

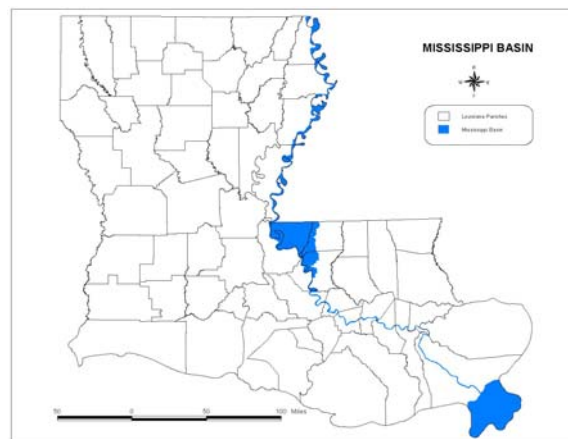
e. Mississippi Basin

General Description:

The portion of the Mississippi River which occurs in Louisiana is part of the Lower Mississippi Drainage Basin which extends from from Cairo, Illinois to Head-of-Passes in the Gulf of Mexico. Within Louisiana, the Mississippi Basin is comprised of the Mississippi river along with West Feliciana Parish, portions of East Feliciana Parish east of Redwood Creek, portions of East Baton Rouge Parish east of the Comite River and the city of Baton Rouge, and the delta. The river is completely leveed on its western side from the Arkansas line to Venice and on its eastern side from Baton Rouge to Venice.



The primary habitat types within the basin are bature lands, bottomland hardwood forests, and sandbars. The basin also contains all of the southern mesophytic forest found in Louisiana. The delta is characterized by river channels with attendant channel banks, natural bayous, and man-made canals which are interspersed with intermediate and fresh marshes.



The Mississippi River contains at least 260 different species of fish which comprises 25% of all fish species in North America (NPS 2004). There are roughly 54 species of freshwater fishes (W. Kelso, personal communication), 3 species of mussels (Vidrine 1993), and 13 species of crawfish (J. Walls, personal communication) found within the Mississippi Basin in Louisiana.

Water Quality:

The 2004 Water Quality Inventory Report (LDEQ 2004) indicated that, of the 17 water body subsegments within the basin, the 3 water body subsegments comprising the Mississippi River from the Arkansas state line to the Head-of-Passes were fully supporting their three primary designated uses, 6 subsegments were partially meeting or not meeting their designated uses, and 8 had insufficient or no data. Of the 10 subsegments for which data was collected, 40% were not supporting their designated use for fish and wildlife propagation. The suspected causes for these water quality problems include: metals, nutrients, polychlorinated biphenyls (PCBs), hexachlorobenzene, fecal

coliform, organic enrichment and low concentration of dissolved oxygen, oil and grease, non-native aquatic plants, and turbidity. The suspected sources of the water quality problems include: home sewage systems, agriculture, silviculture, urban storm water runoff, and dredging.

MISSISSIPPI BASIN SPECIES OF CONSERVATION CONCERN (14)		
CRUSTACEANS	Chub Shiner	MUSSELS
Vernal Crawfish	Bluntnose Shiner	Fat Pocketbook
	Blue Sucker	
FRESHWATER FISH	Gulf Pipefish	REPTILES
Pallid Sturgeon	Rainbow Darter	Alligator Snapping Turtle
Paddlefish	Bigscale Logperch	Ouachita Map Turtle
Central Stoneroller		Mississippi Diamond-backed Terrapin

Priority Species Research and Survey Needs:

Pallid Sturgeon: Conduct research to assess current population abundance and genetic integrity of this species in the lower Mississippi River as recommended in WCRP project R1 (Bart and Rios 2003).

Blue Sucker: Additional surveys are needed, specifically targeting its preferred habitat as recommended in WCRP project R1 (Bart and Rios 2003).

Fat Pocketbook and Vernal Crawfish: Intensive surveys are needed to update current population distribution and abundance of these species in the LNHP database. Research is needed to evaluate current habitat threats and develop management strategies to abate these threats.

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. Turtles: Monitor the effects of the pet trade on population densities and determine the effects of human disturbance on nesting areas. Incorporate current management guidelines (i.e., PARC) and develop new guidelines to address data gaps.
2. Work with landowners to initiate or continue the implementation of conservation plans developed for amphibians and reptiles along with USFWS threatened and endangered species recovery plans over the next 10 years.

Threats Affecting Basin:

The following table illustrates the threats identified for the Mississippi 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	Habitat Disturbance	Modification of Water Levels; Changes in Natural Flow Patterns	Nutrient Loading	Sedimentation	Toxins/ Contaminants
Channelization of rivers or streams	XXX	XXX	XXX	XXX		XXX	
Commercial/industrial development		XXX					XXX
Construction of ditches, drainage or diversion systems	XXX	XXX	XXX	XXX		XXX	
Construction of navigable waterways	XXX	XXX	XXX	XXX		XXX	
Crop production practices		XXX			XXX		XXX
Industrial discharge		XXX					XXX
Invasive/alien species	XXX		XXX				
Livestock production practices		XXX			XXX		
Mining practices	XXX	XXX	XXX			XXX	XXX
Oil or gas drilling	XXX	XXX	XXX			XXX	XXX
Shoreline stabilization	XXX	XXX	XXX	XXX		XXX	

Basin Conservation Strategies:

1. Develop a comprehensive survey methodology for the Mississippi River and its tributaries.
2. Develop partnerships with regulatory agencies to share data on habitat threats and to ensure compliance of existing regulations.
3. Work with LANSTF to identify and address threats related to invasive species.
4. Prepare educational material on importance of access to the Mississippi River.
5. Work with local agencies and the public to develop access to the river.
6. Continue LDWF involvement in the environmental review process of all river related projects. Identify potential impacts and recommend appropriate mitigation.
7. Work with Lower Mississippi River Conservation Committee (LMRCC) on important river issues.

References:

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- NATIONAL PARK SERVICE. 2004. General Information about the Mississippi River. Website. <http://www.nps.gov/miss/features/factoids>.
- VIDRINE, M. F. 1993. The historical distribution of freshwater mussels in Louisiana. Gail Q. Vidrine Collectables. Eunice, LA. 225 pp.