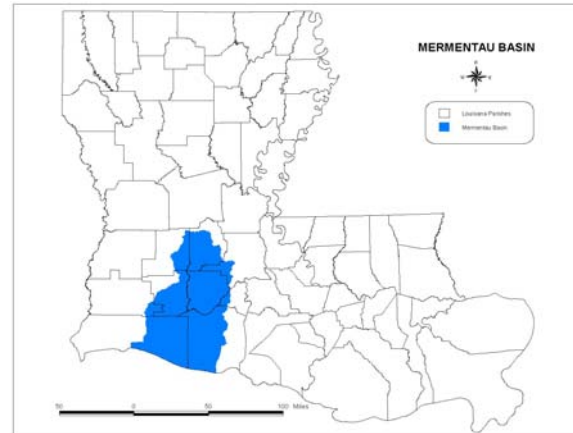


d. Mermentau Basin

General Description:

The Mermentau River Basin is located in the southwestern part of Louisiana and comprises a drainage area of approximately 6,730 square miles. This basin, located between the Teche-Vermilion and Calcasieu river basins, comprises a controlled system for the drainage of Mermentau River and its tributaries. Catfish Point and Schooner Bayou Control Structures and Calcasieu and Leland Bowman Locks control the impoundment of winter runoff for irrigation use in the summertime (COE 1998).



The basin is composed of 3 different and distinctive land forms which are arranged in broad bands from north to south. The northern part of the basin is a flatwoods area which gives way to an undulating landscape extending northward into the drainage basins of the Calcasieu and Red Rivers. To the south of the flatwoods area lies a broad prairie which extends from Bayou Teche on the east to a point near Vinton, Louisiana (located in the Calcasieu Basin) to the west. The prairie is characterized by large expanses of flat grassland dissected by the numerous tributaries of the basin and dotted with “islands” of oak trees and other mixed hardwoods. The prairie, which is extensively cultivated, gives way to a band of marshland which extends from east to west along Louisiana’s entire coastline. The marsh is further subdivided into a fresh water marsh, which borders the prairie to the north, then merges into intermediate and brackish marshes and finally terminating with salt water marsh which forms the coastline adjacent to the Gulf of Mexico and its bays (Domingue, Szabo & Assoc. Inc. 1975).

The lower portion of the basin is bounded on the east by Freshwater Bayou Channel, on the south by the Gulf of Mexico, on the west by Louisiana Highway 27, and on the north by the Gulf Intercoastal Waterway (GIWW). This portion of the basin contains about 450,000 acres of wetlands, consisting of 190,000 acres of fresh marsh, 135,000 acres of intermediate marsh, and 101,000 acres of brackish marsh. A total of 104,380 acres of marsh has converted to open water since 1932, a loss of 19% of the historical wetlands in the basin and represents 9% of wetland loss in Louisiana (LaCoast 2005).

There are roughly 64 species of freshwater fishes (W. Kelso, personal communication), 22 species of mussels (Vidrine 1993), and 13 species of crawfish (J. Walls, personal communication) found within the Mermentau Basin.

Water Quality:

The 2004 Water Quality Inventory Report (LDEQ 2004) indicated that 5% of the 20 water body subsegments within the basin were fully supporting their three primary designated uses. However, of the 20 subsegments, only the Mermentau River from the Catfish Point control structure to the Gulf of Mexico (Estuarine) was fully supporting its designated use for fish and wildlife propagation. The suspected causes for these water quality problems include: metals, nutrients, fecal coliform, organic enrichment and low concentration of dissolved oxygen, pesticides, dissolved and suspended solids, and turbidity. The suspected sources of the water quality problems include: home sewage systems, agriculture, silviculture, urban storm water runoff, and dredging.

MERMENAU BASIN SPECIES OF CONSERVATION CONCERN (5)		
CRUSTACEANS	FRESHWATER FISH	REPTILES
Teche Painted Crawfish Old Prairie Crawfish	Paddlefish	Alligator Snapping Turtle Mississippi Diamond-backed Terrapin

Priority Species Research and Survey Needs:

Paddlefish: Continue with stock assessment surveys.

Crustaceans: Continue surveys to update historic locality records in order to update abundance and distribution data for inclusion in the LNHP database.



Mississippi Diamondback Terrapin: The status of this species is unknown. Endangered Species Act candidate status is pending. Evaluate trawl data from LDWF Marine Fisheries trawl surveys for distribution estimates. Initiate surveys in vicinity of recent trawl captures to assess current population abundance.

Species Conservation Strategies:

1. Sampling is needed to identify trends in the range and abundance of invasive fish species (especially carp). Incorporate recommendations of State Management Plan for Aquatic Invasive Species (LDWF 2004b) to control invasive fish species.
2. Crustaceans:
 - Develop strategies to abate further degradation of streams known to contain populations of crawfish species of conservation concern derived from SWG project T10 (Walls 2003).
 - Continue to monitor known populations through periodic surveys to maintain current database records.

Threats Affecting Basin:

The following table illustrates the threats identified for the Mermentau 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 Fragmentation	Modification of Water Levels; Changes in Natural Flow Patterns	Nutrient Loading	Salinity Alteration	Sedimentation	Toxins/ Contaminants
Channelization of rivers or streams	XXX	XXX	XXX	XXX		XXX	XXX	
Commercial/industrial development	XXX		XXX				XXX	XXX
Construction of ditches, drainage or diversion systems	XXX		XXX	XXX		XXX		
Conversion to agriculture or other forest types		XXX		XXX	XXX		XXX	
Crop production practices	XXX	XXX		XXX	XXX		XXX	XXX
Development/maintenance of pipelines, roads or utilities	XXX	XXX	XXX	XXX	XXX		XXX	
Incompatible forestry practices		XXX					XXX	XXX
Industrial discharge		XXX						XXX
Livestock production practices	XXX	XXX		XXX			XXX	XXX
Operation of drainage or diversion systems	XXX	XXX		XXX	XXX	XXX	XXX	
Residential development	XXX	XXX	XXX	XXX			XXX	XXX

Basin Conservation Strategies:

1. Work with LANSTF to identify and address threats related to invasive species.
2. Develop partnerships with regulatory agencies to share data on habitat threats and to ensure compliance of existing regulations.
3. Partner with federal and state agencies to address water quality issues in the Mermentau Basin (USGS, NRCS, LDEQ, LFA, LSU Ag Extension).
4. Support current initiatives and develop new programs where necessary that help reduce siltation and sedimentation throughout the Mermentau Basin.

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