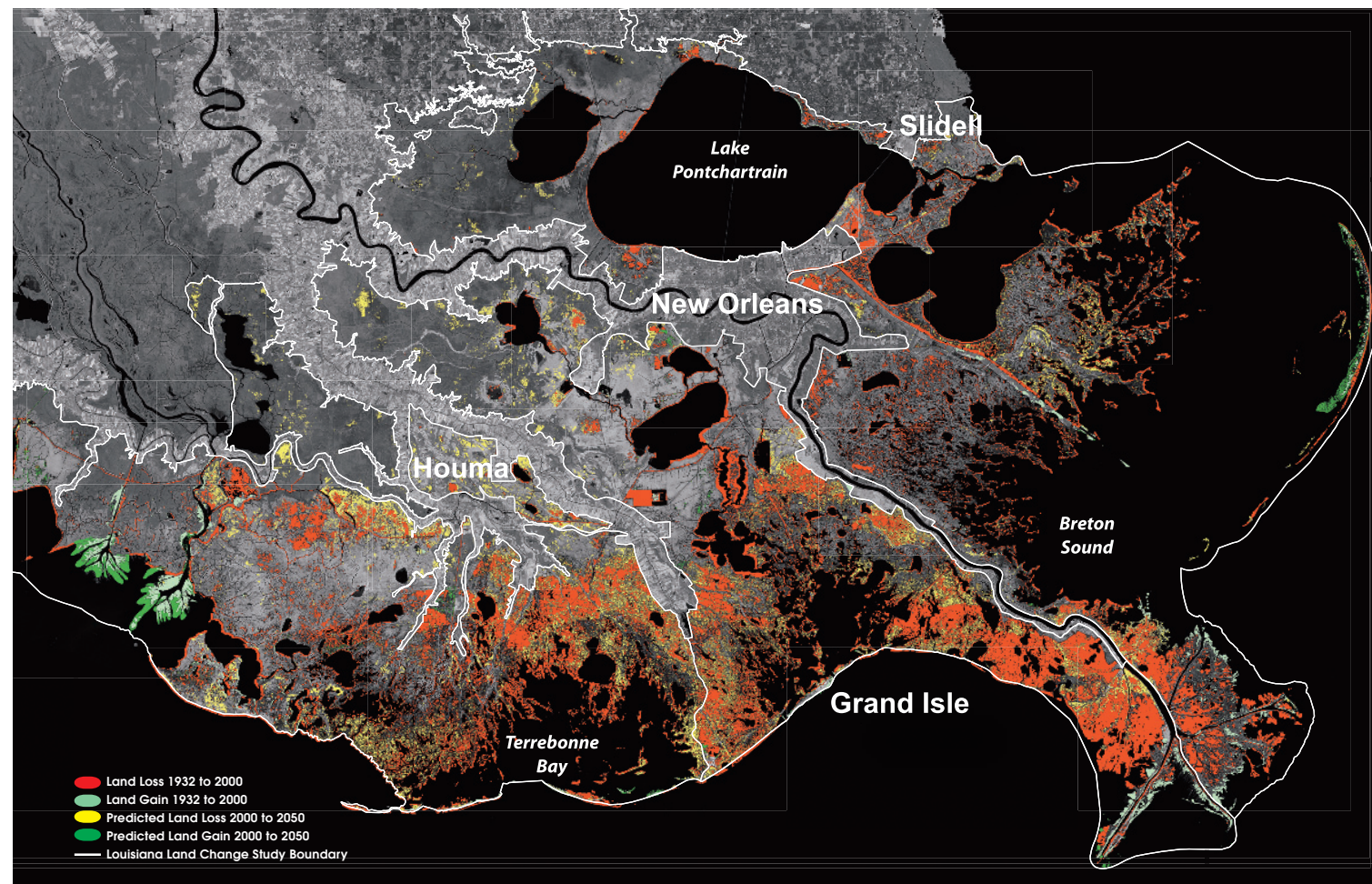


# Louisiana's Biggest Environmental Problem



Fall 1999 Landsat Thematic Mapper Satellite Image  
Map prepared by the U.S. Geological Survey, National Wetlands Research Center

As all who are familiar with coastal Louisiana know, we are on the losing end in our efforts to combat coastal wetland loss. This is evident to any fishermen - both recreational and commercial, hunters, bird watchers, beach combers, and especially those folks who live close to the coast. And it is easily made evident to anyone who views and understands this map.

Recent efforts have been completed to assess the magnitude of coastal land loss in Louisiana. Based on the available information, Louisiana has lost an estimated 1,900 square miles of coastal land between 1932 and 2000, roughly an area the size of the state of Delaware. Additionally, the best scientific estimates that are presented in the Louisiana Coastal Area (LCA) Land Loss Report indicate that the Louisiana coast will lose an additional 700 square miles by the year 2050.

The area currently undergoing the greatest wetland loss is the Barataria and Terrebonne basins - the area essentially between the Atchafalaya and Mississippi rivers. From 1956 to 1978, Barataria-Terrebonne accounted for 43 percent of Louisiana's coastal wetland loss. From 1978 to 1990, this area experienced 61 percent of the state's loss and from 1990 to 2000, it was 66 percent. The LCA report predicts the area's percentage of loss to be as much as 80 percent from 2000 to 2050 if no new restoration occurs. If these predictions are correct, this means that the Barataria-Terrebonne area would lose an additional 560 square miles of coastal habitats.

