

1 Introduced June 26, 2018 by Councilman
2 Cusimano

3 **RESOLUTION R18-09**
4

5 A resolution in opposition to the proposed Pearl River Dam/Lake Project in
6 Jackson, Mississippi.

7 WHEREAS, the Rankin Hinds Flood Control District and the Pearl River
8 Vision Foundation are exploring the possibility of building a 1500 acre lake on the Pearl
9 River in Jackson, Mississippi; and
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12 WHEREAS, the construction of a dam would significantly reduce the rate of
13 flow and the amount of water coming downstream in the Pearl River; and
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15 WHEREAS, the reduced flow of water would be responsible for lowering the
16 water oxygen content thereby starving both the Pearl River and the Honey Island Swamp
17 estuaries; and
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20 WHEREAS, the reduced flow of water would lower the water table of the
21 Honey Island Swamp which would have a negative impact on water plants; and
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23 WHEREAS, the reduced flow of water and lowering of the oxygen content
24 would jeopardize three threatened species of wildlife: the ringed saw-back turtle, the Gull
25 sturgeon and the inflated heel splitter mussel; and
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28 WHEREAS, the reduced flow of water would affect the salinity levels in the
29 Mississippi Sound and would adversely affect oyster populations and both Louisiana and
30 Mississippi fishing industries; and
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33 WHEREAS, the reduced flow of water and lowering of the oxygen content
34 would jeopardize the efforts to preserve the natural beauty of the entire Pearl River Basin,
35 the Pearl River Wildlife Management Area and the Honey Island Swamp; and
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2 **RESOLUTION R18-09**
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4 WHEREAS, the reduction in flow of the Pearl River would adversely affect the
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6 Swamp Tour industry in the State of Louisiana; and

7 WHEREAS, the creation of the dam/lake would erase 1500 acres of wetlands
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9 that provide natural flood control and more than 1500 acres of forest; and

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11 WHEREAS, the additional reductions in the flow of the Pearl River during the
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13 summer months may further impact the river's larger ecosystem.

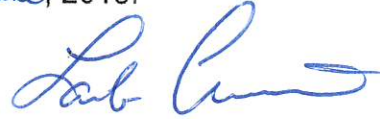
14 NOW THEREFORE BE IT RESOLVED by the Slidell City Council that it does
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16 hereby oppose the proposed plan to dam the Pearl River at Jackson, Mississippi because
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18 of the detrimental effects it will have to down river local ecology and economic
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20 development.

21 BE IT FURTHER RESOLVED that a copy of this resolution will be provided to
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23 the following officials and authorities as evidenced of this City's opposition to the proposed
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25 plan:

- 26 Governor of the State of Louisiana
- 27 Governor of the State of Mississippi
- 28 Army Corps of Engineers – Vicksburg District
- 29 U.S. Department of Fish and Wildlife
- 30 U.S. Environmental Protection Agency
- 31 Rankin Hinds Pearl River Flood and Drainage Control District
- 32 Louisiana Department of Environmental Quality
- 33 Louisiana Department of Natural Resources
- 34 Louisiana Department of Wildlife and Fisheries
- 35 Louisiana Department of Wildlife and Fisheries – Scenic Streams System
- 36 Coordinator
- 37 Federal and State Legislators
- 38
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2 RESOLUTION R18-09
3 PAGE 3
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5 ADOPTED this 26th day of June, 2018.
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8 Landon Cusimano
9 President of the Council
10 Councilman-at-Large

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12 Thomas P. Reeves
13 Council Administrator
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JACKSON'S ONE LAKE PROJECT ON THE PEARL RIVER: A THREAT TO WETLANDS, WILDLIFE HABITAT, INDUSTRIES AND THE COASTAL ZONE IN BOTH LOUISIANA AND MISSISSIPPI.

The Big Picture: The Pearl River's main asset for the La. and Miss. coastal zone is fresh water flow

- The Pearl River provides the fourth largest freshwater discharge to the Gulf, east of the mouth of the Mississippi River. The Pearl's drainage basin is larger than L. Pontchartrain's watershed.
- Pearl River flow helps balance salinities for healthy and productive oyster reefs and marshes from the western Mississippi Sound through Lake Borgne to the eastern limit of Lake Pontchartrain, including the Biloxi Marsh complex of St. Bernard Parish.

