



# River Reintroduction into Maurepas Swamp

PO-29



February 2005

---

## ***Project Background***

**I**n early 2001, the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA or Breaux Act) Task Force approved a project that will return a minimum of 1,500 cubic feet/second (cfs) Mississippi River flow to the Maurepas Swamp, restoring swamp hydrology, increasing sediment and nutrient loading, and reinvigorating the Maurepas Swamp. Over 36,000 acres of wetlands will benefit from this re-introduced river flow. The Environmental Protection Agency (EPA) is the lead federal agency for the Maurepas project. The State of Louisiana shares in the cost of all Breaux Act projects, typically at a rate of 15% State to 85% federal. The State partner is the Louisiana Department of Natural Resources (LDNR). With assistance from St James and St John Parishes and LDNR, EPA and the Governor's Office of Coastal Activities have hosted numerous public meetings with community residents and Maurepas Swamp users and stakeholders. Valuable input has been gained during these meetings and has aided in bringing this project to a point where engineering and design are now underway.

---

## ***Hydrodynamic Computer Models:***

**H**ydrodynamic computer models of the residential areas from the Mississippi River to Airline Highway will aid in assessing the impacts to local drainage from the reintroduction channel. URS, an engineering firm under contract to the State of Louisiana, is presently calibrating and verifying the hydraulic computer models. These models will be used to determine where the water will flow once diverted from the Mississippi River. The model will also determine the impacts the reintroduction will have on local drainage. In summary the bathymetric or hydraulic portions of the survey, along with the number of ridges/structures and short-circuit flow patterns discovered in the swamp area, required a much more detailed two dimensional (2D) grid or surface and a two dimensional computer model to ensure detailed and accurate results. The 2D model is now being run on a 16-computer cluster to capture

all of the necessary detail. This additional detail has lengthened the schedule beyond what was originally anticipated, but the computer simulations should provide more detailed and accurate results that will move the reintroduction project forward. The model will also be able to provide analysis far into the future that can be used for preserving and restoring this precious resource within the River Parishes.

A meeting will be held later this year to present the findings and to discuss the project with the public.

Chris Williams, LDNR, (225) 342-7549;  
[chrisw@dnr.state.la.us](mailto:chrisw@dnr.state.la.us)

---

## ***LSU Studies of the Maurepas Swamp Recently Completed:***

**R**esearchers at Louisiana State University recently completed studies of hydrology (water movement), water quality, and ecology of the Maurepas Swamps. These studies were continuations of earlier studies conducted in 2000-2001 by this same group of scientists and engineers. Data collected during 2000-2001 reflected the unusual drought conditions during that time, so this latest study (data collected 2002-2003) reflects more typical conditions. The group developed a more sophisticated computer model of hydrology than the one they developed in the earlier studies, which they used to confirm answers to questions posed using the previous hydrology model, and to answer additional questions about the possible effects of reintroduction of Mississippi River water into the swamps. This model reinforced earlier predictions that reintroducing Mississippi River water will reduce salt water intrusion into the swamps, which can kill or weaken the cypress and tupelo trees. The model also reinforced earlier predictions that nutrients in the river water would be almost completely taken up in the swamp before the water reaches Lake Maurepas- in turn, supporting the earlier prediction that reintroduction of Mississippi River water would not cause algal blooms in Lake Maurepas. The researchers also developed a new computer ecological model of the swamp, called SWAMPSUSTAIN. The model estimates the time it will take a reintroduction of Mississippi River water into the swamp to result in target swamp elevations considered necessary for long-term sustainability of the swamp. Remember that swamp elevations are currently very low, so that trees are flooded almost constantly which is very harmful to them, and that the swamp continues to lose elevation due to

subsidence. The model predicts that between 5,000 and 10,000 acres of the Maurepas swamp can be restored to sustainability within 50 years if average yearly diversion discharges greater than 1,000 cubic feet per second are maintained. The computer hydrodynamic modeling and hydrologic data collection done by LSU were conducted primarily to develop techniques for predicting long-term ecological benefits and impacts of the Maurepas reintroduction to the swamp and lake. The URS modeling is being conducted to determine whether the reintroduction would affect local drainage, as well as to verify results of other models regarding where reintroduction water will flow.

---

## ***Environmental Impact Studies Begin:***

**F**ollowing the initial project scoping activities conducted in December 2002 and January 2003, EPA is beginning the preparation of the Environmental Impact Statement (EIS) for the proposed project as required under the National Environmental Policy Act. Currently, studies include an assessment of the possible risk of hazardous materials in the proposed construction corridor, and to a lesser extent, in the entire project area. This work is necessary to ensure that the project would not increase environmental exposures as a result of any hazardous materials, should any of these materials be present within the project area. Also, more comprehensive studies of potential water quality impacts of the proposed reintroduction of Mississippi River water into the Maurepas Swamps are

being started. Private environmental consulting companies under contract to EPA are conducting both of these studies. Shortly, EPA expects to begin other studies required to develop the EIS, as well as to meet requirements under the Endangered Species Act, and the Magnuson-Stevens Fishery Conservation and Management Act, including studies of threatened and endangered species and Essential Fish Habitat. Pamela Mintz, EPA; (214) 665-8334; [mintz.pamela@epa.gov](mailto:mintz.pamela@epa.gov)

---

---

***F*or further information on the status of the Maurepas project, visit the following websites:**

<http://www.epa.gov/earth1r6/6wq/ecopro/em/cwppra/index.htm> or <http://www.lacoast.gov/projects/list.asp>

- Kenneth Teague – Environmental Protection Agency Project Manager; (214) 665-6687  
[teague.kenneth@epa.gov](mailto:teague.kenneth@epa.gov)
- Chris Williams, P.E. – Louisiana Department of Natural Resources Project Manager; (225) 342-7549  
[chrisw@dnr.state.la.us](mailto:chrisw@dnr.state.la.us)
- Pamela Mintz – Environmental Protection Agency NEPA Coordinator; (214) 665-8334  
[mintz.pamela@epa.gov](mailto:mintz.pamela@epa.gov)
- Patty Taylor, P.E. – Environmental Protection Agency Project Engineer; (214) 665-6403  
[taylor.patricia-A@epa.gov](mailto:taylor.patricia-A@epa.gov)