Louisiana State University
Agricultural Center
Louisiana Cooperative Extension Service

Jefferson Parish Office
1855 Ames Blvd.
Marrero, LA 70072
(504) 349-5644
Fax: (504) 349-8817

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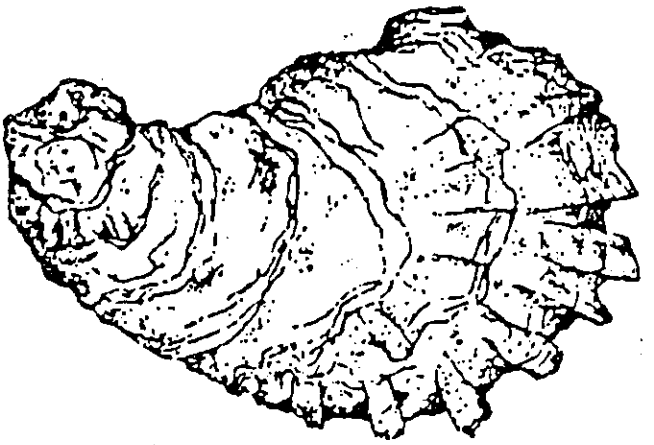
SEA GRANT PROGRAM



LAGNIAPPE

LOUISIANA'S OYSTER INDUSTRY

The Louisiana oyster industry has always been of economic and cultural importance to the state of Louisiana. Native American Indians ate large quantities of oysters and clams. The piles of their discarded shells (middens) exist to this very day in coastal areas.

House Bill 1356 of this year's Louisiana legislature came near passing and would have moved management responsibility for the Louisiana oyster industry from the Department of Wildlife and Fisheries to the Department of Agriculture. This move would have ended a relationship between the Department of Wildlife and Fisheries and the oyster industry that is over 100 years old, a relationship that actually led to the creation of the department as we know it today.

During the 1840's and 1850's, immigrants from the Dalmatian Coast (Croatia) settled in the Mississippi River Delta. In their home country, oysters had been farmed since Roman times.

In 1870, in response to complaints about the depletion of oyster beds, the Louisiana legislature closed the oyster season from April 1 and September 15. In 1886, the legislature authorized the governor to appoint an Oyster Commission. The act also established leases and allowed oystermen to lease up to 5 acres of waterbottom per person. In 1902, an act was passed that increased allowable acreage for lease to 10 acres per person. Control of the oyster industry remained in the hands of the individual parishes which led to great conflict because of competition and unmarked parish boundaries in open waters.

Act 153 of the 1902 Legislature created the five-member Oyster Commission of Louisiana and gave them statewide control over the industry. (This commission ultimately became the Oyster, Waterbottoms and Seafood Division, the first and therefore the oldest division of the Department).

In 1908, under Act 278, the Legislature created the Commission for the Protection of Birds, Game and Fish. These two commissions were combined by Act 127 in 1912 under the name Conservation Commission of Louisiana. In 1918, the Legislature changed the name to the Department of Conservation, and in 1944, to the Department of Wild Life (yes, that is the way it was spelled) and Fisheries.

Oysters were harvested with tongs until 1905 when a Dalmatian immigrant developed the dredge. Dredging was conducted with sailing vessels until about 1920 when engine-powered vessels came into use.

Early on, oystermen noted that baby oysters (spat) only settled on hard surfaces. The first shell plants to increase spat production in Louisiana were done shortly after 1900 by Mississippi oyster packers who deposited 45,000 barrels of oysters shells. Between 1906 and 1909 the Federal Bureau of Fisheries made experimental clam shell plants. One of these, in upper Barataria Bay, is still known as Government Reef.

The modern oyster culture industry works around the principle that spat survival is better in waters of lower salinities than in the higher salinities they are grown in. This is not because oysters prefer these salinities, but because diseases, and predators such as oyster drills (conchs) and black drum, do not invade these areas.

Oystermen harvest small oysters (seed oysters) that are under 3 inches from the low salinity areas and move them to higher salinity areas for growth and finishing for market.

Controversy has continued to swirl around the oyster industry in recent years, most of it in relation to coastal restoration programs using freshwater diversions. In early 1996, an Oyster Coastal Restoration Mitigation Committee was established by the Department of Natural Resources (DNR) and the Governor's Office of Coastal Activities. The

Mitigation Committee was to resolve the conflict over damages done to leased oyster reefs by coastal restoration projects.

