United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
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August 1, 2024

IN REPLY REFER TO:
ER 24/0243

Eric Williams
Chief, Environmental Branch
U.S. Army Corps of Engineers
CEMVN-PDS, Room 136
7400 Leake Avenue
New Orleans, Louisiana 70118

Subject: Comments and Recommendations on the Draft Environmental Impact Statement (DEIS) for the Pearl River Basin, Federal Flood Risk Management Project, Mississippi

The U.S. Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (EIS) for the Pearl River Basin, Mississippi Federal Flood Risk Management Project. Our comments are submitted in accordance with the National Environmental Policy Act (83 Stat. 852, 42 U.S.C. 4321 et seq.) and the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The Department appreciates the opportunity to comment on the project and offers the following comments.

The National Park Service (NPS) jointly administers the Land and Water Conservation Fund (LWCF) with state agencies and therefore retains authority to advocate on behalf of these resources. Per the LWCF Manual, "Property acquired or developed with LWCF assistance shall be retained and used for public outdoor recreation. Any property so acquired and/or developed shall not be wholly or partly converted to other than public outdoor recreation uses without the approval of NPS pursuant to the LWCF Act (54 U.S.C. § 200305(f)(3)) and conversion requirements outlined in regulations (36 C.F.R. § 59.3)."

Situations that trigger a conversion include:

a. Property interests are conveyed for private use or non-public outdoor recreation uses.
b. Non-outdoor recreation uses (public or private) are made of the project area or a portion thereof, including those occurring on pre-existing rights-of-way and easements, or by a lessor.
c. Unallowable indoor facilities are developed within the project area without NPS concurrence, such as unauthorized public facilities and sheltering of an outdoor facility.

d. Public outdoor recreation use of property acquired or developed with LWCF assistance is terminated.

The Draft EIS identifies a number of LWCF properties within the study area with the potential for impacts from implementing the preferred alternative; however, based on the analysis, it is unclear of the extent to which there might be potential conversions of these properties. The Final EIS should specifically identify the extent to which there would be any potential conversions. If any part of an LWCF property will be removed from outdoor recreation as a result of this project, the Department and the Mississippi Department of Wildlife, Fisheries, and Parks will need to be notified and consulted so the conversion of use can be satisfied following LWCF regulations and policies.

If the project has a potential to convert any LWCF property, please reach out to John McDade, LWCF Compliance Officer, at john_mcdade@nps.gov to discuss the matter further.

Moreover, the appendices and the United States Geology Survey (USGS) information sources are mentioned by incomplete citation and/or reference or both. The Department suggests that improvements be made to the citations and the reference list for improved presentation of information. Specific examples include:

(1) USGS Without Citations or References

DEIS report

page 21:"The United States Geological Survey published the frequencies of the 1979 and 1983 flood events at the Jackson gage, which were annual 0.5 percent and 2.86 percent chance exceedance events, respectively."

page 76: "According to the USGS's survey on Places of Worship in 2022, there are 132 places of worship within the study area."

pages 170 & 174: "This period of record was supplemented with data from the downstream Jackson gage (from 1874 to 2022) and the latest information from United States Geological Survey."

Appendix E

pages 54 & 56: "Discussion with the project NFI, the local National Weather Service (NWS), and USGS officials confirmed historical operations at the Ross Barnett Reservoir."

page 62: "USGS verified that the ratings used to calculate flow have known issues when stages on the Pearl River are high."

page 75: "The existing HEC-RAS model is being developed and calibrated to four unsteady events, as well as a published rating curve and USGS mapped flood extents."

page 105: "The mean annual flow was pulled from the USGS Streams Stats application for the Bogue Chitto River near Bush, LA."

(2) USGS Citations Without References

DEIS report

page 31: USGS (2023d)
page 32: USGS (2023a)
page 34 (also Appendix E, page 20): USGS (2023c)

Appendix H *page 15: USGS (1964) pages 15 & 16: USGS (1984)*

(3) USGS References Without Citations

DEIS report *page 273: "Soil, Gridded Pecip, NLCD, mannings, terrain, USGS, NWS"*

Appendix E *page 140: USGS (2023b)*

Potential Impacts to USGS Infrastructure

The USGS operates streamgages along streams and rivers throughout the U.S. to collect water quantity and quality data for a variety of purposes. Continuous operation of USGS streamgages is essential for our stakeholders. These streamgages have permanent infrastructure and are vulnerable to disruption when nearby construction occurs in the vicinity of them. USGS streamgages 02485735 (Pearl River at Hwy 25 at Jackson MS), 02486000 (Pearl River at Jackson MS) and 02485820 (Bellhaven Creek at Laurel Street at Jackson MS) could be impacted by this project.

