistent with 40 CFR 230.93(a) which requires that the mitigation plan "must assess the likelihood for ecological success" and identify "the location of the compensation site relative to the impact site and their significance within the watershed..." The plan must demonstrate that there is a sufficient number of willing sellers to provide the appropriate amount of land in the needed locations to adequately compensate for losses. Further, the plan to proceed with the project while acquiring mitigation land does not appear consistent with the Water Resources Development Act (WRDA), which requires that the Corps acquire land to mitigate for losses to fish and wildlife in any water resources project "before any construction of the project commences" (33 U.S.C. 2238). Additionally, because these sites have not been identified the project's indirect impacts on these areas proposed as mitigation sites have not been evaluated.

- *Adequacy of Proposed Mitigation Activities in the NMF-* The plan does not provide sufficient in-kind mitigation for losses to aquatic resources, particularly bottomland hardwood forests. Specifically, WRDA requires that "mitigation plans shall ensure that impacts to bottomland hardwood forests are mitigated in-kind" (33 U.S.C. 2283). The plan does not demonstrate compliance with this requirement.

- *Appropriateness of Using HGM in Calculating Mitigation* - The calculation of mitigation using HGM for state lands is questionable. HGM is a tool that can inform the plan, but is not a decision matrix. Other factors, including those specified in the Rule, and established state methods and policies approved by the Interagency Review Team, should also be considered. Of specific concern, there are already existing functions at Big Oak Tree State Park (BOTSP) and Ten Mile Pond Conservation Area (TMPCA); only added function above what currently exists can be credited for mitigation. Giving full mitigation credit for all of the functions in the entire park or existing wetlands in the project area in the HGM analysis is not compliant with the Mitigation Rule. Additionally, raising berms around BOTSP to keep flood waters from spreading may essentially create a large depressional wetland in place of a riverine forested wetland (with the associated loss or change in function). Finally, risk, wetland loss over time, and time to maturity

are also not accounted for in the HGM calculations, nor is the process for arriving at the HGM numbers provided in the supporting documentation.

- *Specific Mitigation Sites in the NMF do not Comply with the Mitigation Rule* - Use of State land (TMPCA and BOTSP) as mitigation is not compliant with 40 C.F.R. § 230.93(a)(3) because these lands are a part of "public programs already planned or in place." These lands also do not meet the requirements for preservation under 40 C.F.R. § 230.92(h). Other areas that are not compliant with the Rule include Wetland Reserve Program sites and Bogle Woods. The Mitigation Rule does not allow WRP to count towards mitigation (either current or future). The area known as Bogle Woods would not meet the criteria for preservation in the Rule since hydrology to the site will likely be cut off or greatly reduced. These sites cannot be used as mitigation for purposes of meeting the Rule.

- *Inappropriate use of Batture Lands for Mitigation* - The Mitigation Rule requires that lost functions be replaced. Currently, about a third of the mitigation is being proposed in the batture land. Batture lands are already connected to the Mississippi River and do not provide replacement of lost functions associated with severing wetlands within the project area from year-round connectivity to the river.

- *SJB Proposed Stream Mitigation Appears Insufficient*- Additional stream mitigation will be needed to offset impacts and the revised Missouri Stream Mitigation Manual (MSMM) should be applied to this project. Additionally, widening the upper 7.8 miles of St. James Ditch is a morphological change under the MSMM and the buffering of borrow pits is not appropriate for stream mitigation as it is not in-kind and therefore not allowed by either the Rule or the MSMM.

- *Additional Potential Wetland Losses* - The proposed mitigation includes raising water levels in floodplain lakes, however portions of floodplain lakes may currently be wetland. The result of the TSP to increase surface water levels may cause additional indirect impacts to wetlands by killing wetland vegetation that is submerged at greater depths. These areas should not be included as wetland mitigation and may result in impacts, thus increasing wetland mitigation requirements.

- *Inadequacy of Monitoring Plan* - Considering the long temporal lag that will occur for mature forest to develop and the fact that the system's hydrology will be highly manipulated by operating pumps and opening and closing gates, the plan should establish monitoring until full maturation. Additionally, the performance standards for the mitigation sites must include measures and monitoring to ensure all lost functions are re-established or returned.

As noted previously the Corps should provide additional information, sufficient to address the specific deficiencies noted above for purposes of demonstrating compliance with all applicable laws and implementing regulations, in the Final EIS.

Range of Alternatives

We are concerned that the DEIS only evaluates a single alternative for SJB (Alternative 2.1). All other alternatives discussed in the DEIS are comprised of the same Alternative 2.1, combined with variations to activities performed in the NMF. We recommend that the Final EIS include a range of alternatives associated with the SJB beyond a single action/no action decision. As noted above, this is also an important consideration for purposes of determining the LEDPA.

Birds Point – New Madrid Floodway Operations

The FEIS would be strengthened by additional discussion regarding the Birds Point – New Madrid Floodway Operations Plan, and future activation of the Floodway because the TSP substantially modifies the existing floodway by closing the existing gap. Specifically, the FEIS should analyze the anticipated effects activation would have on the various mitigation efforts across the different alternatives. Differences amongst impacts would provide additional information to assist the Corps in their choice amongst the alternatives presented. Similarly, the FEIS would be strengthened by evaluating locations of past flood impacts in adjacent communities (both downstream and upstream) of the Floodway to identify whether these impacts are located in Environmental Justice Communities, and to ensure that future operation of the Floodway continues to provide adequate flood protection for adjacent communities. EPA is available to assist the Corps in more thoroughly evaluating potential environmental justice, as significant data exists at much finer resolution than the county-level data used in the DEIS.

Water Quality

Nutrients are an extremely challenging water quality issue for waterbodies throughout the Mississippi River Basin, however the DEIS focuses solely on the export of nutrients to the Mississippi River, not on actual water quality within the waterbodies of the project area. In the future EPA expects the State of Missouri to develop ambient water quality criteria for nutrients (total nitrogen (TN) and total phosphorus (TP)) in streams; however EPA has already developed ecoregional criteria for nutrients that are appropriate for waters within both project areas. The DEIS indicates that waters within SJB and NMF exhibit a range of TP values from 250 to 500 ug/l, well above EPA's ecoregional criteria of 128 ug/l, indicating that the flowing waterbodies in the project area are already likely impaired for nutrients.

Each of the alternatives, with the exception of the no action alternative, results in agricultural intensification post outlet closure as well as an anticipated switch to more profitable crops (soybeans to corn). And because application rates of phosphorus for corn are often significantly higher (3 to 4 times) than soybeans, waterbodies within the project areas are likely to realize much higher concentrations of in-stream nutrients, ultimately making it less likely that water quality criteria could be attained in the future.

The FEIS should address the impacts on the water quality within the project area, specifically estimating in-ditch concentrations to allow for a complete understanding of how each of the alternatives would affect attainment of water quality criteria necessary to protect aquatic life. Additionally, the nutrient export model should be evaluated to determine whether it accounts for this increase in nutrient concentrations, and if not revised accordingly.

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.