The oystermen on the committee proposed the use of lease exchange, lease relocation, retention of leases, or purchase of leases as mitigation options. DNR opposed the purchase of lease option and supported only the relocation option. By January, 1997 negotiations broke down and the oystermen on the committee suggested that it be disbanded as a result of continual frustration.

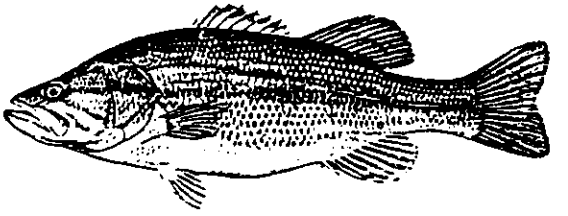
Oyster lease language also became controversial. In April 1998, the Wildlife and Fisheries Commission agenda included a coast-wide moratorium on all new leases and renewal of old leases. The oyster industry opposed the moratorium on renewal of leases. In May, the Commission approved a moratorium on new leases and renewals of leases in freshwater diversion outfall areas. In June, the oyster Mitigation Committee was informed that the Department of Wildlife and Fisheries would not renew over 70 expiring leases, primarily in the Davis Pond Freshwater Diversion outfall area, and beneficial-use spoil areas. Oystermen have asked for short-term leases with "hold-harmless" clauses, for these areas to be worked before the completion of the diversion projects. They also asked that "hold-harmless" clauses not be put into oyster leases that are not located in freshwater diversion impact areas. Much of this was addressed this legislative session.

Oyster producers have also experienced marketing problems due to negative publicity on illnesses associated with eating raw oysters. Most observers agree that the oyster industry is some time away from resolving its marketing and production problems.

Source: An Oyster Farmer's Perspective to the Past, the Present, and the Future of the Louisiana Oyster Industry. Ralph Pausina. In Journal of Shellfish Research, Vol. 7, No. 33. Also, Farming the Cupped Oysters of the Genus *Crassostrea*. P. Korringa. In Development in Aquaculture and Fisheries Science, 2. Also personal communication with Paul Coreil, Louisiana Cooperative Extension Service, and Ralph Pausina, past president, Louisiana Oyster Growers and Dealers Association.

BASS SIZE LIMITS

A subject that frequently comes up with largemouth bass fishermen is the effect that different size limits have on bass populations. A recently published study by Texas biologists clearly shows that size limits do affect bass populations. Often these effects are not what fishermen expect.



In 1978, a new Texas reservoir, Lake Nacogoches, was opened to fishing. The 2225 acre lake had been stocked with Florida bass. When it opened, it had a 10 bass limit with a minimum length of 10 inches. Within 3 weeks of opening, bass fishermen had fished the previously protected fish down so severely that they asked for action.

In response, the daily limit was lowered to 3 fish and the minimum size was increased to 16 inches. This resulted in an improvement in the number of pounds of bass per acre of water within 5 years, but also resulted in a "stockpiling" of bass just below the legal size limit. The effect of building large numbers of bass below the minimum size and few above it, has been noted in many other studies in other states.

To correct this situation, a slot limit was put in place in 1985. This slot limit protected bass between 15 and 21 inches. Bass larger and smaller than the limit were allowed to be harvested. The slot size was changed to 14-21 inches in 1988.

As a result of the slot limits, the large "stockpile" of bass just below 16 inches was lowered. The catch per hour of bass was slightly lower than under the old 16 inch minimum size limit, but catch rates were acceptable, and the lake was able to handle even more fishing pressure.

Results of slot limit regulations in other states have ranged from "no impact" to "some fishing improvement." In this lake, the limit allowed fishermen to harvest the stockpiled bass and produced an excellent catch and release fishery for protected-length bass.

No data was collected that showed that either the minimum 16 inch size limit or the slot limit increased the number of bass larger than 21 inches. The researchers concluded that the production of these large fish depends more on genetics and habitat than on harvest regulations.

In Louisiana, 10 lakes have slot limits for bass, and the Atchafalaya Basin/Lake Verret-Palourde area, Toledo Bend, and Eagle Lake have 14 inch minimum lengths.

Source: Lake Nacogdoches, Texas: A Case History of Largemouth Bass Overharvest and Recovery Utilizing Harvest Regulations. Edgar P. Seidensticker. Proceedings of the Forty-Eight Annual Conference, Southeastern Association of Fish and Wildlife Agencies. 1994.

