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28 August 2018

Rankin Hinds
Pearl River Flood Control and Drainage Control District
P.O. Box 154
Jackson, MS 39205

RE: Pearl River Basin, Mississippi, Control Project, Integrated Draft Feasibility Study/Environmental Impact Statement Review

Mr. Hinds:

The Louisiana Department of Wildlife and Fisheries' (LDWF) evaluation of the Integrated Draft Feasibility Study and Environmental Impact Statement Pearl River Watershed, Hinds and Rankin Counties, MS (FS/EIS), primarily addresses section 2, 4, and 5, and the Biological Assessment section in Appendix D - Environmental. The FS/EIS briefly addresses flow, evaporation, channel geomorphic assessments, and sediment loads and composition in sections 2.5.2 and 4.5.2, and Appendix D – Environmental. The Louisiana Coastal Protection and Restoration Authority (CPRA), the Louisiana Department of Natural Resources Office of Coastal Management (DNR/OCM), and the consistency determination process are state agencies' or regulatory processes that may provide further guidance on these issues. LDWF is particularly concerned about changes in the amount and timing of freshwater discharge into the Mississippi Sound, where considerable oyster resources are located, and about habitat usage by migratory fish as well as rare, threatened and endangered species that occur in the Pearl River.

The primary study area on the Pearl River watershed is between river mile (RM) 280.0 and RM 301.77 (i.e., 21.77 miles of aquatic riverine habitat). The proposed project area is located in the Upper Middle Pearl River sub-basin, and downstream impacts to the Lower Pearl River sub-basin are only briefly addressed in the study. LDWF believes a comprehensive evaluation of downstream impacts is necessary to complete the FS/EIS.

Marine Resources in the Mississippi Sound:

The Mississippi Sound area (i.e., Halfmoon Island/Grassy Island/Petit Island/Grand Banks), which is currently productive for oysters, depends on freshwater from the Pearl River to thrive. The addition of impoundments along the watershed have the effect of delaying seasonal river cycles, reducing range of flows, and reducing overall flow, all of which may impact estuarine resources. Changes to the timing and volume of river inputs into the estuary could affect the crucial balance of a system that currently provides an excellent habitat for oysters, as well as a variety of fish, shrimp, crabs, and other organisms in both Mississippi and Louisiana state waters, which support important fisheries for both states.

Migratory Fish:

Sixteen different species of migratory fish, anadromous, catadromous, and potadromous, utilize the Pearl River basin. The proposed relocation of the low head weir, resulting in the conversion of swift water (riverine) habitats to slackwater (lacustrine) habitats will adversely affect riverine fish and mussel communities. The project area is located in viable riverine habitat which is currently classified as Critical Habitat for Gulf sturgeon. Consideration of restoration efforts to migratory routes in the lower sub-basin (e.g., sill removal) are necessary when evaluating the impacts of this project. It is counter-intuitive to consider the elimination of riverine habit upriver while restoration efforts progress in the lower sub-basin that are intended to improve access to those riverine areas for migratory fish species.

Rare, Threatened and Endangered Species:

The project area is located within the Critical Habitat designation for the Gulf sturgeon (*Acipenser oxyrinchus*). Efforts to minimize this designation in the project documents (sections 2.2.6.2, 2.5.7.1) should be based on quantifiable analysis and not merely on anecdotal accounts; additional seasonal sampling would be necessary to confirm whether Gulf sturgeon utilize habitats in the Upper Middle Pearl River sub-basin at the current time. Though the existing sills within the lower segment of the Pearl River basin do limit fish migration, passage does take place. This study should also consider efforts to improve utilization of these riverine stretches through removal of sills in the lower Pearl River sub-basin as part of the potential baseline for proposed impacted area.

The Inflated Heelsplitter (*Potamilus inflatus*) is considered critically imperiled in the state of Louisiana. Limiting the movement of the freshwater drum (*Aplodinotus grunniens*), host fish to the Inflated Heelsplitter, would limit potential distribution of this threatened species. In addition to these federally listed species, Louisiana has identified 47 species of concern in the Lower Pearl River Watershed.

Invasive Aquatic Vegetation:

The shallow areas of the new reservoir and other protected coves would create new habitat and refuge for noxious invasive aquatic weed species (e.g., Giant salvinia), for which Louisiana spends millions of dollars per year to control/eradicate. Terrestrial invasive vegetation is addressed, but aquatic invasive vegetation is not addressed in the FS/EIS.

Downstream Mitigation:

LDWF is concerned about the direct, indirect and cumulative impacts of the proposed reservoir. Critical Habitat should be addressed and not minimized. The FS/EIS proposed mitigation options are limited to constructing fish passages to improve access at both the newly proposed weir and the existing weir at Poole's Bluff. Consideration of downstream mitigation projects and true river restoration that could benefit riverine species, e.g., sill removal at Poole's Bluff and the Bogue Chitto River, should be included; along with cost-benefit comparison of fish passage construction at Poole's Bluff versus total sill removal. In addition, insufficient information has been provided concerning the mitigation of wetlands and waters impacted by the construction and maintenance of the Pearl River Basin, Mississippi, and Federal Flood Risk Management Project. Given the extensive nature of those impacts, and the project's potential for secondary impacts to Louisiana's natural resources, the FS/EIS must provide a complete mitigation plan for agency review.

Additionally, river-floodplain connectivity is important to the ecology of the Pearl River watershed. Therefore, it should be demonstrated that the proposed project will not decrease lateral exchange of energy, material and organisms between fluvial and floodplain systems. This is especially concerning in Louisiana where a national wildlife refuge, state wildlife management area and several state designated natural and scenic rivers are located along the Pearl River and/or its tributary and distributary channels. Any losses of connectivity or further floodplain isolation shall be quantified and mitigated.

Construction Concerns:

The FS/EIS must detail the measures taken to ensure that minimum flow rates, acceptable levels of suspended sediments, appropriate water temperatures, adequate dissolved oxygen levels, etc., are maintained downstream of the proposed flood risk management project while construction activities are underway. Given the potential for secondary impacts to downstream waters and adjacent habitats, details concerning the design and operation of the low flow gates must be provided.

Monitoring:

LDWF strongly recommends that the FS/EIS include construction and post-construction monitoring and adaptive management plans aimed at assessing and mitigating secondary

impacts to the Pearl River and its adjacent habitats downstream of the proposed weir. Concerns to be addressed in those plans include, but are not limited to, changes in the level of suspended sediments, water temperatures, dissolved oxygen levels, erosion rates, changes to the timing and volume of river inputs, etc.

The Louisiana Department of Wildlife and Fisheries seeks to work with you in a cooperative manner. Please do not hesitate to contact Matt Weigel (985-543-4931) of our Habitat Section should you need further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jack Montoucet", written over a horizontal line.

Jack Montoucet
Secretary