



30 June 2023

Delivered by Electronic Mail to: PearlRiverFRM@usace.army.mil

Colonel Christopher Klein
Vicksburg District Commander
U.S. Army Corps of Engineers, CEMVK-PMP
4155 Clay Street
Vicksburg, MS 39183-3425

RE: Scoping comments on Pearl River Flood Risk Management Project, Pearl River Watershed, Hinds and Rankin Counties, MS

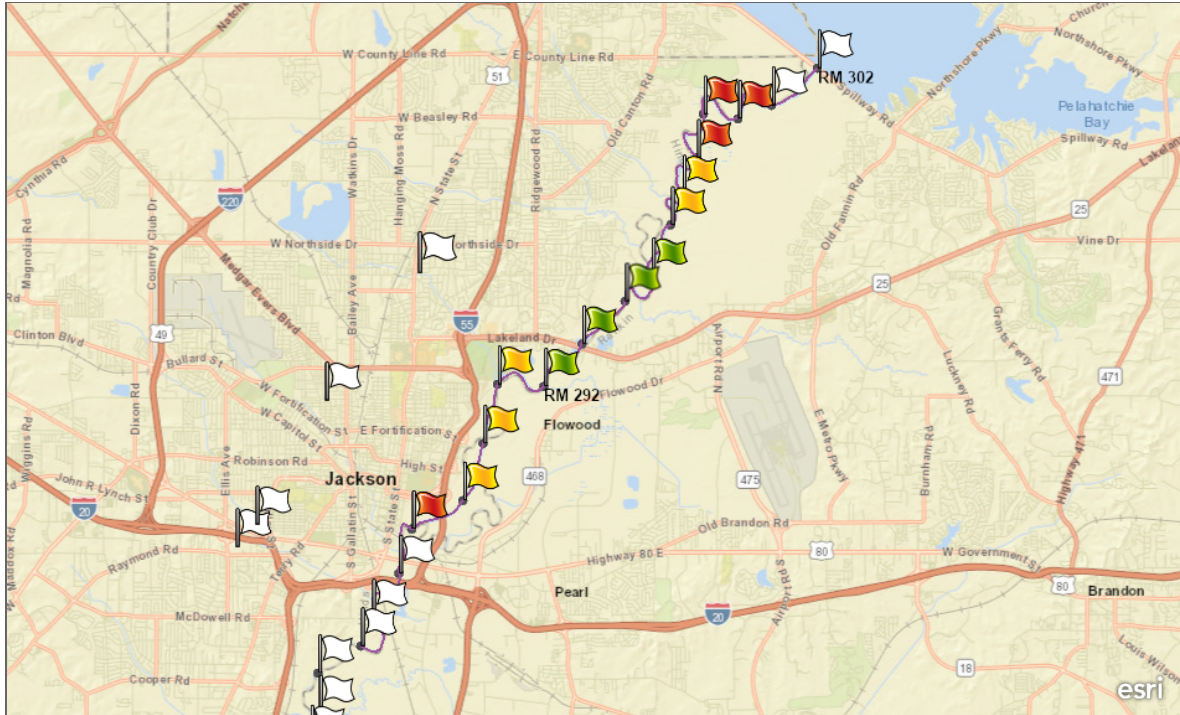
Pearl Riverkeeper, a grassroots non-profit and licensed member of Water Alliance, whose mission is to protect the right to clean water, submits these comments during the scoping process for the Pearl River Flood Risk Management Project. Pearl Riverkeeper has reviewed the Rankin-Hinds Pearl River Flood and Drainage Control District's 2018 Draft Environmental Impact Statement (DEIS), the USFWS Biological Opinion and Fish and Wildlife Coordination Act (FWCA) Report, state and federal agency comments to the 2018 DEIS, the Final Independent External Peer Review (IEPR) and the Final Agency Technical Review (ATR) Summary Report June 2020. **Pearl Riverkeeper and our members and supporters are vehemently opposed to the NFI-preferred project, Alternative C, that involves dredging, widening, and deepening 10 miles of the Pearl River leading to the destruction of 1,860 acres of productive wetlands.**

The USACE Pearl River Flood Risk Management (FRM) website lists the NFI-preferred project, "Channel Improvements" or Alternative C as one of the alternatives to be considered by the USACE during this scoping process. Pearl Riverkeeper has identified numerous open questions with Alternative C that were not addressed in the 2018 DEIS or in the years since, many of which are also listed as "unresolved", "critical" comments at the publication of the USACE's own ATR in June 2020. We ask that the USACE look closely at the following issues when evaluating the various flood risk management alternatives for Jackson.