These coastal habitats are economically, ecologically, and culturally important not only to the residents who reside here and the folks who visit, but they are also valuable to the Nation. If these losses continue, the impacts on human populations, oil and gas infrastructure, fisheries and the seafood industry, and wildlife will be unimaginable.

It is your responsibility to educate yourself about these issues and inform your elected officials about your thoughts. Many informative products have been developed that address Louisiana's biggest environmental problem, including brochures, reports, videos, maps, cd's, etc. For more information or to find out how to receive these products, visit these Web sites:

[www.lacoast.gov](http://www.lacoast.gov) • [www.savelawetlands.org](http://www.savelawetlands.org)

[www.btnep.org](http://www.btnep.org) • [www.crcl.org](http://www.crcl.org)

[www.estuaries.org](http://www.estuaries.org) • [www.americaswetland.com](http://www.americaswetland.com)



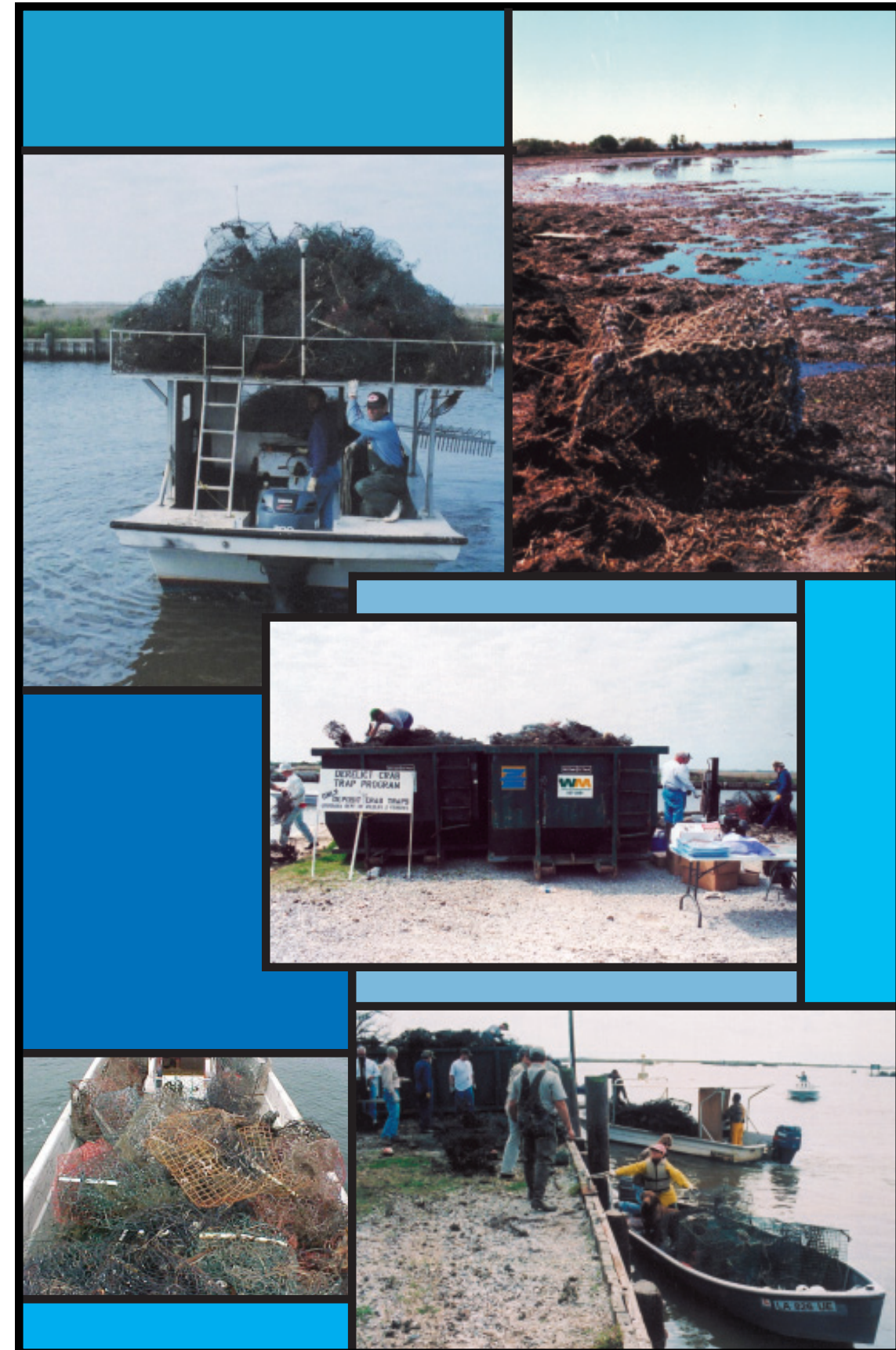
# Derelict Crab Trap Removal Program

Last year at this time, the Louisiana Department of Wildlife and Fisheries and partner organizations initiated the Derelict Crab Trap Removal Program at several locations across the Louisiana coast. In its first year, the program met with resounding success.

The cleanup in upper Terrebonne Bay from February 28 through March 14, 2004 saw participation from varied interest groups all eager to participate.