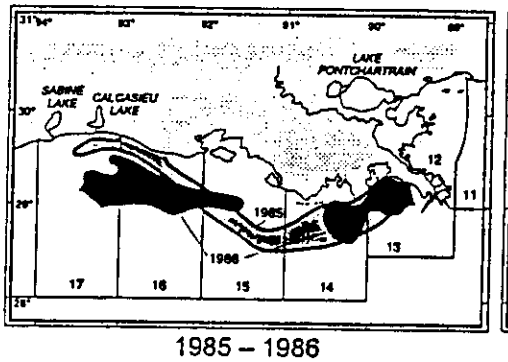
HYPOXIC ZONE TRENDS

In recent years, there has been a great deal of interest in and concern about the hypoxic zone off of the coast of Louisiana. In this area, sometimes referred to as the "dead zone", waters near the bottom contain very low or no oxygen concentrations. Naturally, this may affect the numbers of animals living on or near the bottom.

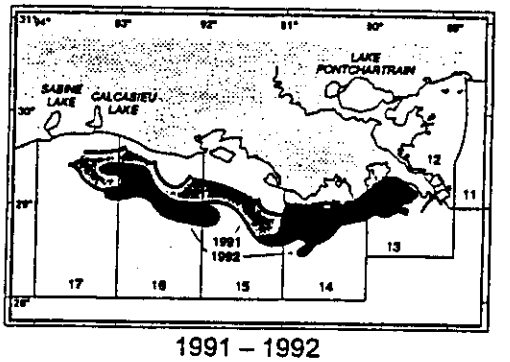
While scientists have not been able to prove what causes the hypoxic zone, they strongly suspect that high levels of plant nutrients such as phosphorus and nitrogen discharged into the Gulf of Mexico by the Mississippi River are involved. These nutrients are thought to trigger large growths of phytoplankton (microscopic free floating plants). The theory is that when the plants in these large growths or blooms die and sink to the bottom, that their decay depletes the oxygen in the area. Circulation between these bottom waters and oxygen-rich surface waters is poor enough that oxygen is not mixed into the bottom waters.

The year-to-year trends in the size of hypoxic zone are shown on the following maps. Each map, except the 1997 one, shows two years of data. The bar graph on the next page shows, in another form, the amount of area within the hypoxic zone. There are 2.6 square kilometers in a square mile.