- **Inequities in flood risk management benefits:** According to Table 3-3 in the 2018 DEIS Appendix C (PDF page 101), the level of flood peak reduction provided by the NFI-preferred Alternative C varies by river mile (RM). The most significant flood peak reduction benefits would be between the J.H. Fewell Water Plant, RM 291, and the area just upstream of Meadowbrook Lake, RM 295. To visualize which communities would receive the greatest levels of flood peak

reduction benefits from Alternative C, Pearl Riverkeeper distributed the 1% annual exceedance flood peak reduction numbers in the 2018 DEIS Table 3-3 into four quantiles. The largest flood peak reduction quantile, represented by the green flags, is 5.3 to 8.3 feet. The second largest, represented by the yellow flags, is 3.3 to 5.3 feet. The third largest, represented by the red flags, is 2.1 to 3.3 feet. The smallest, represented by the white flags, is 0 to 2.1 feet. The map in Figure 1 depicts the level of flood peak reduction by RM predicted by the 2018 DEIS for a 1% annual exceedance flood event.

Pearl River FRM Alternative C



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Figure 1 Visualizing flood peak reduction for a 100-year flood based on Table 3-3 of 2018 DEIS, App C

According to Table 3-3, communities in Northeast Jackson would receive some of the lowest levels of flood peak reduction, ranging from 0 to 4.5 feet. Even with Alternative C in place, North Canton Club, one of multiple predominantly Black neighborhoods in Northeast Jackson, would continue to flood during 100-year flood events, albeit less severely. Several neighborhoods in Northeast Jackson are implicitly referenced in Appendix E of the 2018 DEIS with the caveat that homes there would “experience benefits” from Alternative C but would “continue [to] be at risk” from 25-year and above events. The 2018 DEIS, Appendix E (PDG pages 18 and 19) proposed a voluntary buy-out for Northeast Jackson communities to compensate for the lack of protection.

The 2018 DEIS, Appendix C (PDF page 217) map in Figure 2 depicts the number of structures impacted by a 100 year flood in bright green and structures impacted by a 500 year flood in red.

The cluster of bright green in Northeast Jackson shows the vulnerability of this community to flooding. Although the FRM project's greatest concentration of structures vulnerable to river flooding might be those in predominantly Black communities in Northeast Jackson, these communities receive some of the lowest amount of flood peak reduction.