Appendix E, page 128, states concern for impacts to streamflow records, *"Localized impacts to the project area due to this proposed project or others could also impact the stage discharge relationship at the Pearl River in the project vicinity".* Appendix E, page 135 states concern for additional streamflow data collection, "*Additional stream flow and stage gaging locations are needed in the project location to better understand localized impacts.*". The Department recommends that the United States Army Corps of Engineers (USACE) coordinate on streamgaging in the project area with the USGS Lower Mississippi Gulf Water Science Center.

Items Deferred for Future Study

Appendix E includes a chapter on deferred studies including sediment analysis and management, water quality, and downstream gaging. Inclusion of this chapter suggests that USACE will conduct additional studies related to this project, which the Department encourages prior to publication of the Final EIS. These deferred studies and resulting information may be significant enough to consider a Draft Supplemental EIS.

If you have any questions concerning USGS comments, please contact Jon Janowicz, USGS Manager for Environmental Document Reviews, at (609) 771-3941 or at jjanowicz@usgs.gov.

Equally important, the USACE submitted a biological assessment to our office in June of 2024, and we agreed to enter into formal consultation under Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) on June 28, 2024. This consultation will consider the effects of the proposed project on listed, proposed and candidate species and is currently ongoing. The Department is currently drafting an interim FWCA Report as required by Section 2(b) of the FWCA. Our comments below relate to the alternatives being considered in the DEIS and where we believe additional analysis of alternative features should be conducted.

The USACE is evaluating a range of flood risk management alternatives for the Jackson metropolitan area along the Pearl River in Hinds and Rankin Counties, Mississippi. The alternatives currently being evaluated include a nonstructural alternative (Alternative A1), a channel improvement with new weir structural alternative (Alternative C), and two combination thereof (CTO) alternatives (Alternative D with a new weir, Alternative E without a weir) that combine features of both A1 and C.

Due to limited design maturity and the inability to sufficiently refine alternative costs, the USACE has not made a final determination on which of the alternatives would be the National Economic Development (NED) plan, however, Alternative D has been identified as the preliminary NED plan. The USACE is currently assessing the environmental acceptability and technical feasibility of the alternatives; and will provide the Secretary of the Army the information necessary to choose a plan.

The Pearl River and its associated oxbows, tributaries, and forested wetlands supports biologically diverse species and their habitats. Bottomland hardwoods comprise the primary wildlife habitat type in the floodplain, while cypress-tupelo swamps add to the diversity of this system. The forested floodplain serves as habitat and a travel corridor for deer, squirrel, wood duck, migratory birds, furbearers, and other species. This riparian corridor also provides important bank stabilization and erosion protection. Riparian forested areas are an important source of deadwood and other allochthonous materials that provide habitat for many species inhabiting the Pearl River and its tributaries. The river itself is considered one of the most biologically diverse in the country, supporting 140 species of fish (including bass, bluegill, sunfish, crappie, catfish, etc.), 14 species of turtles (including the endemic Pearl River map turtle and ringed map turtle), 40 species of mussels, and other aquatic species. There is also significant acreage along the Pearl River within the Project area that provides habitat unique for a metropolitan area.

Coastal wetlands of the Pearl River also provide nursery and foraging habitat that supports economically important marine fishery species. Some of these species serve as prey for other commercially and/or recreationally important fish species.

Alternatives

Alternative A1 includes structure (i.e., home) elevation, floodproofing, and voluntary property acquisition within the four percent annual exceedance probability flood stage. We strongly support further consideration of this alternative as it would have significantly fewer impacts to fish and wildlife resources when compared to the three alternatives below.

Alternative C is a channel clearing, weir construction, and levee improvements plan that is deemed by the Department to be the most ecologically damaging alternative. Based on current project information for this alternative, approximately 2,084 acres of terrestrial habitat would be converted to aquatic habitat. Approximately 1,374 acres of wetlands and approximately 487 acres of existing surface water bodies, including the Pearl River channel and its tributaries, would be impacted. Additionally, converting the portion of the Pearl River within the Project area from a riverine system to a lake system will have adverse impacts on obligate riverine species, including threatened and endangered species, and may impact resources downstream. As demonstrated by our analysis of velocity data in our draft FWCA report (DEIS, Appendix J), velocities in the new impoundment will be significantly reduced approximately 73% of the time, interrupting important life history strategies (i.e., prey sources, breeding substrate, etc.). Based on available data, the range of velocities reported fall below the lentic threshold of 0.10 m/s (0.33 ft/s) (Pellett et al. 1983) throughout most of the year, particularly during the active or breeding season for many riverine obligates. In addition to a loss of species and habitat diversity due to an altered flow regime, there would be a direct and indirect loss of terrestrial habitats and their functions important for wildlife. There would also be a loss of sandbar habitat due to increased water levels or to undesirable vegetation encroachment resulting from stabilized water levels. Additionally, the potential for up- and downstream channel re-adjustments may cause other hydrogeomorphic changes to the Pearl River and its tributaries within and outside of the Project area. Other concerns include impacts to conservation lands within and downstream of the Project area and the reduction in sediments to coastal marshes.