Existing disruption to the Pearl River from damming and sills

- The Ross Barnett Reservoir north of Jackson Ms. was completed in 1963 with an earthen dam impounding 32,000 acres of water for recreation, drinking and industrial water for Jackson Mississippi. Annual low flow periods are already severe below this dam in both La. and Ms.
- Below Bogalusa, Louisiana, cross-channel concrete sills and barge locks were constructed to operate the now decommissioned Pearl River Navigation Canal.
- The 2016 Congressional Water Resources Development Act (WRDA) decommissioned the sills/locks and started the process of transferring ownership to the State of Louisiana.

New threats to the Pearl River: "One Lake" flood control alternative in Jackson, Ms.

- "One Lake" plan is the Rankin-Hinds Pearl River Flood and Drainage Control District's preferred alternative to flood control, dismissing less disruptive options such as levee improvements, channel modification and clearing, and nonstructural options (flood-plain buyouts).
- Lake construction would mean dredging to widen the Pearl, impounding 1 500 water acres with a new weir or low-head dam, and filling 1 000 acres of wetlands. This would remove 7 miles of habitat for two federally protected species: Gulf sturgeon, and Ringed sawback turtle.
- Evaporative losses from the project's lake surface have been estimated by St. Tammany Parish engineers at 90 cubic feet per second (cfs) of river flow, negatively impacting water levels in the lower Pearl, and salinities in the estuary, affecting wildlife habitat and shallow water wells.





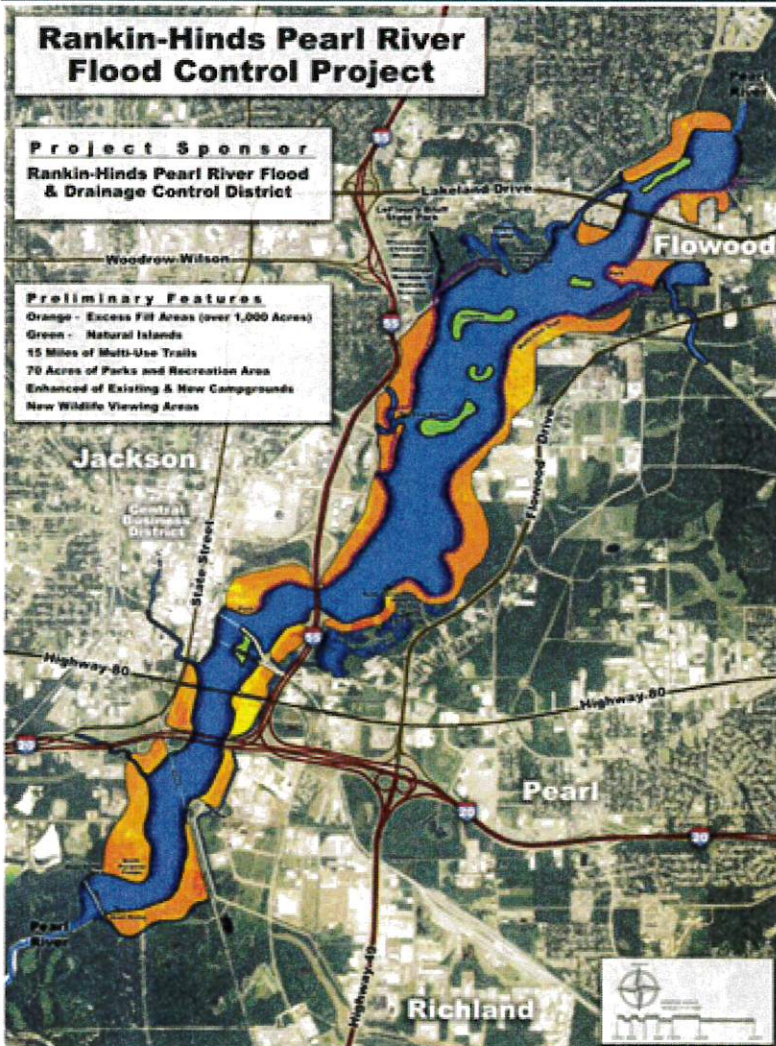
Photo Credit: Bonnie Schumaker, On Wings of Care

The Pearl is a “working river” with 106 permitted discharges in Louisiana and Mississippi

- There are currently 98 permitted municipal or industrial discharge permits affecting the Pearl in Mississippi below Jackson, and another 8 in Louisiana. Dilution depends on adequate flow.
- The section of the river from Jackson to Monticello, Ms. is impaired due to unhealthy levels of dissolved nitrogen and phosphorous compounds mostly from Jackson’s sewage.