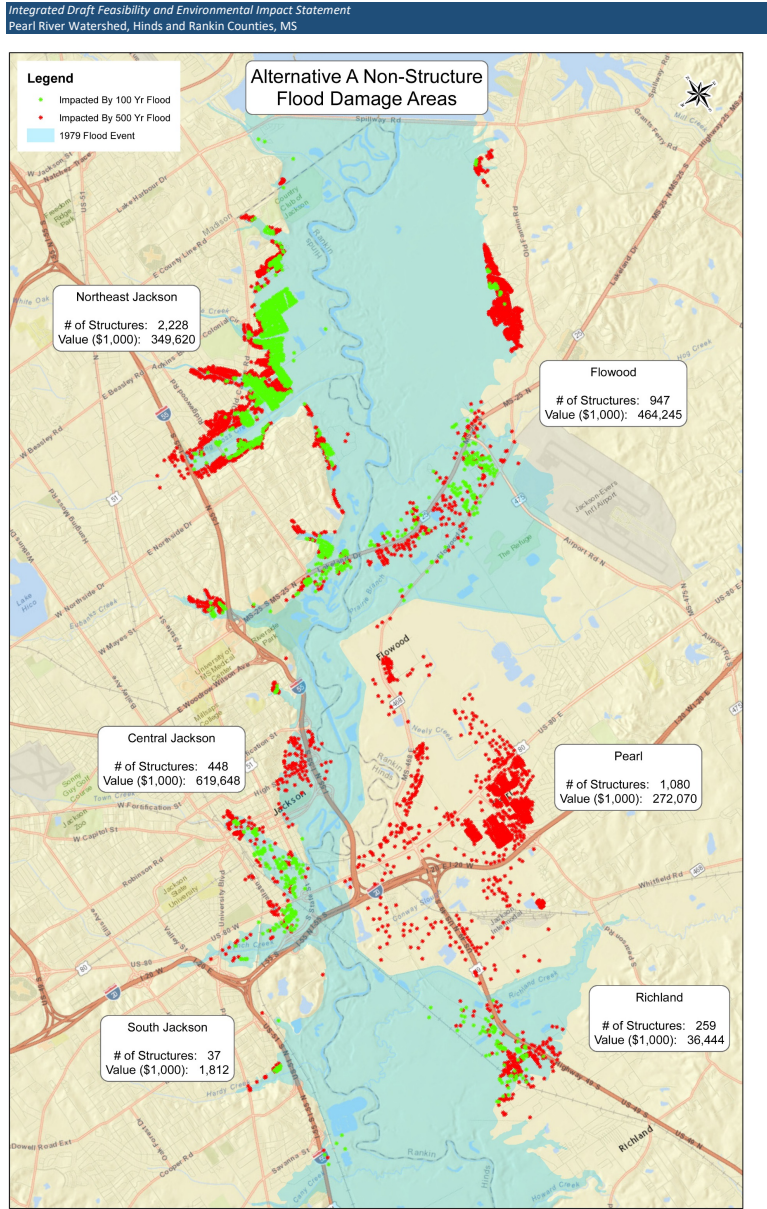


Figure 5.1: Project Area, Alternative A

Figure 2 2018 DEIS, Appendix C: Engineering Real Estate Plan

A report issued by National Weather Service, Jackson after the 2020 flood (<https://storymaps.arcgis.com/stories/765d21cb433147fba4a808af2eae53b3>) noted that

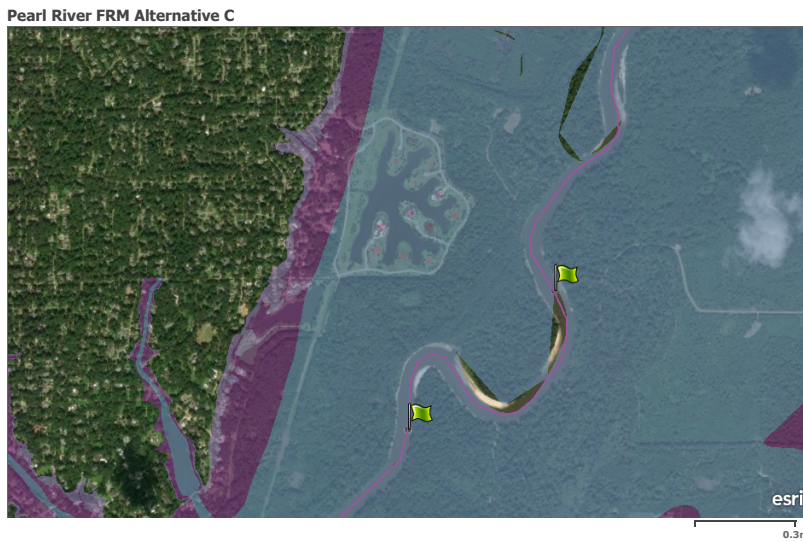
changes to Reservoir operations, and changes to the river bed and the land surrounding the river, were making an impact on the amount of water running through the Jackson gauge at certain river stages. They specifically noted that, in 2020, these changes caused water to back up into the neighborhoods in Northeast Jackson at higher than predicted levels

The highest level of flood peak reduction predicted in Table 3-3 would occur in Central Jackson, with levels ranging from 5.3 to 8.3 feet. The 2018 DEIS predicts that the Meadowbrook Lake subdivision, a Central Jackson subdivision that was built in the FEMA floodway in the early 2000s on several acres of drained wetlands, could receive 7-8 feet of flood peak reduction.