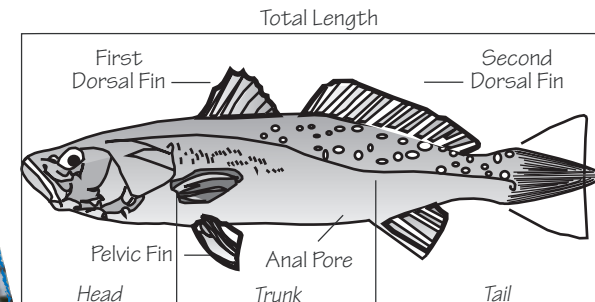
**In that 15-day period, a total of 6,676 derelict crab traps were retrieved and brought to disposal sites.** Approximately 245 volunteers contributed 1,311 man-hours of effort. The volunteer effort, which involved many individuals, organizations, institutions, and governmental entities, was a truly cooperative effort because commercial fishermen, recreational fishermen, and representatives of conservation and environmental groups all worked together.

Another trap cleanup is planned in the Terrebonne Bay estuary south of Cocodrie during 2005. Volunteers are again needed to retrieve traps and to assist at the disposal site. Details about the program will be provided on the Derelict Crab Trap web site ([www.blue-crab.net/derelcit.html](http://www.blue-crab.net/derelcit.html)). Call Vince Guillory (985-594-4139) if you would like additional information or to volunteer.





# Recreational Size & Limits



Fork Length (FL): Tip of snout to fork of tail  
Total Length (TL): Tip of snout to tip of tail

## FRESHWATER SPECIES

## SIZE LIMIT

## DAILY LIMIT

Black Bass (Largemouth)	None	10
Atchafalaya Basin and Lake Verret-Palourde Area	14" Minimum (TL)	10
Crappie (Sac-a-lait)	None	50
Striped or Hybrid Striped Bass	None: 2 over 30" (TL)	5
White Bass	None	50
Yellow Bass	None	50
Channel Catfish	25 less than 11" (TL)	100 Total
Blue Catfish	25 less than 12" (TL)	100 Total
Flathead, Spotted, Yellow or Opelousas Catfish	25 less than 14" (TL)	100 Total
Freshwater Drum (Gaspargou)	25 less than 12" (TL)	No Limit over 12"

## SALTWATER SPECIES

## SIZE LIMIT

## DAILY LIMIT

Speckled Trout	12" Minimum (TL)	25
Red Fish	16" Minimum (TL), one over 27"	5
Black Drum	16" Minimum (TL), one over 27"	5
Southern Flounder	None	10
Amberjack	State & Federal Reg. 28" Min. (FL)	1
Cobia (Ling or Lemon Fish)	State & Federal Reg. 33" Min. (FL)	2
King Mackerel	State & Federal Reg. 24" Min. (FL)	2
Spanish Mackerel	State & Federal Reg. 12" Min. (FL)	15
Red Snapper	State & Federal Reg. 16" Min. (TL)	4

## 2005 BTNEP GUIDE TO LOUISIANA FISHING

This is not a comprehensive or official copy of the laws in effect and should not be utilized as such. Only selective species regulations are presented. Contact the Louisiana Department of Wildlife and Fisheries (LDWF) for specific information.

\*For Red Drum (Redfish) and Spotted Seatrout (Speckled Trout): Recreational saltwater anglers may possess a two day bag limit on land; however no person shall be in possession of over the daily bag limit in any one day or while fishing on the water, unless that recreational saltwater angler is aboard a trawler engaged in commercial fishing for a consecutive period of longer than 25 hours.

\*\*There are specific regulations for Red Snapper and Shark. Contact the LDWF for more information.

FORK LENGTH (FL): Tip of snout to fork of tail. TOTAL LENGTH (TL): Tip of snout to tip of tail.

The development of this product was supported by LUMCON and LDWF

FRESHWATER SPECIES	SIZE LIMIT	DAILY LIMIT
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Atchafalaya Basin and Lake Verret-Palourde Area	14" Minimum (TL)	10
Crappie (Sac-a-lait)	None	50
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www.btneq.org

Illustration courtesy of  
Florida Fish and Wildlife Commission  
and artist Diane Penick.





# Keep it 'above board'

Each person's  
small efforts  
add up to a  
**BIG DIFFERENCE**  
for fish habitat!



Recycle used oil and filters,  
batteries and antifreeze;

Keep trash from blowing overboard;  
Use shore based restrooms and  
pumpout facilities;

Use oil absorbent materials in  
your bilge and for spill cleanup;

Keep detergents and bilge  
cleansers out of the water;

Whenever possible, do repairs  
and painting away from the water;

Avoid boating in shallow waters,  
especially those with  
submerged vegetation;

**Please don't throw your trash overboard**  
**It takes a long time for trash to "disappear" from the deep!**



# Salt Water Misconception



It's a common misconception here in south Louisiana that salt water from the gulf kills salt water vegetation and as a result, leads to coastal wetland loss. Nothing could be further from the truth.

We know that coastal Louisiana is sinking through a complex process called subsidence, where marsh sediments compact and sink under their own weight. Historically, annual floods over the banks of the Mississippi River provided the freshwater and sediment needed to keep these marshes above water. Leveeing the river, which was necessary to protect our communities from the same flooding events, has eliminated these vital inputs. As subsidence continues and the marsh surface is continually flooded, the health of marsh plants is jeopardized. Once an area becomes waterlogged, the soil chemistry changes in ways that stress the plants, eventually killing them. If there is enough sediment and drainage, waterlogging is avoided, and the harmful chemical changes in the soil do not occur. But all too often this process is one way - and that is losing our marsh to shallow open water environments.