Restoration efforts along the Pearl River would be hurt by flow reductions from more damming

- Ongoing restoration includes marsh, shoreline and oyster-bottom restoration, including the \$50 million BP Oil Spill Heron Bay NRDA project in Hancock County, Ms. at the river’s mouth.
- Other oil-spill restoration funding is also providing flow studies for the Pearl River and salinity profiling in the nearby Miss. Sound, and plans for upstream sill removal in Louisiana.
- The Pearl River’s fresh water is critical to the success of ALL these restoration projects.



Actions by agencies and stakeholders concerned about more dams on the Pearl River

- The St. Tammany Parish Council passed a resolution in 2013 against the dam project in Jackson, citing water stress from lake evaporation and worsening low flow as threats to the lower river’s ecology.
- The Mississippi Commission on Marine Resources passed a resolution against damming the Pearl in 2015. The main concern is the threat to oyster restoration and oyster harvest.
- The Mississippi Governor’s Oyster Council 2015 final report recognized the threat to oyster recovery from upstream freshwater depleting projects. A new Pearl dam is such a project.
- The Louisiana Oyster Task Force, an industry group sponsored by the Louisiana Department of Wildlife and Fisheries, asked Louisiana’s Department of Natural Resources to review and reject this project to dam the Pearl due to damage to the coastal zone.
- Both LDWF and the state’s Coastal Protection and Restoration Authority were critical of this project in their 2013 scoping comments.
- A resolution against this project is pending from Washington Parish Government.



PEARL RIVER LOUISIANA AND MISSISSIPPI

THREAT: Further Damming/Lake Creation/Cumulative Adverse Wetland and Habitat Impacts

AT RISK: Riverine wetlands; portions of LeFleur's Bluff State Park; in-stream habitat for Threatened Gulf sturgeon, other fishes, and for Threatened Ringed sawback turtle; downstream water quantity; fresh water supply and flow timing to coastal estuaries and marshes; coastal fisheries and oyster restoration.

SUMMARY

The Pearl River drains Central Mississippi and empties into the Mississippi Sound at Lake Borgne. Louisiana and Mississippi coastal wetlands and fisheries depend on adequate discharge from the Pearl. The Barnett Dam (1963), provides water supply and a recreation lake just north of Jackson, Ms. Dam operation has degraded downstream reaches, disrupting flow and channel stability. A new Pearl River flood control dam is proposed in Jackson below the Barnett Reservoir. This disguised economic development project for Jackson will further disrupt flow and worsen evaporative loss. Interests downstream oppose further fragmentation of the Pearl that threatens flow and habitat integrity.

THE RIVER

The Pearl River ranks fourth in freshwater discharge among the rivers draining the Eastern Gulf of Mexico; after the Mobile, Apalachicola and Pascagoula river systems. The Pearl River drainage basin is 41% larger than the combined drainage areas of the four combined major Pontchartrain basin rivers to the west. Estuaries in Louisiana and Mississippi at the Pearl's mouth are highly influenced by the river's fresh water discharge. Productive oyster reefs in the Mississippi Sound and in Louisiana's Biloxi marshes need the salinity moderation it provides. The marshes and oyster reefs in these areas in Louisiana and Mississippi took a direct hit from Hurricane Katrina and sustained considerable damage then, and again during the BP oil disaster. Oyster reef restoration projects near the mouth of the Pearl River are ongoing in both states. Metropolitan Jackson, Mississippi uses the Pearl River for drinking water.

The Pearl River has 110 species of freshwater and diadromous fish including three species of special concern: Gulf sturgeon, Pearl darter, and Frecklebelly madtom. There are two federally listed threatened species that inhabit the Pearl with critical habitat in the Jackson reach of the river, and are threatened with further impoundment: Gulf sturgeon, and the endemic Ringed sawback turtle, found only in the Pearl. Floodplain forest bottomlands along the Pearl River in Jackson, threatened by this project, include part of LeFleur's Bluff State Park which is designated as an Important Bird Area (IBA) by Audubon Mississippi.

THE THREAT

The Pearl River is threatened by continued damming to build another lake on its main channel. The Ross Barnett Dam (1963) created a 32,000 acre reservoir for drinking water and recreation north of Jackson Mississippi. Operation of that dam has changed downstream reaches in two ways.

