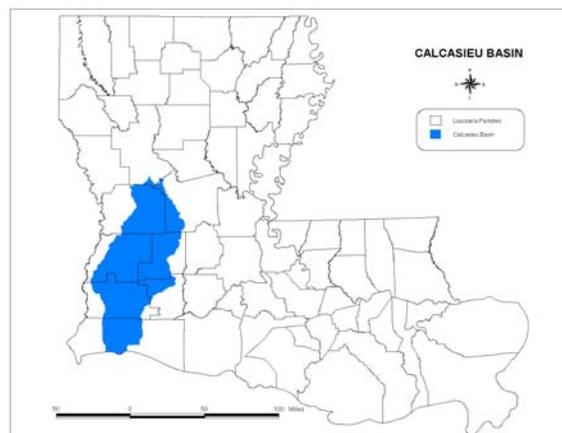


c. Calcasieu Basin

General Description:

The Calcasieu River Basin, located in southwest Louisiana, comprises approximately 4,105 square miles of drainage area and represents 8 percent of the area of the state. Headwaters of the river are found in the hills west of the city of Alexandria. Flow is in a southerly direction for about 215 miles to the Gulf of Mexico where it empties at a point 30 miles east of the Louisiana-Texas state line. From the upland hills with elevations generally being around 260 feet above mean sea level (a maximum of 400 feet



above mean sea level) the river flows through the coastal prairie and coastal marshes, which have an elevation ranging from 1-2 feet above mean sea level. The flood plains are extremely flat with little relief and average 2-3 feet above mean sea level. The river flows through the following lakes: Lake Charles, Prien Lake, Moss Lake and Calcasieu Lake. Dominant features include oxbow lakes, natural levees and the surrounding Pleistocene Uplands (Weston 1974). The city of Lake Charles lies in the southern portion of the basin and this area has been heavily industrialized by petro-chemical plants.

The Calcasieu river varies from a small fast flowing stream in the headwaters to a broad, sluggish estuary from the latitude of Lake Charles to its entrance into the gulf. Flows in the upper basin may range from a high of 180,000 cubic feet per second in the winter and spring to zero during the summer and fall. The lower portion of the river from the city of Lake Charles to the gulf is subject to tidal variation. A semidiurnal tide extends 65 miles upstream and has mean tidal ranges of 1.7 feet at the river mouth and 0.7 foot at Lake Charles. An existing saltwater barrier across the Calcasieu River at Lake Charles divides the upper and lower basins and prevents saltwater intrusion from degrading this major source of irrigation water supply for rice production. Navigation improvements have modified the Calcasieu from its mouth approximately 52.6 river miles inland (Weston 1974).

There are roughly 75 species of freshwater fishes (W. Kelso, personal communication), 30 species of mussels (Vidrine 1993), and 16 species of crawfish (J. Walls, personal communication) found within the Calcasieu Basin.

Water Quality:

The 2004 Water Quality Inventory Report (LDEQ 2004) indicated that 23% of the 39 water body subsegments within the basin were fully supporting their three primary designated uses. However, 71% 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, fecal coliform, organic enrichment and low concentration of dissolved oxygen, 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.

CALCASIEU BASIN SPECIES OF CONSERVATION CONCERN (11)		
CRUSTACEANS	Western Sand Darter	REPTILES
Calcasieu Painted Crawfish	Bigscale Logperch	Alligator Snapping Turtle
Teche Painted Crawfish		Mississippi Diamond-backed Terrapin
Old Prairie Crawfish	MUSSELS	
FRESHWATER FISH	Sandbank Pocketbook	
Paddlefish	Louisiana Pigtoe	
	Southern Creekmussel	

Priority Species Research and Survey Needs:

Fish: Taxonomic inventory of all fish species throughout the entire river basin are needed to determine their current population distributions and abundance.

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



Crustaceans: Continued surveys of historic locality records are needed to update species 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. Identify sites where low head dams are present and evaluate their effects on fish distribution/dispersal patterns. Develop recommendations to improve fish passage through low head dams.
2. 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 2005) to control invasive fish species.

Threats Affecting Basin:

The following table illustrates the threats identified for the Calcasieu 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 Destruction or Conversion	Habitat Fragmentation	Modification of Water Levels; Changes in Natural Flow Patterns	Salinity Alteration	Sedimentation	Toxins/Contaminants	
Channelization of rivers or streams	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Commercial/industrial development	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Construction of ditches, drainage or diversion systems	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Construction of navigable waterways	XXX	XXX		XXX	XXX	XXX	XXX	XXX	
Conversion to agriculture or other forest types							XXX		
Development/maintenance of pipelines, roads or utilities	XXX	XXX		XXX	XXX	XXX	XXX	XXX	
Industrial discharge	XXX	XXX		XXX	XXX	XXX	XXX	XXX	
Operation of drainage or diversion systems	XXX	XXX		XXX	XXX	XXX	XXX	XXX	
Residential development	XXX	XXX		XXX	XXX	XXX	XXX	XXX	

Basin Conservation Strategies:

1. Support current initiatives and develop new programs where necessary that help reduce siltation and sedimentation throughout the Calcasieu Basin.
2. Work with the Louisiana Aquatic Nuisance Species Task Force (LANSTF) to identify and address threats related to invasive species.
3. Develop partnerships with regulatory agencies to share data on habitat threats and to ensure compliance of existing regulations.
4. Develop an internal procedure to distribute information on proposed reservoirs to LDWF fisheries biologists to solicit their input into LDWF comments on these proposed documents.

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