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Figure 3 Meadowbrook Lake subdivision



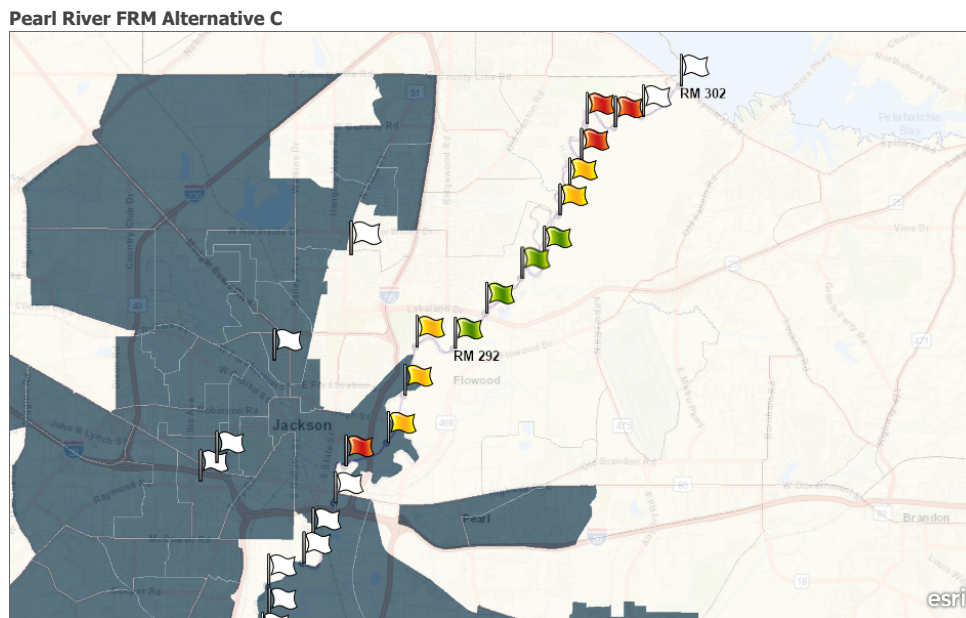
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Figure 4 Meadowbrook Lake subdivision with FEMA Flood Hazard Overlay

The CEJST is a mapping tool developed under the directive of Presidential Executive Order 14008 to help national decision-makers identify communities vulnerable to problems caused by climate, economic, or climate changes.

The tool uses about 30 metrics from various databases to define eight categories of burdens. The 8 burden categories include: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. For example, a community has a "workforce development burden" if a large portion of the adult population in its census tract does not have a high school degree and at least one of four social conditions are met. Data for this burden are pulled from the American Community Survey of the United States Census.

A community is "disadvantaged" if it is in a census tract affected by one or more burdens. Much of south Jackson west of Interstate 55 is "burdened" by four to six categories. The map in Figure 5 visualizes the potential flood peak reduction benefits provided by the 2018 DEIS Alternative C to the "disadvantaged" communities in the project area. CEJST-identified "disadvantaged" communities are shaded dark grey in the map. The white flags to the west of the Pearl River represent, from north to south, Eubanks Creek, Town Creek and Lynch Creek, where "burdened" communities that frequently experience flash flooding events will be provided no Alternative C flood risk management.



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Figure 5 Justice 40 tracts November 2022 overlay

Any analysis of alternatives for the Pearl River FRM project must include an evaluation of impacts on the communities living along the numerous tributaries that run through the City of Jackson. The proposed elevation of the water that would be pooled at the new project weir is 258', 8 feet higher than the water level of the current weir at Jackson Waterworks (250'). The