First, banks are unstable, often collapse, and contribute more sediment than the lower river can move efficiently. Second, dam operation coupled with evaporation effects cause water deficits in the lower Pearl system - in Louisiana's Honey Island Swamp, and at the coast. Water releases at the Barnett dam during storms or hurricanes have, at times, added river water to coastal storm surges, exacerbating flooding along

the lower Pearl River. Sea level rise on the coast, coupled with low flows, already cause salt-water intrusion in the lower basin's cypress swamps. Climate change will accelerate this effect. The Rankin-Hinds Pearl River Flood and Drainage Control District is sponsoring a 2015 Environmental Impact Statement (EIS) and feasibility study for a new dam, impounding a 1500-2000 acre in-channel lake 9 miles downstream of the existing Barnett Dam. The Greater Jackson Chamber Partnership and other economic development interests support a new lake and a riverfront for Jackson, Ms. This proposed "lake" is a dredging project to widen, deepen and straighten 7 miles of the river and place a low-head dam or weir at the downstream end. The resulting increased channel conveyance in this section is a flood control strategy advertised to decrease flood elevation in urban Jackson. Areas immediately downstream of this new dam will feel the effects of faster flows through Jackson and have been predicted to need levee improvements if a lake is built. More bank collapse, sedimentation and channel shoaling are certain to follow, and added evaporation will place a strain on adequate discharge during dry periods. Further changes to the amount and timing of fresh water discharge threaten coastal fisheries, especially the oyster industry. The Pearl River needs comprehensive restoration, not more dam projects.



Lefleurs Swamp Trail. Photo: GRN.

WHAT MUST BE DONE

When the EIS and feasibility study for the new lake are published in 2016, individuals, NGO groups, commercial and recreational fishing interests, and state agencies in Mississippi and Louisiana must participate in public meetings and be prepared to submit actionable comments to the sponsoring Rankin Hinds Drainage District and to the Vicksburg Corps of Engineers that make it clear that another lake on the Pearl River is not acceptable. The Assistant Secretary of the Army for Civil Works in Washington D.C. must be convinced that she should encourage another type of flood control project here. Already, one Louisiana Parish (County) and the Mississippi Commission on Marine Resources are on record opposing the project.

FOR MORE INFORMATION:

Andrew Whitehurst, Gulf Restoration Network , (601) 954-7236; Andrew@healthygulf.org

Background Reading in GRN Blogs:

<http://www.healthygulf.org/blog/oysters-rivers-and-state-government-contradictions>

<http://www.healthygulf.org/blog/jackson-ms-pearl-river-lake-project-vision-2022-update>

<http://healthygulf.org/blog/update-jacksons-pearl-river-lake-project>

ONE LAKE: MANY ISSUES DOWN THE PEARL RIVER

Current Threats to the Pearl River

The One Lake plan.

Lake construction in Jackson, Miss., would mean dredging to widen the Pearl, impounding 1500 acres with a weir or low-head dam, and filling in 1000 acres of riparian wetlands.

The One Lake plan is the most environmentally disruptive plan for flood control.

The "One Lake" plan is one alternative to flood control being sponsored by the Rankin Hinds Pearl River Flood Control and Drainage District in Jackson, Miss. The District, in a public/private partnership with the Pearl River Vision Foundation has chosen a lake as a preferred local alternative over other options such as levee improvements, channel modification and clearing, and nonstructural options such as flood-plain buyouts. Its selection as the preferred plan is due, in large part, to opportunities for lakefront development.

One Lake's Impacts to the Pearl River

This would remove 7 miles of habitat for two federally protected species.

Evaporative losses from the project's lake surface have been estimated at the equivalent of 90 cubic feet per second of river flow.

Water levels in the lower Pearl and salinities in the estuary would be affected.

The Pearl River is a "working river". There are currently 98 permitted municipal or industrial discharge permits affecting the Pearl in Mississippi below Jackson, and another 8 in Louisiana. Limiting flow will change the discharge allowances of these permits.

The project's Environmental Impact Statement and engineering studies should be released for public review in 2017 or early 2018. **The study area for the EIS is restricted by federal law to the Metro Jackson vicinity which seems to downplay the significance of downstream and coastal impacts.**

Doubling Down on Limiting Fresh Water Flow

The threat from the One Lake Project is exacerbated by the Ross Barnett Reservoir north of Jackson, Miss. which has been limiting freshwater flow since 1963. This dam impounds 32,000 acres of water for recreation, drinking and industrial water for Jackson Mississippi.



WHAT'S AT RISK

Restoration along the Pearl River

The Pearl River is in need of restoration and has begun to receive it. The decommissioning and eventual removal of the sills and locks below Bogalusa would open more than 100 miles of river to migratory fishes such as Gulf sturgeon. Restoration projects funded by BP oil spill and state budgets are at work in coastal Louisiana and Mississippi. Included is a \$50 million marsh, shoreline and oyster-bottom project just east of the Pearl's mouth in Hancock County Mississippi at Heron Bay. Other oil-spill restoration funding is also providing flow studies for the Pearl River and salinity profiling in the Miss. Sound affected by the Pearl's flow.