Did you know that some species of marsh grasses are so tolerant of salt water that they have been known to live in up to 60 parts per thousand of salinity? This concentration is much higher than that found in Louisiana's coastal marshes

and higher than full strength seawater, which is typically 35 parts per thousand. The most common salt water plant, smooth cordgrass, or oyster grass as it is sometimes called, is very tolerant of high salinity concentrations. Other common species of salt-water vegetation found in Louisiana are similar to smooth cordgrass in their ability to tolerate high salinity concentrations including salt grass and marsh-hay cordgrass.

While salt water has been known to kill freshwater plants like cypress trees, bull tongue, wild celery, and others, these events are typically associated with the construction of navigation channels that allow salt water to travel into the interior coastal wetlands of Louisiana, as a result of hurricane force winds driving salt water high into the estuary, or because of land subsidence that allows salt water to penetrate farther northward. Freshwater vegetation has little tolerance for salt water, and huge areas of bald cypress/water tupelo swamp and freshwater marsh habitats have been severely affected as a result.

Salt water vegetation has adapted to live in the harsh environments of coastal Louisiana. It's not the salt water that kills the plants here in south Louisiana, it is the constant submergence of the root zone that kills plants, i.e. continued subsidence of the land kills plants.



*There's a mission...*



*to increase public awareness of land loss in Louisiana's coastal wetlands*

## The Marsh Mission: 2003 - 2007



### What, where, and who:

This project is an effort to increase public awareness of the alarming, little-known, annual 24 square miles of land loss in Louisiana's coastal wetlands by reporting the precarious condition of this ecosystem, as per observations during a yearlong reconnaissance of all the coastal marshes and swamps that ended in late 2004. It involved over 7,000 miles of travel by waterway on a houseboat and support vessels, highway, and air. The message will continue to be spread nationally through the news media and the project's website (<http://www.marshmission.com/Journal.cfm>), which weekly chronicled and archived the explorers' logbooks and provided an educational segment of wetland information for students of all ages. The project principals with impeccable credentials are C.C. Lockwood, naturalist and wildlife photographer, Rhea Gary, conservationist and wetlands landscape painter, Sue Lockwood, educator, and the most popular member, their dog, Annie the Marsh Mutt.

### Why:

It is hoped that a better informed state and national public will be much more disposed to urge their governmental representatives to respond quickly and effectively to address Louisiana's wetland loss crisis.

### How and when:

Generous financial and/or logistical support has been given by federal and state governmental agencies, private enterprises, and hundreds of concerned private citizens. The national wake-up call through newspapers, magazines, and television will also involve a coffee table art book and a traveling exhibit that will feature project photographs and painting graphics. The book will be published by LSU Press in September 2005. The traveling exhibit will debut in Baton Rouge at the LSU Art Museum on October 8, 2005, and on January 6, 2006, begin a national tour that will end in New Orleans in October 2007.





# Asian Carp Invade BTNEP

Freshwater fishermen in south Louisiana were just starting to get used to seeing wild grass carp, when several additional species started showing up. We now have sizeable populations of grass, bighead and silver carp, and several black carp have also been caught.

All four of these species are native to Asia, and were brought to the U.S. for use in pond fish culture. When a few escaped into waters in the Mississippi valley, it was only a matter of time until they had spread to nearly every water body in that system. They are becoming more and more common in the Mississippi and Atchafalaya Rivers, as well as in most areas that are reached by the floodwaters of those rivers. While none are common in the waters of the BTNEP, it is expected that populations of bighead and silver carp, in particular, will increase.

All four species can get large, with individuals well over 50 pounds in weight. They are undoubtedly displacing our native species of fish to some degree, though no one can tell what the final impacts will be to our aquatic ecosystems. They are a definite problem for commercial fishermen, who find their nets damaged and then often have no buyers for what they land. Boaters have been injured by young silver carp, which have the habit of jumping high out of the water when a boat passes.

So far, few markets are taking these fish, although they are very popular food fish in Asia. All are bony, with the same type of intramuscular bones that are found in buffalo fish. A few have been used for crab and crawfish bait, with widely varying reports on their effectiveness.







## Pointe Aux Chenes Wildlife Management Area

The Pointe Aux Chenes Wildlife Management Area (WMA) is located near the heart of the Barataria-Terrebonne Estuary. This WMA was created in 1968 and contains over 32,000 acres of habitat. The LA Department of Wildlife and Fisheries presently manages two water management units for waterfowl wintering habitat, hunting and other fish and wildlife species. The WMA is a favorite of duck hunters and recreational fishermen. After planning a third water management unit for almost 20 years, construction is now close at hand. The Pointe Aux Chenes Hydrology Restoration Project is being funded through the North American Wetlands Conservation Act with a large match from the Louisiana Department of Natural Resources. Ducks Unlimited is the project sponsor and hopes to start construction this fall. This 4,700-acre unit will be located west of Highway 665, east of the Pointe Farm Ridge and Bayou St. Jean Charles, and north of Island road. In 1956 the area was 99 percent fresh marsh with swamp on the northern end (just south of the town of Pointe Aux Chenes) and had just a few small ponds. By 2000 it was only 36 percent vegetated with high salinity brackish marsh and only dead cypress.

