

B. Aquatic Habitats

1. Freshwater Habitats

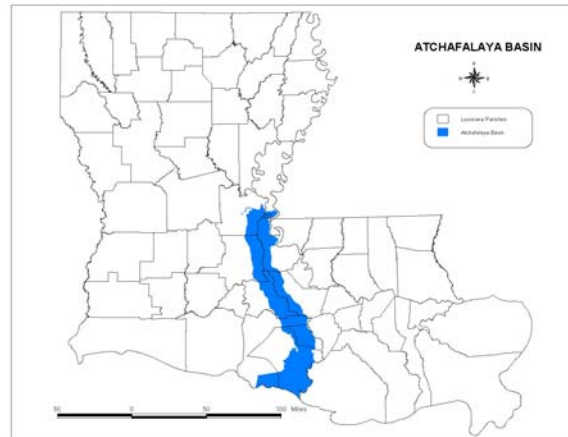
a. Atchafalaya Basin

General Description:

The Atchafalaya Basin, at nearly 1 million acres, is the nation's largest river-swamp system (Demas et al. 2001). Located in south-central Louisiana, the system stretches from the river's origin near Simmesport to its termination into the Atchafalaya Bay. It is contained on its east and west borders by flood protection levees. Water flow into the Atchafalaya Basin is controlled at the Old River control structure. The structure diverts 30% of Mississippi River water down through the Atchafalaya Basin (LDEQ 1993). A unique feature of the Atchafalaya Basin system is that it has one of the last active river deltas in the state (LCWCRTF 1993).



The Atchafalaya Basin has many commercial uses including commercial fishing, trapping, logging, oil and gas production, nature tours, and limited commerce. Recreational activities include fishing, hunting, camping, bird watching, swimming, and boating. Species diversity of the Atchafalaya Basin ecosystem ranges from wild turkeys in the bottomland hardwood forests of Pointe Coupee parish to blue crabs and shrimp in the coastal marshes.



There are roughly 100 species of freshwater fishes (W. Kelso, personal communication), 22 species of mussels (Vidrine 1993), and 10 species of crawfish (J. Walls, personal communication) found within the Atchafalaya Basin.

Water Quality:

The 2004 Water Quality Inventory Report (LDEQ 2004) indicated that 50% of the 12 water body subsegments within the basin were fully supporting their three primary designated uses. However, 50% of the subsegments were not supporting their designated use for fish and wildlife propagation. The suspected causes for these water quality

problems include: fecal coliform, suspended solids, sedimentation/siltation, mercury, turbidity, and low concentration of dissolved oxygen. The suspected sources of the water quality problems include: crop production, petroleum activities, channelization, dredging, industrial point sources, waste storage/tank leaks, and spills.

ATCHAFALAYA BASIN SPECIES OF CONSERVATION CONCERN (9)	
FRESHWATER FISH	REPTILES
Pallid Sturgeon	Alligator Snapping Turtle
Paddlefish	Ouachita Map Turtle
Bluehead Shiner	Mississippi Diamond-backed Terrapin
Blue Sucker	
Gulf Pipefish	
Western Sand Darter	

Priority Species Research and Survey Needs:

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

Fish: Taxonomic inventory of all fish species throughout the entire river basin are needed to determine their current 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. Develop "white paper" on issues associated with Old River control structure as it affects on pallid sturgeon and address these issues with the COE.

Threats Affecting Basin:

The following table illustrates the threats identified for the Atchafalaya 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 Destruction or Conversion	Habitat Disturbance	Habitat Fragmentation	Modification of water levels; changes in natural flow patterns	Nutrient Loading	Sedimentation
Channelization of rivers or streams	XXX	XXX		XXX	XXX	XXX	XXX	XXX	XXX
Construction of navigable waterways	XXX	XXX		XXX	XXX	XXX	XXX	XXX	XXX
Dam construction	XXX			XXX			XXX		
Invasive/alien species	XXX		XXX	XXX			XXX		
Levee or dike construction	XXX	XXX		XXX		XXX	XXX	XXX	XXX
Oil or gas drilling					XXX		XXX		
Operation of dams or reservoirs	XXX			XXX			XXX	XXX	XXX
Shoreline stabilization	XXX			XXX			XXX	XXX	XXX

Basin Conservation Strategies:

1. Promote oil spill prevention (Spill Prevention Control, SPC) regulations and natural resource response mechanisms (Natural Resource Damage Assessments, NRDA).
2. Promote the use of BMP’s for water runoff. Promote enforcement of sanitary regulations.
3. Promote methods to restore historical flow regimes within the Atchafalaya Basin.
4. Monitor nutrient inputs/water quality (utilize existing data, USGS stations).
5. Support research efforts.
6. Prepare educational material on potential impacts of invasive species in the Atchafalaya Basin.
7. Coordinate with Atchafalaya Basin Program (LDNR) and BTNEP to abate a multitude of threats to this basin.

References:

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