River flow is the common factor that ties these projects together. Upstream projects like the "One Lake" that can reduce flow will make ongoing habitat restoration in both Louisiana and Mississippi less likely to succeed.

The Pearl River's Best Asset: Fresh Water Flow to the Coast

The Big Picture: The Pearl River provides the fourth largest freshwater discharge to the Gulf east of the mouth of the Mississippi River. Its flow helps balance salinities for healthy and productive oyster reefs and marshes in the estuary areas stretching from the Mississippi Sound through Lake Borgne to the eastern limit of Lake Pontchartrain, including the Biloxi Marsh complex of St. Bernard Parish, a wide marsh and bay area that is a storm buffer for southeast Louisiana and coastal Hancock County Mississippi. The Pearl's watershed is larger than all of the combined rivers entering the Pontchartrain system in Louisiana's Florida Parishes.

Habitats, Fish and Wildlife

The Pearl is home to 110 species of freshwater and migratory fish. It has three fish species of special concern including the federally listed threatened Gulf sturgeon. The river is home to two endemic turtles: Pearl River Map Turtle and Ringed sawback turtle. The river is designated as critical habitat for the Ringed sawback turtle and the Gulf sturgeon.

The Pearl River provides resting and feeding areas for migratory birds that cross the Gulf of Mexico. Much of the freshwater swamps and bottomland habitats along the lower Pearl, including the Honey Island Swamp, are protected within the boundaries of the Bogue Chitto National Wildlife Refuge (La. & Miss.), Old River (Miss.), Pearl River (La.) wildlife management areas and the Stennis Space Center Buffer Zone (Miss.)

DOWNRIVER CONCERNS GROW

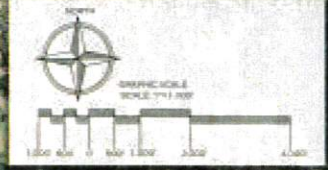
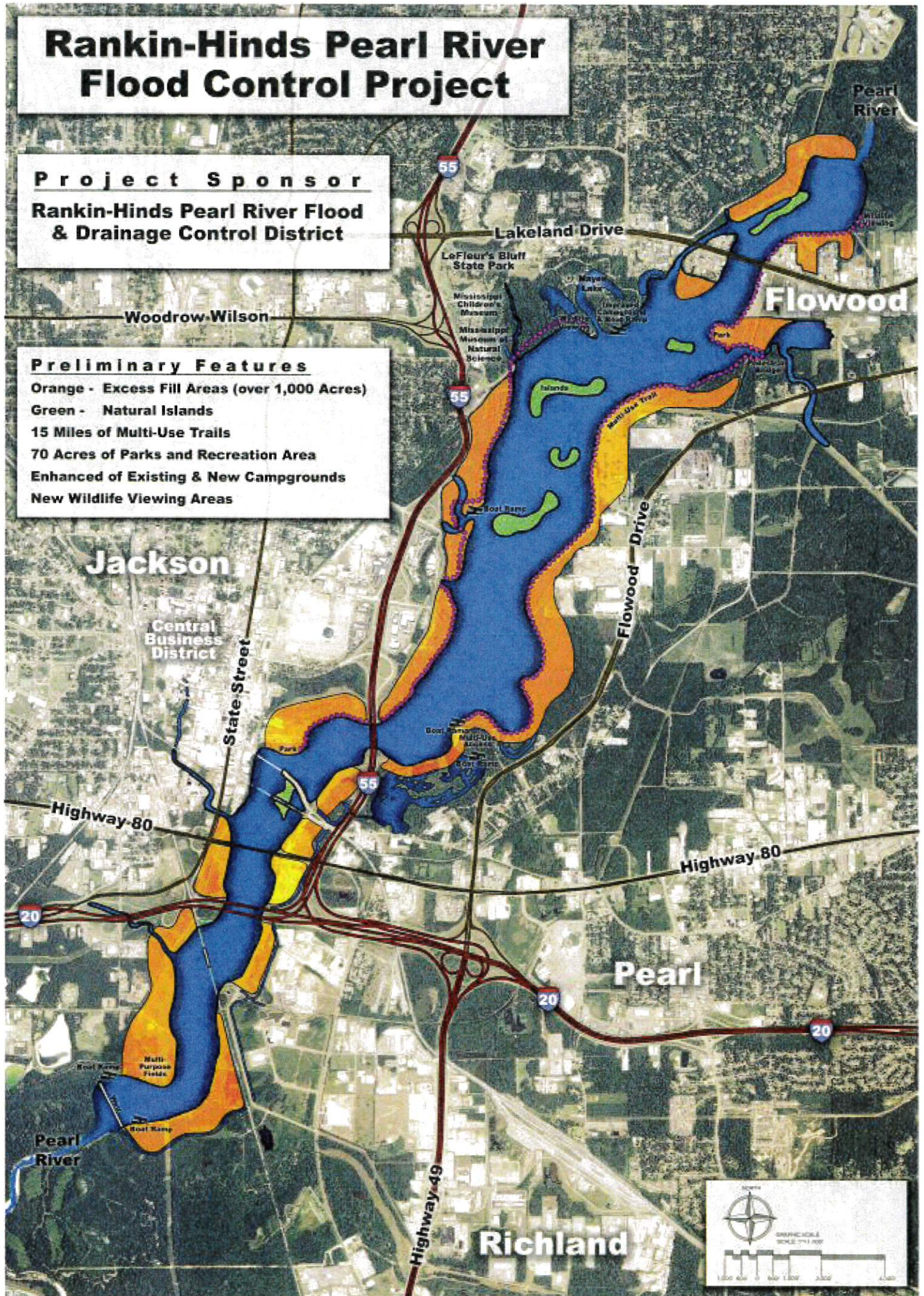
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- The Mississippi Commission on Marine Resources passed a resolution against damming the Pearl in 2015. The main concern is the threat to oyster restoration and oyster harvest.
- The Mississippi Governor's Oyster Task Force 2015 final report recognized the threat to oyster recovery from upstream freshwater depleting projects. A lake and dam is such a project.
- The Louisiana Oyster Task Force, an industry group, asked Louisiana's Department of Natural Resources to review and reject this project to dam the Pearl due to damage to the coastal zone.
- Louisiana Department of Wildlife and Fisheries and the Coastal Protection and Restoration Authority were critical of this project in their 2013 scoping comments.
- The newly commissioned Louisiana Legislative Pearl River Task Force recognizes the threat to flow from more lake and dam creation upstream as one of several problems facing the river.