new impoundment water level of 258' could impact the current tributary flow rates as the storm drain runoff is slowed down by the backed-up tributaries. The 2018 DEIS lacked detailed information regarding Alternative C's impacts on tributary flooding. Considering river flooding alone does not adequately address the Pearl River Basin as a whole and would disenfranchise a large population of Jackson residents currently experiencing annual flooding to their homes, schools, and businesses from overwhelmed tributary channels. Due to the deterioration of century-old sewer infrastructure, this stormwater typically contains raw sewage and other contaminants. Town and Lynch Creek tributaries run through Jackson Wards 3 and 5 which, according to data from the EPA EJScreen tool, are in the nation's 95-100th percentile for a combination of percent low-income and percent minority population. Alternative C would provide no flood risk management for those communities. President Biden's Executive Order 14008, Section 219 states that "Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts." Executive Order 14008 also created the Justice40 Initiative which states that 40 percent of the benefits from infrastructure investments should "flow to disadvantaged communities". We urge the USACE to consider the multiple social, health, climate, environmental, employment and educational "burdens" currently experienced by communities in the Pearl River FRM project area. Alternative C does nothing to address the "burdened" communities living along the tributaries and at the southern end of the Pearl River FRM project area and disproportionately prioritizes flood risk management to "unburdened" communities.

- **Hazardous waste sites on City of Jackson property:** The 2018 DEIS's cost projections oversimplify and undercut the expense of removing the hazardous waste sites, creosote slough, and landfills along the river. The 2018 DEIS states that the environmental impacts associated with their removal could include, "the temporary addition of large additions of sediment to the Pearl River, the release or exacerbation of current releases of leachate and/or solid and hazardous substances to the groundwater and/or surface water..." (AllenES Environmental Evaluation of Hazardous, Toxic and Radiological Waste (HTRW) Sites, Sept 2014, page 14). The 2018 DEIS does not adequately detail the remediation efforts that will be required at each of the 3 main HTRW locations during removal. The 2018 DEIS also does not provide documentation to validate the \$8 million cost estimate for "landfill removal". A more detailed study of the HTRW sites must be conducted to determine the exact monetary costs for removal. The project proponents should be required to conduct detailed soil, ground, and surface water testing at each HTRW site and to develop a detailed project plan for the removal of the HTRW contaminants in compliance with appropriate regulations. The 2018 Final Independent External Peer Review comment of "High Significance" states that "The three HTRW sites identified in the Draft FS/EIS are not sufficiently characterized to determine the adverse impacts on the Pearl River and on the overall project cost." Alternative C cannot be adequately considered as an alternative until each of the 3 HTRW sites has been evaluated for cost and impacts to downstream and local communities both during construction and afterward.

- **Flood plain development:** The One Lake project would bulldoze riverside forests, dredge, and dig 25 million cubic yards of riverbanks to elevate 1861 acres and prepare them for lakeshore development. These wetlands along the river provide vital ecosystem services such as natural flood protections for our community, groundwater replenishment, water purification and pollutant removal, and natural erosion control. This plan goes against the national trend of dam removal and wetlands protection. The 2018 DEIS, Appendix B, page 25 states, "There will be land available on both Hinds County and Rankin County sides of the expanded Pearl River banks. The elevations of these lands will be greater than the 0.2 percent chance exceedance and therefore, out of the flood plain." The DEIS does not adequately address the potential impacts of climate change on the current FEMA flood maps and discounts the hazards of increased floodplain development.
- **Water quality degradation:** Trapped pollution in a wider, slower lake will cause greater water quality degradation than if the discharges are diluted and flushed through the system by a faster-flowing river. The 2018 DEIS (PDF page 173) states that, "Alternative C is expected to result in indirect moderate long-term beneficial impacts to low water due to changes in hydrology from future development and the resulting increased runoff from developed impervious surfaces." Increased runoff from impervious surfaces should not be listed as a flood control benefit. In addition to the water quantity issues posed by more impervious surfaces, increased urban runoff from new development will also have a negative impact on water quality. For example, the 2018 DEIS Appendix D: Environmental Water Quality, page 133, states, "Water quality data collected from the project reach in July 2014 indicates that a localized storm over the area (i.e., Jackson Metropolitan area) could result in low dissolved oxygen water entering the Pearl River and temporarily depressing dissolved oxygen levels upstream of the existing low-level weir before upstream dilution water returns dissolved oxygen to pre-storm levels. Without improvements to minimize the impacts of urban runoff, similar conditions could occur with the implementation of Alternative C." The 2018 DEIS does not adequately address the water quality impairments that will occur in a slow-moving lake with a larger surface area impacted by increased contaminants from urban runoff.
- **Loss to public lands:** A significant section of LeFleur's Bluff State Park, Jackson's equivalent to NYC's Central Park, would be permanently underwater, according to the Alternative C map published in the 2018 DEIS. The 2018 DEIS fails to account for the socioeconomic losses that would be incurred by the destruction of a portion of LeFleur's Bluff State Park recreational resource. The 2018 DEIS also fails to account for the potential land loss and bank sloughing along the MDOT mitigation bank at the Fannye Cook Natural Area.
- **Ross Barnett Reservoir coordination and low flow compliance:** The discharge permits for the already beleaguered Savannah Street Sewage Treatment Plant rely on stable, freshwater flow from the Pearl. The present low flow "floor" is 227 cubic feet/sec (cfs) which ensures Savannah Street an adequate dilution as required by their NPDES discharge permit. A presentation to the