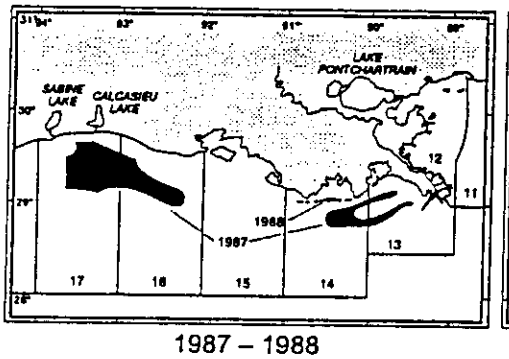
HYPOXIA TRENDS



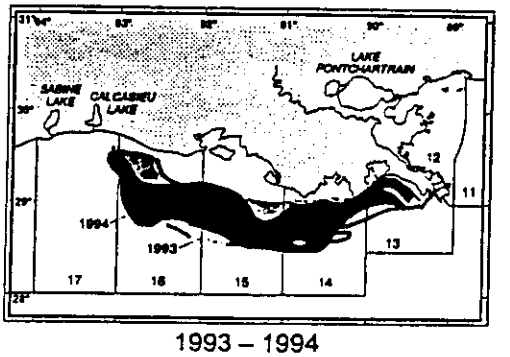
1985 – 1986



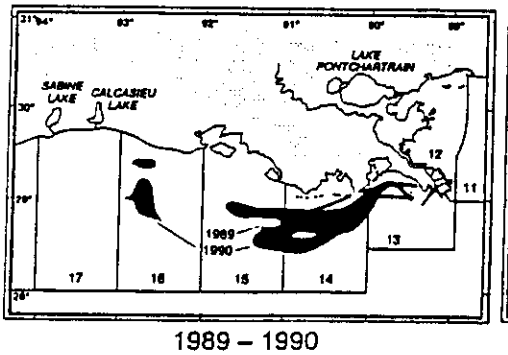
1991 – 1992



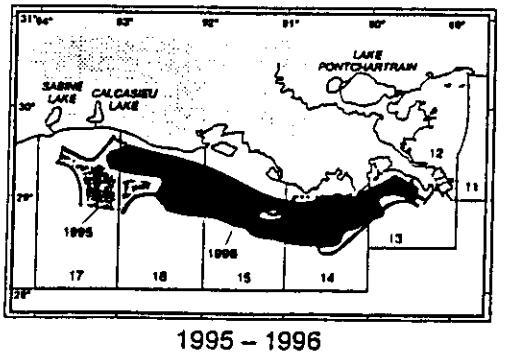
1987 – 1988



1993 – 1994

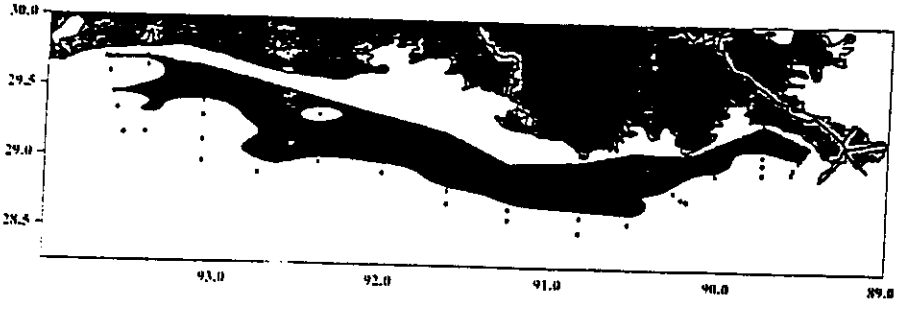


1989 – 1990

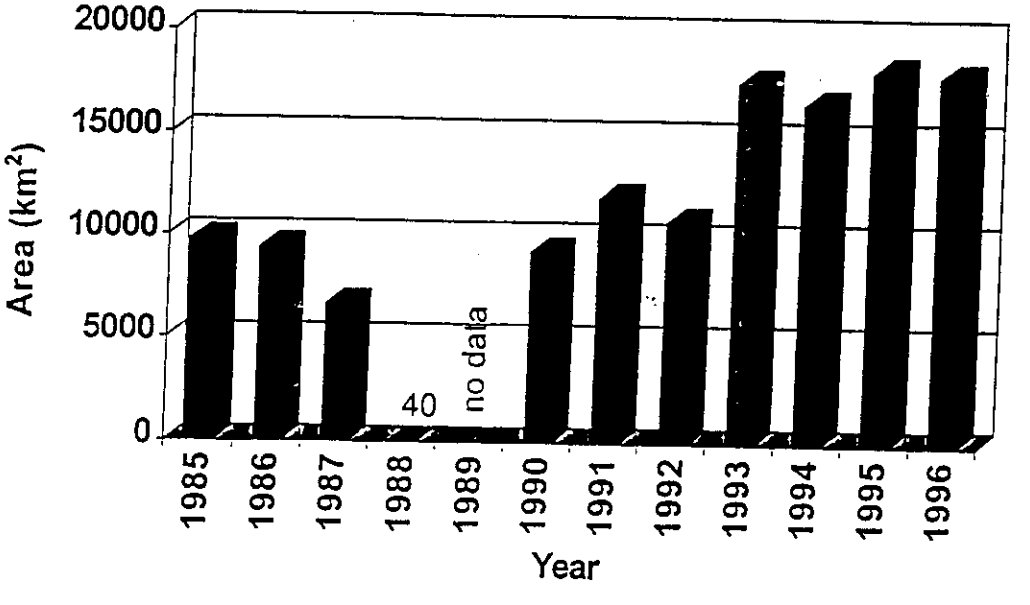


1995 – 1996

July 23-29, 1997
Area of Hypoxia



Areal Extent of Hypoxia
1985-1996



Source: Summary Updates Regarding Bycatch Issues in the Gulf of Mexico. LGL Ecological Research Associates, Inc. Bryan TX. 1997. (Adopted from research by Nancy Rabelais, Louisiana Universities Marine Consortium)

LIMITED ENTRY

The use of limited entry, or more appropriately, limited access as a management tool for commercial fisheries is gradually increasing. Most recently, the South Carolina Shrimpers Association has proposed a resolution for their state legislature that would keep commercial shrimp trawling licenses at 1996 levels for two years.