Rankin-Hinds Pearl River Flood Control Project

Project Sponsor
Rankin-Hinds Pearl River Flood & Drainage Control District

Preliminary Features

- Orange - Excess Fill Areas (over 1,000 Acres)
- Green - Natural Islands
- 15 Miles of Multi-Use Trails
- 70 Acres of Parks and Recreation Area
- Enhanced of Existing & New Campgrounds
- New Wildlife Viewing Areas





ST. TAMMANY PARISH
DEPARTMENT OF ENGINEERING
21490 KOOP DRIVE
P.O. BOX 628
COVINGTON, LA 70434
PHONE: (985) 898-2552 FAX: (985) 867-5110

Pat Brister
Parish President

November 22, 2013

Rankin-Hinds Pearl River Flood & Drainage Control District
P.O. Box 154
Jackson, MS 39205
www.pearlrivervisionms.com
info@pearlrivervisionms.com
bmendrop@mcndrop.net
kturner@watkinseager.com

Gentlemen:

St Tammany Parish wishes to thank you for the opportunity to provide comments to the Draft Feasibility Study and Environmental Impact Statement for the Pearl River Watershed. The Parish has identified the subject study to be of high importance and requests that these comments and your response be placed into the administrative record for the proposed Environmental Impact Study (EIS) as required under the National Environmental Policy Act (NEPA). Detailed review comments follow in the attached document.

Per Public Meetings, the Alternatives to be studied in the EIS include:

1. No Action
 2. Relocation of homes
 3. Levees only
 4. Levees with lake (Pearl River widening and outfall structure)
- ... Or combinations of the above alternatives

St Tammany Parish Council objected by Resolutions (2008 and 2013) to the two separate alternatives representing #3, commonly referred to as, "Two Lakes" and "One Lake" Plans. STP Engineering staff is concerned with consequences from loss of volume and velocity associated with the additional proposed impoundment in the Pearl River headwaters.

The Parish welcomes further review and dialogue with Rankin Hinds Pearl River Flood & Drainage Control District in light of the significant impact the proposed development may have on the lower Pearl River Basin, which is located in St Tammany Parish.

We appreciate your review and consideration of this request.