LA Senate by Dr. deEtte Smythe, Regulatory Manager, St. Tammany Parish, revealed that this critical low flow has been violated 1613 times since 1960 or 7.7% of individual daily observations.[1] Since these low readings take place in the low flow months of June-October, these occurrences are significant. How the Ross Barnett Reservoir releases will coordinate with a new lake impoundment has not been determined. Constructing another lake with no currently defined low-flow requirement would complicate this existing problem. The 2018 DEIS did not stipulate what governing body and regulations will be used to ensure flow coordination between the Ross Barnett Reservoir and the new impoundment created by Alternative C. The USACE must engage with Pearl River Valley Water Supply District regarding how Alternative C could complicate their operations during both high and low-flow scenarios.

- **Loss of critical wetlands and bottomland hardwoods:** Less than 25% of the pre-Columbian bottomland hardwood forests remain in the southeastern United States.[2] The bottomland hardwood forest habitat along the Pearl River in the project area has already been decimated by previous river channelization efforts. The 2018 DEIS, Appendix D: Site Description of the Project Area, page 20: "This former bottomland hardwood forest ecosystem was once a functioning and sustainable habitat. However, increasing human encroachment and disturbances have degraded the area to its current condition." "These habitats are believed to perform functions vital to the prominent streams, including water control and purification, groundwater recharge, soil enrichment, and erosion control." 2018 DEIS, Appendix D: Wetland Delineation and Determination, page 11: Alternative C habitat loss would total 2,848 acres to include 1,017.221 acres of forested wetlands, 266.120 acres of scrub-shrub wetlands, 65.128 acres of emergent wetlands and 150.125 acres cypress/tupelo slough. This is an unacceptable level of vital habitat loss. Restoration of this section of the Pearl River should be prioritized over more destruction.
- **Deficiency in endangered and threatened species studies:** The DEIS does not sufficiently address the project impact to several rare, threatened and endangered species:
 - Pearl darter (*Percina aurora*) is listed as threatened under the Endangered Species Act due to its extirpation in the Pearl River drainage. In May 2023, USFWS designated a section of the Strong River in the Pearl River watershed as critical habitat for the Pearl darter. In June 2023, USFWS published a Recovery Plan that includes the reintroduction of the Pearl darter to the Pearl River watershed. The plan also includes monitoring, surveying, and researching of the species with the goal of long-term survival in both the Pascagoula and Pearl River system.
 - Frecklebelly madtom (*Noturus munitus*) is a candidate species for federal protection.¹ This species requires a riverine habitat with gravel shoals free of sedimentation. DEIS,

¹ Bennett, Micah G., et al. "Status of the Imperiled Frecklebelly Madtom, *Noturus Munitus* (Siluriformes: Ictaluridae): A Review of Data from Field Surveys, Museum Records, and the Literature." *Southeastern Naturalist*, vol. 7, no. 3, 2008, pp. 459–474. *JSTOR*, [JSTOR](https://www.jstor.org/stable/20204015), www.jstor.org/stable/20204015.

Appendix D, page 3 states, "Though it is thought that the Frecklebelly madtom occurred throughout the Pearl River Basin historically, more recent survey information indicates that the population no longer exists in the main channel of the Pearl." Current studies being conducted by Matt Wagner, Conservation Resource Biologist, State Ichthyologist/Curator of Fishes, MS Museum of Natural Science indicate that this species is prevalent in the main stem of the Pearl River. Further evaluation should be taken to determine impact to this species.