The project calls for a levee along the Bayou St. Jean Charles, two water control structures in this levee and one structure under the bridge on Island road. Freshwater will be pumped into the northern portion of the unit from the forced drainage system for the town of Pointe Aux Chenes. The project objectives are to reestablish emergent vegetation in some of the shallow

deteriorated areas, increase species diversity, and increase submerged aquatic vegetation. This should greatly improve foraging conditions for waterfowl in the form of both emergent and submersed vegetation. Water and salinity level management with periodic draw-downs and maintenance of moderate salinities will accomplish this objective. Over 70 acres of terraces will be built to reduce wind driven turbidity and slow movement of freshwater through the system from north to south. Some of the terraces are being built and planted with funding from the Gulf of Mexico Foundation, and NOAA. The water control structure on the central west side of the unit is designed to insure ingress and egress of marine organisms into the unit. This unit will improve habitat for a wide variety of fish and wildlife once completed. These improvements will require several years after management is initiated.

Partners in this project include Ducks Unlimited, North American Wetlands Conservation Council, Louisiana Department of Natural Resources, Louisiana Department of Wildlife and Fisheries, Terrebonne Parish Consolidated Government, Burlington Resources, Apache Land Corporation, USDA/ Natural Resources Conservation Service and Ducks Unlimited Louisiana PRIDE.



# What's an Estuary?.....

When you mix the fresh water of a river with the salt water of the sea, something wonderful happens...

As if by magic, a life-supporting habitat is created for thousands of species of fish, birds and mammals. It's called an Estuary.

Estuaries are protected bodies of water, often partially enclosed by reefs, barrier islands or fingers of land. They are distinct from all other places on earth. In fact, estuaries are irreplaceable. They are the most productive ecosystems on the planet, containing more life per square inch than the richest farmland or deepest forest.

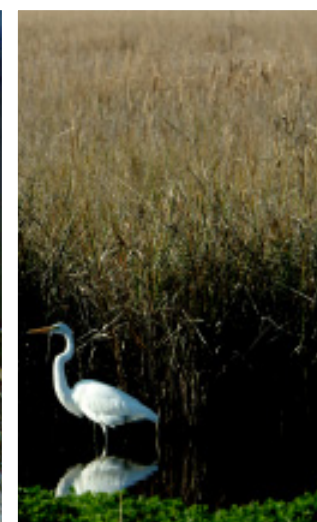
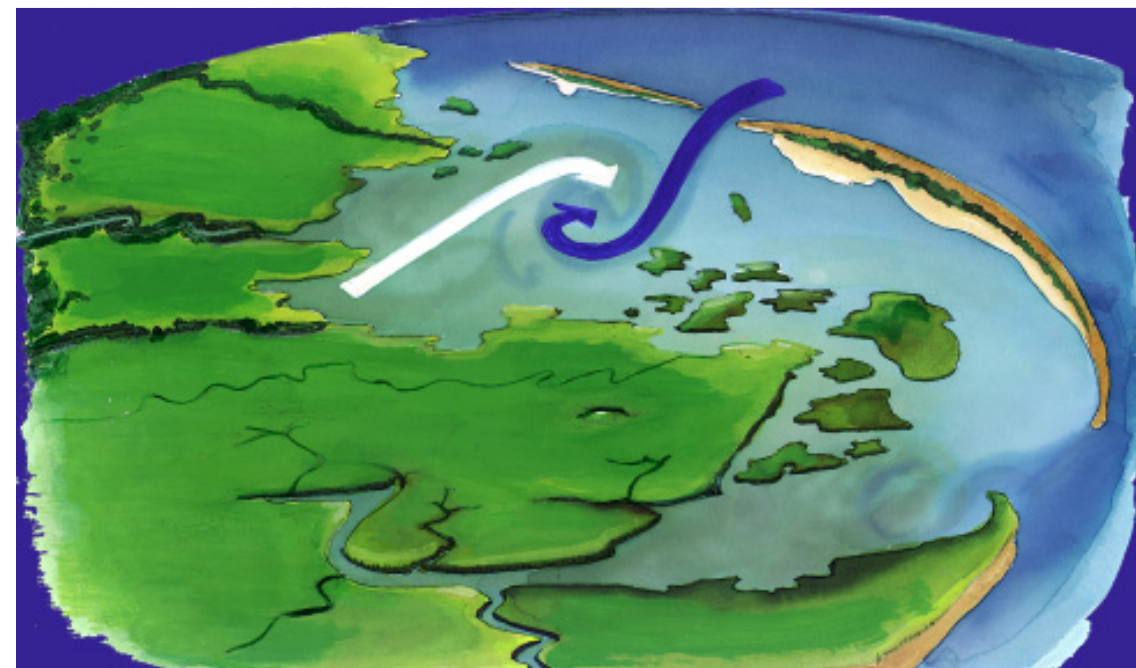
## .....Now you know

Each year, the Environmental Protection Agency and its 28 National Estuary Programs across the country celebrate National Estuary Day on the last Saturday in September. Last year marked the birth of a new national effort aimed at making the word Estuary a household word - like river, ocean or sea. This year marks the beginning of phase two of this national campaign called **"What's an Estuary, Now You Know."**

This phase of the campaign includes public service announcements developed for area radio stations in several formats: rock n' roll, rap and country-western. Listen for the spots on your favorite radio station!

This national campaign is driven by a powerful coalition of partners including the Association of National Estuary Programs (ANEP), United States Environmental Protection Agency (US EPA), National Estuarine Research Reserve Systems (NERRS), National Oceanic & Atmospheric Administration (NOAA), United States Fish & Wildlife Service (US FWS), Restore America's Estuaries (RAE) and Living on the Edge.