Sincerely,

Eddie Williams, P.E.
Director of Engineering

cc: Mrs. Patricia Brister, President, St. Tammany Parish
Ms. Gina Campo, Chief Operating Officer, St. Tammany Parish
Mr. David Brunet, Coastal Manager, St. Tammany Parish
Mr. David Doss, State Director, U.S. Senator David Vitter, Louisiana
Ms. deEtte Smyth, Ph D, Regulatory Manager
Mr. Paul Carroll, P.E., Drainage Engineer
Mr. R. Artigue, Council District #13
Mr. G. Bellisario, Council District #9
Mr. J. Bender, Council District #12
Mr. T.J. Smith, Council District #14
Mr. F. Drennan, Mayor, City of Slidell
Mr. James Lavigne, Mayor, Pearl River
Dr. Donna O'Dell, P.E., Director of Engineering, City of Slidell
Mr. K. Turner, J.D., Rankin-Hinds Pearl River Flood & Drainage Control District

Enclosure

St Tammany Parish review comments on the *Draft Feasibility Study and Environmental Impact Statement for the Pearl River Watershed*

Historical Perspective: Development of the Ross Barnett Reservoir

Flow Observations Downstream of the Proposed Lake (St Tammany Parish and Bogalusa, Louisiana)

Construction of the Ross Barnett Reservoir began in 1960 and was completed in 1963. The 33,000 surface acre lake reached average capacity in 1965. Following construction of the Ross Barnett Reservoir near Jackson, MS, historical low flow discharge rates measured at the USGS stream gauge Pearl River @ Bogalusa have decreased from 1100 cfs¹ down to 1020 cfs². It appears that the controlled discharges from the Ross Barnett Reservoir have reduced the historical low flows in the West Pearl River @ Bogalusa.

Further, we calculate that the proposed additional 1500 surface acre impoundment may further reduce the flow by as much as 90 cfs. The West Pearl River in St Tammany Parish already experiences many environmental consequences resulting from reduced flow being released from the Ross Barnett, specifically: Quiescence, eutrophication and rooted macrophyte, shoaling, navigation impediments, saltwater intrusion into the River and shallow drinking water wells, loss of habitat, loss of commercial fisheries and risk from wasteload allocation (WLA) excursions from the International Paper (IP) Mill³ in Bogalusa. All vulnerabilities result from lack of volume and reduced velocity from the headwaters during critical low flow months. Thus, additional headwater reductions are environmentally unacceptable.

Potential Environmental Impacts

Additional development, particularly levees and impoundments, in the Pearl River Watershed upstream of STP could have many Environmental Impacts, including:

- Air Quality
- Aquatic Resources
- Business & Industrial Activity
- Community Cohesion
- Cultural Resources
- Population Growth
- Recreation Resources
- Recreational & Commercial Fisheries
- Socio Economic Questions
- Threatened & Endangered Species
- Water Quality & Quantity
- Wildlife Resources

The Parish will discuss the underlined subjects in more detail, below.

Business & Industrial Activity

Regulatory compliance for the WLA for the International Paper Mill on West Pearl @ Bogalusa is dependent upon a minimum design flow of 1400 cfs at that location. During the excursion (black liquor release) in August 2011, the critical low flow was historical at 1160 cfs. This reduction in flow (coupled with permit exceedences resulted in egregious damage to 60 miles of the Lower West Pearl River.

¹ 1100 cfs (instantaneous, 9/15/1954 pre-construction and 1580 cfs, 9/15/1954 10th percentile for this date 1938-2012)

² 1020 cfs (instantaneous, 10/29/1964 post-construction and 1230 cfs, 10/29/1964 10th percentile this date 1938-2012)

³ Minimum Design Flow W. Pear River @ Bogalusa for the IP Mill WLA is 1400 cfs

Population Growth

Apparently the minimum flowrate for discharges released from the Ross Barnett Reservoir is based upon regulatory compliance to accommodate the Wasteload Allocation (WLA) for Jackson, MS Wastewater Treatment Plant (WWTP). Is there a growth factor built into this release?

Recreation Resources

Boating for recreation and navigation are currently compromised due to increased siltation, debris accumulation and rooted macrophyte establishment from quiescence due to lack of flow & velocity during critical low flow events.

Threatened & Endangered Species

The Louisiana Department of Wildlife and Fisheries will be taking over the property in and near the Pearl River owned by the USACE in the near future and restoring habitat for Sturgeon and other endangered species with projects such as removing weirs. The primary intent is to restore Sturgeon spawning grounds and population in the Pearl River up to the Ross Barnett Reservoir. The hope is to eliminate the endangered / threatened status of this fish. Any project done downstream of the Ross Barnett Reservoir needs to address this habitat and spawning need. There doesn't appear to be any research to support the idea of Sturgeon being able to use devices like fish ladders.