- Gulf sturgeon (*Acipenser oxyrinchus desotoi*) is listed on both the federal and state threatened species lists. This species conducts anadromous migrations that will be impacted by further impoundments on the Pearl River. Current USFWS project discussions underway to remove the sills at Poole's Bluff will allow for increased Gulf sturgeon migration upriver to the project area. Recent research by the University of Southern Mississippi showed that radio tagged sturgeon have been recorded since 2018 swimming past monitoring receivers in LeFleur's Bluff State Park, upstream of the weir at the JH Fewell drinking water treatment plant.
- Ringed map turtle (*Graptemys oculifera*) is listed as threatened under the Endangered Species Act. According to FWS, "if the proposed reservoir is completed, it would likely result in the extirpation of the known ringed map turtle population (south of the current reservoir)"². Recent survey data from Dr. Will Selman indicates that "ringed sawbacks can occur in great abundance along the One Lake Project Area and recruitment/reproduction are better in this stretch than what has been observed in other ringed sawback populations."³ The 2018 IEPR states that "The Draft FS/EIS does not fully describe the direct impacts of the TSP on the ringed sawback (map) turtle, a Federally listed species."
- **Riverine habitat loss:** The Pearl River Watershed Feasibility Study, Two Lakes Flood Control Plan, Aquatic Evaluation 2006 completed by the ERDC Environmental Laboratory staff was utilized as a part of the updated Habitat Evaluation Procedures analysis for the 2018 DEIS. Page 513, Abstract of the Aquatic Evaluation 2006 states that "the lake Habitat Suitability Index for facultative riverine species was more than 50% lower than for existing conditions". The 2006 report also "indicates that obligate riverine species will become rare or extirpated from the project area after construction is completed. Habitat Units for the Facultative Riverine guild actually increased post-project but this was due to the increased water surface area of the lake, not increased habitat value. Major biological tradeoffs are evident with riverine species declining and lacustrine species increasing" by converting a river into a lake. The 2006 report

² FWS, Ringed Map Turtle, 5-year review : Summary and evaluation 4 (2010), https://ecos.fws.gov/docs/five_year_review/doc3270.pdf

³ Selman, Will, "Diamonds in the Rough: Status of Two Imperiled *Graptemys* species (*Graptemys oculifera* and *G. pearlensis* in the Pearl River of Jackson, MS", 31 July 2018

also discusses several Mitigation requirements (reconnecting secondary channels, reconnecting or managing water levels of backwaters, protection/creation of gravel bars, and construction of in-lake wires to constrict flow and increase velocity).

Despite referencing the 2006 report, the 2018 DEIS determines that a compensation analysis would be required for terrestrial habitats only. The riverine mitigation requirements mentioned in the 2006 report are not discussed at all in the 2018 DEIS. Since the project would destroy approximately 250 acres of riverine habitat, the 2018 DEIS compensation analysis must be expanded to include aquatic habitat losses. Further analysis of Alternative C must differentiate between riverine and lacustrine aquatic habitats and must account for the net loss of riverine species.

- **Vague mitigation plans:** The 2018 DEIS, Appendix D: Habitat Evaluation Procedure Report, page 27 delineates 3 different Management Plan scenarios for Alternative C: Acquisition: acquiring existing forestland which can be somewhat related to the preservation of existing habitats (estimates 17,190 acres of existing forestland purchased), Restorative: every existing habitat type within the project area would be restored at some other location in the Pearl River Basin ("would include the restoration of existing agricultural land through conversion to forestland"..."a total of approximately 9,076 acres of restoration of existing agricultural lands") and, Regenerative: only predominant bottomland hardwood forestland would be replaced (5,850 acres of reforestation of existing agricultural lands). The 2018 Independent External Peer Review states that "The Draft FS/EIS does not clearly state whether the mitigation techniques presented are consistent with the current TSP or explain how mitigation would be implemented." Detailed plans for proposed Alternative C mitigation area location and designs and discussion of which Management Plan scenario has been chosen must be provided to inform the cost/benefit analysis for each flood control management alternative. The FCAR states that "Since six of the seven at-risk species are not found north of the Ross Barnett Reservoir, mitigation efforts should be first focused south of the Reservoir if they are to help ensure the conservation of those species."
- **Downstream Impacts:** The DEIS inadequately addresses downstream impacts.
 - The MS Governor's Oyster Council Final Report in June 2015 stated that challenges facing the oyster industry and threats to success include insufficient water quantity and "alterations in the amount and natural fluctuation of freshwater flow". The report Recommendations for Action or Research includes: "discourage freshwater depleting projects and educate decision-makers on impacts of major freshwater depleting projects."⁴
 - Feb. 2018, "Effects of Annual Droughts on Fish Communities in Mississippi Sound Estuaries" states that, " With an increasing human population in central and south