Alternative D, the “CTO with Weir” alternative will have similar channel improvement activities as Alternative C but with a smaller lake footprint (1,706 acres, 7.5 miles in length) when compared to Alternative C (2,562 acres, 9.5 miles in length). A fish passage structure is also proposed at the new weir location; however, final design will be coordinated during the project engineering and design phase. Based on acreage of riverine and terrestrial habitat being impacted, there is an estimated 21 and 54 percent reduction, respectively, in habitat impacts compared to Alternative C. Even though this is an improvement over Alternative C, the addition of a weir and impoundment for Alternative D for recreational and economic development opportunities will still result in significant impacts to fish and wildlife resources in the Project area.

Finally, Alternative E, the (CTO without Weir) alternative, would have the same channel improvement activities as Alternative D. However, there would be no weir and impoundment, no slurry walls required, no additional pump stations, and it would not require the addition of a fish passage structure. Alternative E would provide the same flood reduction benefits as Alternative D but at a lower cost due to elimination of the features mentioned above. Impacts from Alternative E could result in destabilized riverbanks, altered instream and terrestrial habitat, increased water temperatures, and could cause direct mortality of some fish and wildlife species. Additionally, sediment plumes from these actions could smother species both within the project footprint and downstream. However, depending on the morphology, structure, and depth of the river after floodplain excavation activities, riverine species would be expected to recolonize the area since no barrier (i.e., weir) would exist.

Alternative D (CTO with weir) has been preliminarily identified as the NED. The USACE has initially concluded that of the alternatives assessed, this alternative minimizes implementation risks, maximizes the differences between monetized benefits and costs, and satisfies the USACE Planning Principles and Guidelines criteria of completeness, effectiveness, efficiency, and acceptability. Even though Alternatives D and E achieve similar flood risk management results, and Alternative E is less expensive to construct, the USACE determined net benefits would be greater for Alternative D, and therefore has selected it as the preliminary NED.

Recommendations

Both CTO alternatives have the same flood risk management benefits, however, Alternative E will result in significantly fewer impacts to fish and wildlife resources. Both CTO alternatives would have similar terrestrial habitat impacts; however, Alternative E would have fewer riverine impacts and therefore fewer, if any, riverine mitigation requirements. Alternative E is also the less expensive of the two CTO alternatives and has a number of potential advantages over Alternative D that the USACE has failed to consider in its DEIS (i.e., recreational and ecological restoration opportunities). Finally, we have concerns with the USACE selecting a weir based plan for implementation without knowing how or if riverine impacts can be fully mitigated. We recommend the following concerns be addressed before a final plan is selected for implementation.

(1) Fully evaluate the river and floodplain restoration opportunities associated with Alternative E.

Since no weir would be installed with Alternative E, we anticipate there will be current and future opportunities by the USACE, the Department, and other federal, state and local partners to restore and enhance existing river functions after flood risk management activities are completed. These measures could include the placement of instream habitat (shoals, gravel bars, woody debris), enhancement or creation of sandbars, the creation of oxbows in the newly excavated floodplain (i.e., similar to riverside levee borrow pits along the Mississippi River; see USACE website), and the reforestation of the riparian buffer along the Pearl River within the Project area. Selection of this alternative also allows the future opportunity to retrofit the existing weir at the J.H. Fewell Water Treatment Plant (WTP) for improved fish passage, or possibly the complete removal of the weir if the WTP is eventually decommissioned. Provided such measures do not negatively impact flood storage and conveyance, we anticipate they could significantly improve the fish and wildlife resources found within the Project area, especially for those areas of the river that have been previously channelized and have reduced riparian vegetation (i.e., mowing, herbicide areas). Finally, Alternative E provides the opportunity to restore rivercane (*Arundinaria gigantea*) and switch cane (*Arundinaria tecta*) to suitable sites within the Project area. These species were identified by Tribal Nations as Cultural Keystone Species that should be conserved and restored. Such measures would be permanently eliminated for future consideration should a weir and impoundment be constructed.