Water Quality & Quantity

The evapo-transpiration losses due to this project need to be determined. The current 1500 surface acre "Levee with Lake" proposal can lose as much as about 90 cfs due to evaporation depending on air and water temperatures. A geotechnical investigation will also be needed to determine what the gain or loss will be due to groundwater effects. This loss will result in an increased minimum discharge of the Ross Barnett Reservoir in order to maintain adequate flows during low flow events.

Currently the Pearl River and its distributaries are suffering from inadequate low flow that is impacting water quality, discharge limits for effluent dischargers such as International Paper, recreation due to shallow draft limitations, fish populations, aesthetics impacting swamp tours given in St. Tammany Parish, and saltwater intrusion into the lower portion of the river. Since 2006, the Louisiana Coastal Protection and Restoration Authority and the US Geological Survey (USGS) have developed and maintain a Coastwide Reference Monitoring System (CRMS) for wetland restoration efforts. The site houses monitoring datasets of hydro geomorphological parameters that characterize coastal habitats in Louisiana. Some of the parameters that are monitored include: water level, soil porewater salinity, percent organic content and surface elevation/accretion. There are three CRMS sites in the vicinity of the coastal Pearl River. All indicate increased saline concentration in porewater, perhaps attributable to less fresh water down the Pearl River. The site link is presented here: <http://www.lacoast.gov/crms2/Home.aspx>.

Private drinking water wells in STP were inventoried in 2011; there were determined to be 105 wells within ¼ mile of the West Pearl River in STP that are registered with Louisiana Department of Natural Resources; many of which are considered to be shallow (<75' deep). These shallow wells are extremely vulnerable to saltwater intrusion. With increased population pressure in the Pearl River Basin, the cone of depression will draw more saltwater up into the wells. With less fresh water available, the number of well failures is expected to become substantial.

Existing environmental impacts due to the Ross Barnett Reservoir are causing significant environmental impacts due to reduction to low flow. The proposed additional lake will exacerbate this problem unless the Ross Barnett Reservoir operation is modified. While this is being looked at, we would like the Ross Barnett operations plan to be reviewed to see if additional low flow could be maintained when needed to address the environmental impacts in Louisiana resulting from low flow.

The Pearl River in Louisiana is considered to be a national treasure is designated by LDEQ as an Outstanding Natural Resource Water (ONRW) and by LDWF as a Scenic Stream and is subject to higher WQ standards.

Lake Pontchartrain that will verify the WLA for the IP Mill at Bogalusa. The TMDL was completed in early 2013, but has not yet been made public

Modeling

Modeling and CI Flow with the Naval Research Laboratory

The current proposal includes a reduction of flooding in Jackson due to lowering the tailwater condition, thereby speeding up flows. This increase in flow due to loss of floodplain storage needs to be mitigated by the volume of storage created downstream. An unsteady model showing both maximum flooding and duration of flooding needs to be run downstream to the mouth of the river. In Louisiana, both flood height and duration cause issues on a yearly basis during high flow events.

St. Tammany Parish, NOAA, and the Naval Research Lab are collaborating on the creation of a model of the Pearl River south of Bogalusa to the mouth and into Lake Borgne in order to improve weather forecasting. When this model is complete, it may be of use in the EIS being prepared for this project.

Study Boundary Conditions

The proposed study area needs to be revised to include the entire watershed from the Ross Barnett Reservoir to the mouth of the river.

STP recommends that the RH... work with the NRL to expand the northern boundary (grid and modeling capabilities) to produce a defensible, robust model of the current conditions and projections of the Alternatives Analyses.

Proposed "Levees with Lake Alternative"

As discussed in the November 20, 2013 Public Meeting, there are other project Alternatives that should be considered. The current "Levees with Lake" proposal does not appear to be optimized for environmental impacts or financial cost. The project which would be anticipated to have the least environmental impact and financial cost would be a modification to the operation of the existing Ross Barnett Reservoir. This reservoir appears to have the storage capacity to handle local water needs while additionally serving at least a limited flood protection role. The next least damaging impact would be to excavate only to an elevation which would be dry in low flow to minimize increases in evaporative and groundwater losses. The land which is lowered could even be replanted as wetlands to minimize local environmental impacts. This should be a lower cost option with similar benefits to the proposed project. A levees only option should not be considered due to increases in downstream flooding.