To find out more about estuaries and about this national campaign, log on to [www.WhatsAnEstuary.com](http://www.WhatsAnEstuary.com)





# Fish Sampling in Louisiana Lakes



*While you were out fishing for the many fish in Louisiana's waters, did you ever wonder how many fish were in the water around your boat?*



One of the methods occasionally used by the Louisiana Department of Wildlife and Fisheries inland fisheries biologists to look at fish populations in Louisiana waters is called block-off net rotenone sampling. It's easy to explain. A net that surrounds one acre of water from surface to bottom and corrals all of the fish trapped inside is placed in a lake. A chemical called rotenone, derived from the derris root that grows in South America, is pumped into the water inside the net.

The rotenone deprives fish of the ability to utilize oxygen in the water and they begin surfacing in distress. All attempts are made to capture all fish inside the net to be measured and weighed. Fish that are not captured die overnight and the second day pickup makes sure that all of these fish are weighed and measured. Numbers and weights are determined for each species of fish found in the net.

The information collected on fish from both days is combined to determine the number and pounds of fish per acre for that particular sample. Often three or four samples are taken and averaged to define the number and pounds of fish per acre for a particular lake.

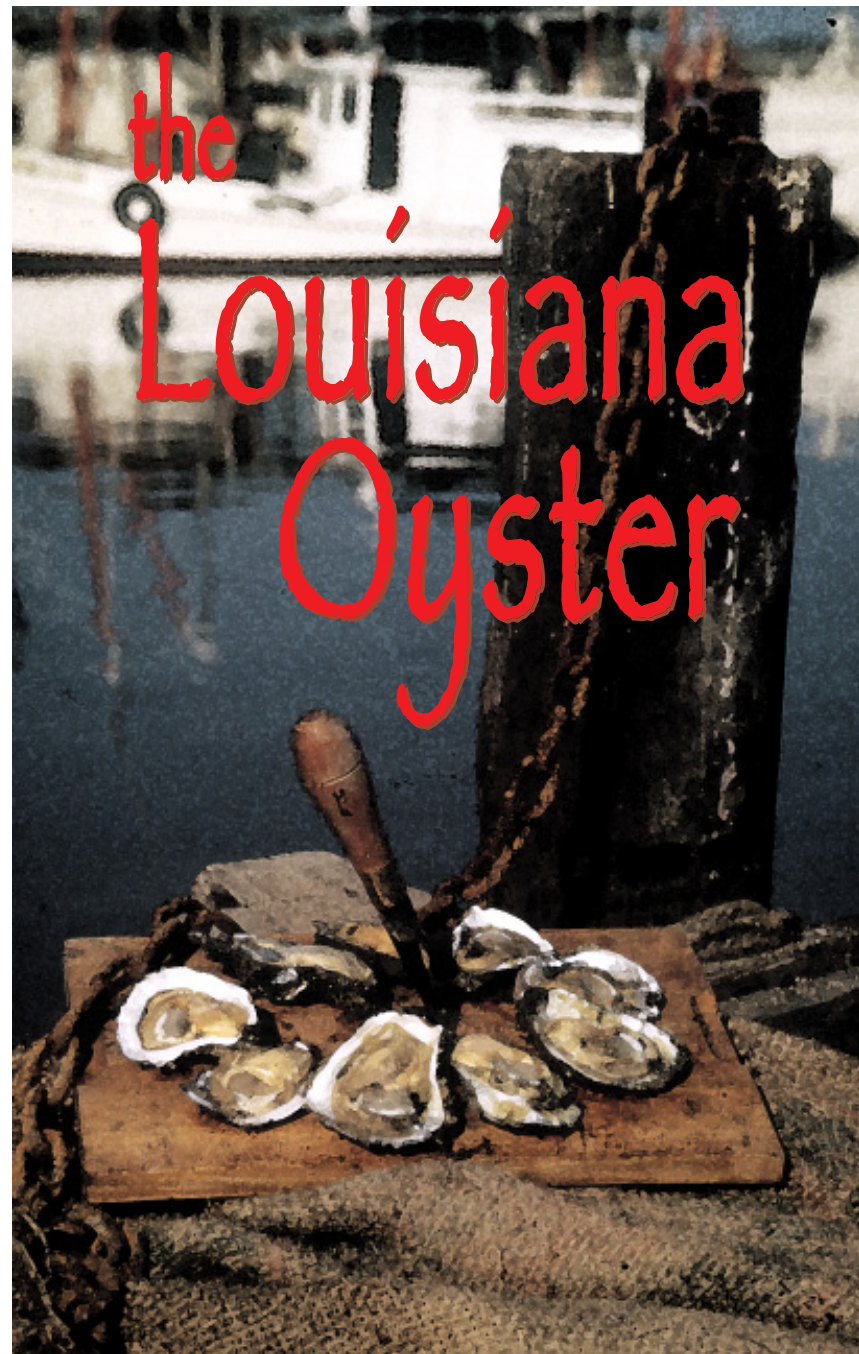
For example, in 2003, rotenone samples in Lake Verret were taken by biologists at four different sites in the lake. The average results for these four sites in Lake Verret were 4,553 fish per acre and 1,275 pounds of fish per acre. These numbers reflect all species and all sizes.