Accordingly, we request these measures and opportunities be evaluated in the final EIS and considered when selecting a final plan for implementation.

(2) Fully evaluate the recreational and economic development opportunities associated with Alternative E.

The DEIS, as currently written, fails to consider and describe the potential recreational and economic development opportunities associated with Alternative E. The DEIS incorrectly states that Alternative E would not provide any of the recreational opportunities that Alternative D would provide, such as biking/hiking trails, boat ramps, kayak launches, camping, and wildlife viewing. Many of these recreational opportunities are realized on urban rivers across the United States, and it's unclear as to why such opportunities have not been further explored in the DEIS. For example, the existing multi-use Museum Trail and greenway could be expanded along the existing levee system and new fill material areas. An expanded trail system would not require the establishment of a new lake to be successful. New boat ramps and public access points to the Pearl River south of the J.H. Fewell WTP weir could provide additional river access in an area where it is currently inadequate. The creation of a series of oxbow lakes/borrow pits along the newly excavated Pearl River floodplain could create fishing opportunities that may be lacking in the Jackson metropolitan area. Such river-based recreational opportunities could result in increased economic development within the Jackson metropolitan area while preserving and restoring fish and wildlife resources that would be lost with the creation of a new lake.

Such recreational features associated with Alternative E could also assist in creating a new greenway and blueway system connecting public lands (i.e., Fannye Cook Natural Area, LaFleur's Bluff State Park, Museum Trail greenway, Crystal Lake) through the Jackson metropolitan area further improving recreational access to the river and economic development associated with sustainable development near the river. The DEIS as currently written fails to acknowledge these benefits and implies such opportunities can only be realized via creation of a new lake.

Accordingly, we request these measures and opportunities be evaluated in the final EIS, considered when determining net benefits, and when selecting a final plan for implementation.

(3) Develop a site-specific riverine mitigation strategy before selecting a plan for implementation.

We recommend identifying the specific riverine mitigation strategy and/or location of mitigation lands before selecting either Alternative C or D for plan implementation. With the significant impacts to riverine species that are expected with either of the weir alternatives, we believe it would be prudent to identify specific sites and measures that will be conducted to offset riverine impacts before either weir plan is selected in order to ensure riverine impacts can and will be fully mitigated. The cost of this mitigation should also be included when determining the NED plan since Alternative E would not require as much, if any, riverine mitigation.

Many experts indicate that riverine mitigation is challenging, since loss of both habitat and function are difficult to compensate (National Academy of Sciences 1992, King et al. 1991). Mitigation efforts that restore in-stream functions elsewhere within the Pearl River Basin could offset expected habitat loss to those resources. Mitigation efforts on the main stem of the Pearl River and its tributaries (e.g., Strong River, Bogue Chitto) below the Project area should be a priority. Measures to promote fish passage, such as removing obsolete barriers (i.e., Poole's Bluff and Bogue Chitto Sills) and incorporating monitoring and adaptive management could benefit the gulf sturgeon, southeastern blue sucker, Alabama shad, American eel, striped bass, various darters, mussels, and others.

Conclusion

The Department appreciates the recent planning efforts of the USACE to examine a variety of flood risk management plans and alternatives that have not been fully vetted in past flood control studies. We agree that there is a demonstrated need for flood risk management within the Jackson metropolitan area. To that end, we continue to advocate for a plan that balances the needs of fish and wildlife resources alongside the need to provide flood risk management. We favor a plan that provides flood risk management benefits without the construction of a weir and the resulting impoundment, thus protecting important riverine functions and habitats. As noted in the DEIS, the weir (for Alternatives C and D) does not provide any flood control benefits and is being considered solely for future recreational and economic development opportunities. However, this one feature will have the greatest adverse impact on fish and wildlife resources in the Project area. Therefore, our position is that the currently proposed Alternatives C and D would not be environmentally acceptable.

We appreciate the efforts of the USACE to include the Department in early project planning and coordination and look forward to working with you to develop a plan that achieves flood risk management while balancing the needs of imperiled fish and wildlife resources. If you have any questions or require additional information, please contact David Felder in our office, telephone: (601) 321-1131, email: David_Felder@fws.gov. I can be reached at (404) 852-5414 or via email at joyce_stanley@ios.doi.gov.

Sincerely,

JOYCE STANLEY

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Joyce Stanley, Ph.D.
Regional Environmental Officer

cc: Christine Willis – FWS
David Felder - FWS

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John McDade – NPS
Matt Moran - OSMRE
OEPC – WASH

Literature Cited

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