

h. Pontchartrain Basin

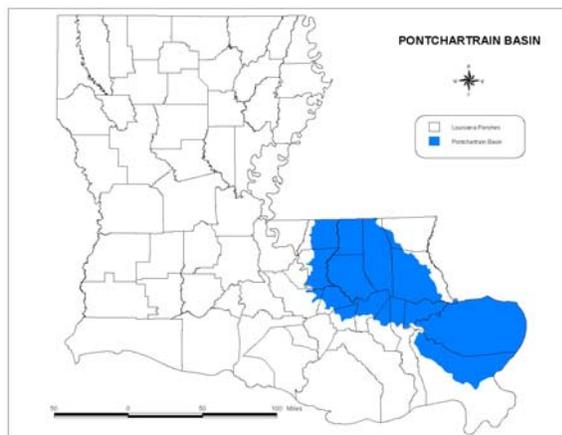
General Description:

The Lake Pontchartrain Basin is a 4,700 square mile watershed in southeast Louisiana and southwest Mississippi. The topography of the basin ranges from more than 300 feet above sea level in the rolling hills along the Louisiana and Mississippi state line to sea level throughout the coastal wetlands to more than 10 feet below sea level in some areas of New Orleans.



Gulf sturgeon

The northern half of the basin is commonly referred to as the Florida Parishes and it contains all or portions of 7 parishes: East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, and Washington. Many rivers drain the Florida Parishes, introducing fresh water into Lakes Maurepas, Pontchartrain and Borgne. The largest of these, the Pearl and Amite Rivers, have headwaters in Mississippi. The rivers of this basin have eroded and incised the uplands to form distinct river valleys. Lakes Maurepas, Pontchartrain and Borgne form a shallow brackish receiving basin for fresh water from the Amite, Tickfaw, Blind, Tangipahoa, Tchefuncte, and Pearl Rivers, as well as Bayou Lacombe and Bayou Bonfouca. Fresh water is also introduced through regional drainage and diversion canals while salt water enters these lakes from the Gulf of Mexico via the Mississippi Sound, Mississippi River Gulf Outlet (MRGO), Chef Pass, and Rigolets Pass. The Mississippi River Deltaic Plain lies to the south of these lakes.



Land use within this basin is varied, ranging from high-density urban areas that drain through metropolitan Baton Rouge and New Orleans drainage canals to rural pastures and dairies in the Florida Parishes. In 1995, the LPBF released a comprehensive management plan for the basin that details management strategies to address sewage and agricultural runoff, stormwater runoff, and saltwater intrusion/wetland loss.

The Pontchartrain Basin, along with the Pearl Basin, contains some of the greatest aquatic species diversity found in the state. There are roughly 109 species of freshwater fishes (W. Kelso, personal communication), 35 species of mussels (Vidrine 1993), and 13

species of crawfish (J. Walls, personal communication) found within the Pontchartrain Basin.

Water Quality:

The 2004 Water Quality Inventory Report (LDEQ 2004) indicated that 37% of the 84 water body subsegments within the basin were fully supporting their three primary designated uses. However, 48% of the subsegments were not supporting their designated use for fish and wildlife propagation. The suspected causes for these water quality problems include: metals, nutrients, benzo(a)pyrene (a polycyclic aromatic hydrocarbon or PAH), fecal coliform, non-native aquatic plants, organic enrichment and low concentration of dissolved oxygen, oil and grease, dissolved and suspended solids, pH levels, sedimentation/siltation, and turbidity. The suspected sources of the water quality problems include: home sewage systems, agriculture (particularly pasturelands), silviculture, urban development, urban storm water runoff, industry, and sand and gravel mining.

PONTCHARTRAIN BASIN SPECIES OF CONSERVATION CONCERN (19)		
CRUSTACEANS	River Redhorse	Alabama Hickorynut
Ribbon Crawfish	Broadstripe Topminnow	Mississippi Pigtoe
Plain Brown Crawfish	Gulf Logperch	Inflated Heelsplitter
Flatwoods Digger		Southern Rainbow
	MUSSELS	REPTILES
FRESHWATER FISH	Rayed Creekshell	Alligator Snapping Turtle
Gulf Sturgeon	Elephant-Ear	Mississippi Diamond-backed Terrapin
Paddlefish	Southern Pocketbook	
Flagfin Shiner	Southern Hickorynut	

Priority Species Research and Survey Needs:

Mussels: Surveys are needed to update historic records and develop new baseline data on current species population distributions and abundance.

Alligator Snapping Turtle: Baseline mark-release data were obtained during the late 1990s. New surveys are needed to obtain population trend data for this species.

Species Conservation Strategies:

1. Implement species conservation strategies detailed in the LPBF plan (Maygarden et al. 2004).
2. Mussels:
 - Inflated Heelsplitter: Work with sand and gravel interests to restore and maintain habitat within the Amite River.
 - Implement conservation and management strategies from SWG project T10 upon completion.

Threats Affecting Basin:

The following table illustrates the threats identified for the Pontchartrain Basin and the sources of these threats. This represents all threats and sources of threats identified for this basin.

Source of Threat	Threat						
	Altered Composition/ Structure	Altered Water Quality	Competition for Resources	Habitat Disturbance	Modification of Water Levels; Changes in Natural Flow Patterns	Nutrient Loading	Sedimentation
Channelization of rivers or streams	XXX	XXX		XXX	XXX		XXX
Construction of ditches, drainage or diversion systems	XXX	XXX		XXX	XXX		XXX
Conversion to agriculture or other forest types				XXX			
Crop production practices		XXX				XXX	
Development/maintenance of pipelines, roads or utilities				XXX			
Incompatible forestry practices	XXX	XXX		XXX			XXX
Invasive/alien species			XXX				
Livestock production practices						XXX	
Mining practices	XXX	XXX		XXX	XXX		XXX
Operation of dams or reservoirs	XXX	XXX			XXX		XXX
Operation of drainage or diversion systems		XXX		XXX	XXX		XXX
Recreational use/vehicles		XXX					XXX
Residential development		XXX				XXX	XXX
Shoreline stabilization				XXX			

Basin Conservation Strategies:

1. Develop a comprehensive stream survey methodology for the Pontchartrain Basin.
2. Develop partnerships with regulatory agencies to share data on habitat threats and to ensure compliance of existing regulations.
3. Work with LPBF and NRCS to promote conservation efforts/water quality/education/etc.
4. Implement habitat conservation strategies presented in LPBF plan.

References:

- LOUISIANA DEPARTMENT ENVIRONMENTAL QUALITY. 2004. Louisiana Water Quality Inventory: Integrated Report. Water Quality Assessment Division, Standards Assessment and Nonpoint Source Section. Baton Rouge, LA. 110 pp.
- MAYGARDEN, D., L. BURCH, L. SMITH, N. MCINNIS, AND R. MARTIN. 2004. Lake Pontchartrain Estuary Conservation Area Plan. The Nature Conservancy. Northshore Field Office. Covington, LA.
- VIDRINE, M. F. 1993. The historical distribution of freshwater mussels in Louisiana. Gail Q. Vidrine Collectables. Eunice, LA. 225 pp.