Some of the more abundant species were gizzard shad, threadfin shad, smallmouth buffalo, carp, freshwater drum and channel catfish. Blue catfish, flathead catfish, black crappie and bluegill were well represented in number per acre as well. Various less abundant species of fish included white bass, yellow bass, white crappie, redear sunfish, longear sunfish, warmouth, orangespotted sunfish, yellow bullheads, black bullheads, spotted gar, longnose gar, striped mullet and bigmouth buffalo.

Some species did not produce large numbers of fish per acre but would be considered as present in the ecosystem. These species were ladyfish, Atlantic needlefish, American eel, speckled worm eel, madtoms, skip-jack herring, Mississippi silversides, bay anchovies, hogchokers and the clown goby.

The biologists look at these results and can make comparisons of samples taken for different years in the same lake to draw conclusions about the health of the fish populations in those lakes. Rotenone sampling is only one of the many tools available to Louisiana Inland Fisheries biologists to help them make management decisions concerning the future of fishing in Louisiana's many favorite fishing spots.





### Boo's Oyster Soup

1/2 cup vegetable oil (Mazola)  
 1/2 cup flour  
 2 large onions, finely chopped  
 3 ribs celery, finely chopped  
 3 cloves garlic, finely minced  
 1 large bunch green onions, finely chopped  
 4 dozen oysters and oyster water  
 1 quart whole milk  
 cayenne pepper and black pepper to taste. Salt if necessary  
 1 bunch flat leaf parsley, coarsely chopped  
 2 tablespoons butter

*In medium saucepan, simmer oysters in liquid until edges curl. Be sure to remove foam during cooking. Drain oysters and set aside. Measure oyster water to equal on quart, strain and set aside. Add low sodium chicken broth to equal one quart of liquid if necessary.*

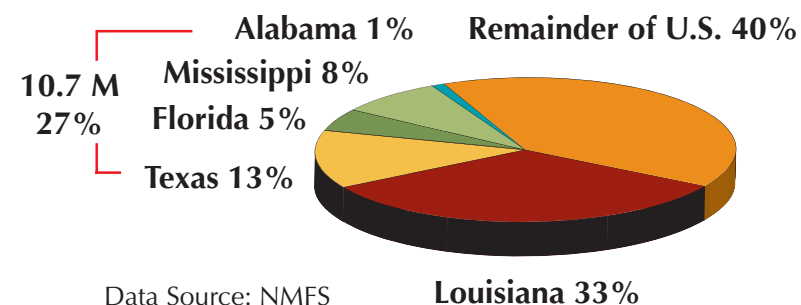
*In large pot over low-medium heat, stir together flour and oil until well blended. Do not brown. Stir in onions, celery and garlic. Cook for approximately 8 minutes, and then stir in green onions. When all vegetables are soft, slowly add oyster water to mixture, stirring constantly to avoid clumping. Slowly add in milk, stirring constantly. When heated through, add cooked oysters, parsley and butter. Add cayenne and black pepper to taste. Do not boil or soup will curdle.*

**Estelle Scheuermann Robichaux,**  
**Raceland**

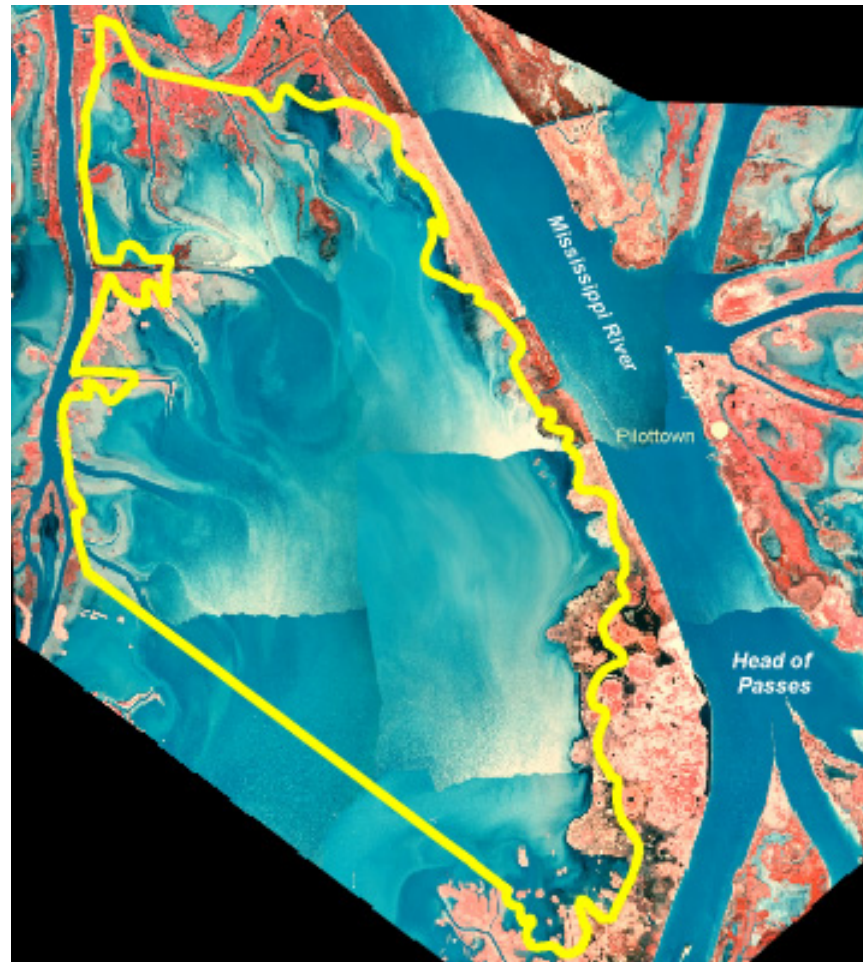


The oyster resource in Louisiana is one of the largest and most valuable in the nation. Its value is derived from both the economic benefits it provides to the state and the ecological benefits it provides to the estuarine environment. Due to Louisiana's vast coastal wetland area, ample habitat exists where oysters thrive under a variety of environmental conditions. According to Louisiana Department of Wildlife and Fisheries landings statistics, commercial oyster landings within the Barataria and Terrebonne basins totaled over 870,000 sacks and contributed approximately 41% to total Louisiana oyster landings in 2003.