⁴ The Governor's Oyster Council Restoration & Resiliency, Final Report, June 2015

Mississippi, pressure on freshwater resources is likely to increase, resulting in possible changes in the fish community dynamics of the Mississippi Sound.” In addition, (p. 1483) “Anthropogenic impacts such as water withdrawal from surface waters and aquifers as well as impoundments can have a profound effect on coastal regions by disturbing fundamental qualities of estuaries or even exacerbating already naturally occurring processes (Dynesius and Nilsson 1994; Hopkinson and Vallino 1995). In order to manage an estuarine system appropriately, it is important to understand how these systems are affected by natural fluctuations as well as anthropogenic stressors.”⁵

- Over 100 discharge permit holders in Mississippi and Louisiana rely on stable, freshwater flow from the Pearl for adequate dilution and compliance.
- The DEIS does not adequately address the changes to sediment transport that will impact the health of our Gulf Coast estuaries.

Complete modeling of the Pearl River should be conducted before any further modifications to the system. Without concrete data on current flow rates and downstream water quantity and quality requirements, any large-scale impoundment project would be an experiment.

- **Inadequate evaluation of the alternatives:**

- General Accounting Office after-action report from the 1979 flood stated that the main issues were a lack of early planning, Reservoir actions, and an improperly maintained West Bank Levee.⁶ The Drainage District should evaluate enhanced management of the Ross Barnett Reservoir for increased flood control. Improvements to current deteriorating Jackson-area stormwater systems should also be considered.
- The 2018 DEIS Alt B proposes 8 levee systems (NE, LeFleur, I20, South Jackson, Belhaven, Flowood, Fairgrounds, E Jackson) and \$311,609,907 worth of pumping plants. The Aug 2018 USFWS Fish & Wildlife Coordination Act Report questions the need for these expensive pumps. The FWCA Report is critical of Alternative C and suggests that a levee alternative is re-evaluated. The 2020 USACE ATR stated: “the setback levee most likely will be the feature with the greatest (flood) risk reduction” and “it is unclear how construction of the weir and impoundment of water reduces the flood risk to the adjacent communities. The existence of the 1,500 acre lake does not create any additional flood storage capacity or conveyance capacity.”

⁵ Mickle, P.F., Herbig, J.L., Somerset, C.R. et al. *Estuaries and Coasts* (2018) 41: 1475.

<https://doi.org/10.1007/s12237-017-0364-5>

⁶ Report by the Comptroller General of the United States, “Improvements being made in flood fighting capabilities in the Jackson, Mississippi area”, Dec 18, 1979

Pearl Riverkeeper urges the USACE to reject the NFI-preferred project, Alternative C, in favor of a less environmentally destructive alternative that doesn't threaten the integrity of the Pearl River and the local and downstream communities that rely on it. The USACE should develop a hybrid flood risk management alternative that combines river and floodplain restoration, levee setbacks, elevations, and voluntary relocations. During project development, the USACE should view the Pearl River Basin holistically and strive to provide flood risk management that is targeted to the most threatened communities while also protecting the people and wildlife along the entire length of the river.

Sincerely,

A handwritten signature in black ink that reads "Abby Braman". The signature is written in a cursive, flowing style.

Abby Braman
Executive Director, Pearl Riverkeeper