Oysters have been a part of the Louisiana economy for many years; starting from meager beginnings and growing into a multi-million dollar industry. In 2003, the dockside value of oysters totaled roughly 33 million dollars and harvest yielded nearly 14 million pounds of meat. Typically, the oyster industry utilizes the public oyster grounds as a source of seed oysters (<3") for transplant to private leases for growout. The public grounds, however, also yield a supply of larger oysters (≥ 3") that may be taken directly to market. The manner in which both the public grounds and private leases are utilized in combination helps to keep Louisiana's industry viable. In fact, Louisiana regularly leads the nation in the production of oysters and accounted for an average of 33% of the nation's oyster landings from 1997-2002.







December 2002 Photomosaic (Preconstruction)



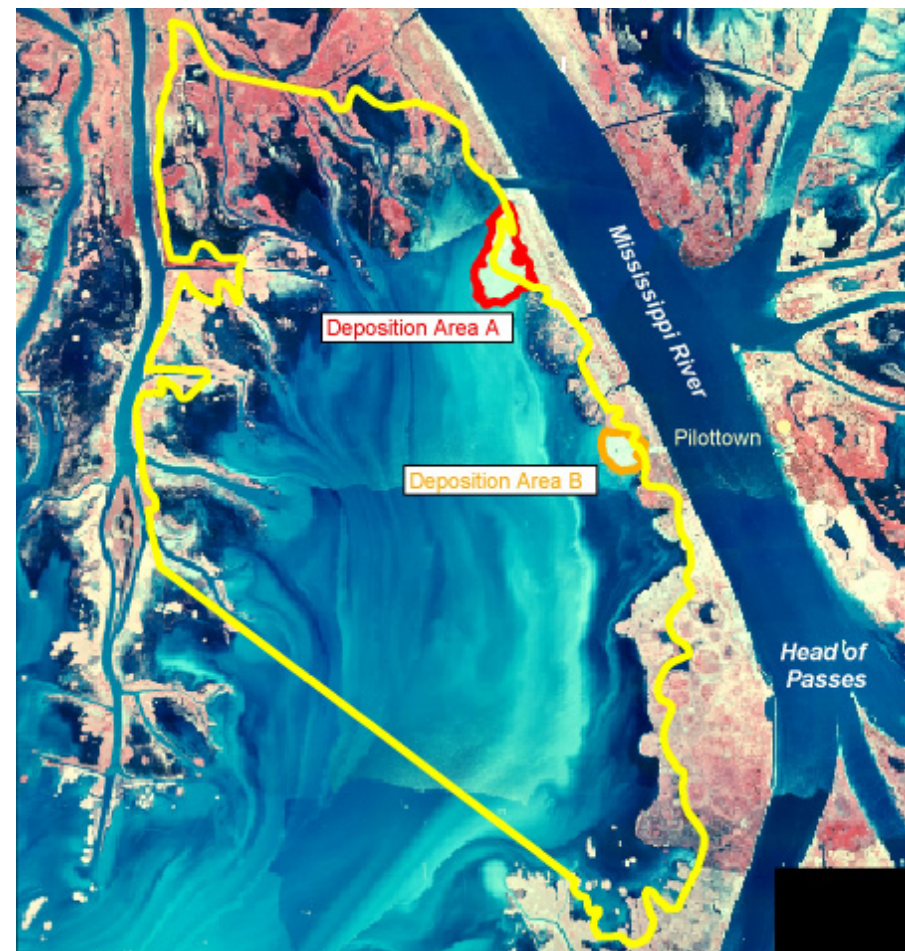
The completed West Bay Sediment Diversion channel leads from the Mississippi River to West Bay. Dredged material formed 100 new acres, left center.

## Coastal Wetlands Planning, Protection and Restoration

The West Bay Sediment Diversion Project, funded through the Coastal Wetlands Planning, Protection and Restoration Act and sponsored by the U.S. Army Corps of Engineers and Louisiana Department of Natural Resources, will restore vegetated wetlands in an area that is currently shallow open water. The project intends to divert sediments in an effort to create, nourish, and maintain approximately 9,831 acres of fresh to intermediate marsh in the West Bay area over a 20 year period.

The project consists of a conveyance channel for the large scale diversion of sediments from the river. The channel is being constructed in two phases. The construction of the initial channel has been completed. After a period of monitoring, the channel will be enlarged. Material from the construction of the channel was used to create 100 acres of wetlands in the diversion outfall area.

*Maps and images courtesy of USGS National Wetlands Research Center, Louisiana Department of Natural Resources, and U.S. Army Corps of Engineers.*



November 2003 Photomosaic (Postconstruction)

*Decades ago  
West Bay  
was a thriving  
wetland  
that today is  
open water.*