During the license moratorium, the South Carolina Department of Natural Resources (DNR) would work closely with the shrimp trawling industry to determine if a permanent cap should be placed on the number of licenses. A DNR survey showed that 65% of their shrimpers support the moratorium, 65% think that there are too many boats in the fishery, 70% expect the number to increase, and 52% said that they couldn't survive with the current number of boats.

Limited access can be used to help reduce economic, management, and to some degree biological fisheries problems. To be effective, a limited access program must be created to solve specific problems, so each program is different.

Listed below, is a summary of some of the limited access programs in coastal and Great Lakes states. Any fishery not listed is an open-access fishery that anyone can get into by simply buying a license. These summaries are very brief. For a more detailed summary call my office.

STATE PROGRAMS

Alaska	
Salmon	License limitation
Sablefish	License limitation
Herring	License limitation
Crab	License limitation
California	
Herring meal	License limitation
Herring roe	Limited lottery bid
Ground fish	License limitation
Abalone	License limitation
Troll salmon	License limitation
Sea urchin	License limitation
Oregon	
Troll salmon	License limitation
Pink shrimp	License limitation
Columbia River gillnet salmon	License limitation
Scallop	License limitation
Roe herring	License limitation

Groundfish	License limitation
Washington	
Herring	License limitation
Salmon	License limitation
Geoduck clams	Auctioned licenses
Dungeness crab	License limitation
Wisconsin	
Yellow perch and chub	License limitation
Ohio	
Walleye, yellow perch, white bass and channel catfish	License limitation followed by a gillnet license buy-back
Minnesota	
All fisheries	License limitation
Michigan	
All fisheries	License limitation
Lake Superior	Modified individual quota
Massachusetts	
Lobster	License limitation
Winter flounder	License limitation
Bluefish	License limitation
Rhode Island	
All fisheries	License moratorium
Connecticut	
All fisheries	License moratorium
Maine	
None	
New Jersey	
Crab pots and dredges	License limitation
Delaware	
Crab pots and dredges	License limitation

Maryland

All fisheries	Qualified entry
Charter fishing guides	License moratorium

Virginia

All marine finfish and shellfish	Moratorium and qualified entry.

North Carolina

All fisheries	License moratorium (nearing end of moratorium period)

Georgia

Crab	License moratorium

Florida

Blue crab	License qualifications
Stone crab	License moratorium
Restricted species	License qualifications

Alabama

None

Mississippi

None - But Marine Resources Commission authorized to begin limited access programs.

Louisiana

Blue crab	License moratorium through 1998
Alligator	Individual tag quota
Mullet and pompano strikenet	Entry only under apprentice program

Texas

Blue crab	License moratorium
Bay and bait shrimp	License limitation

FEDERAL PROGRAMS

Atlantic ocean quahog	Individual quotas
Atlantic wreckfish	Individual quotas
Atlantic reef fish	License moratorium
Atlantic mackerel	Qualified entry
Gulf reef fish	License moratorium

Department of Wildlife and Fisheries Enforcement administrators have clarified the confusion and announced their enforcement procedure. It is as follows:

* The ring itself must have an inside diameter of 2-5/16 inches.
* Rings can be attached to the trap with the crab trap wire.
* Crab trap rings cannot be attached to the trap with more than 4 wires or fasteners regardless of the material used.

This will allow enforcement agents to use their measuring device to measure the true inside diameter of the ring. Using more than 4 fasteners or wires, or use of fasteners that prevent their measuring device from being able to turn one inch between the fasteners will not be legal.

Each trap trap must have 2 escape rings. One must be in the upper chamber on the side of the trap even with the baffle and one must be in the lower chamber even with the floor of the trap.

CLEARING ABANDONED VESSELS

Abandoned or derelict vessels are a problem in Louisiana waterways. The Jefferson Parish Marine Fisheries Advisory Board's Ports and Waterways Task Force and the Jefferson Parish Port District are attempting to solve this problem in the parish. What follows is taken from the July, 1997 Jefferson Port Report.

The Coast Guard has provided valuable insight to the problem of derelict vessels in the waterways. If boat owners can be identified, the Coast Guard will impose owner fines of $1,000 per day until the vessel is removed. If the vessel contains hazardous materials, the Environmental Protection Agency will pay the Coast Guard to remove the vessel. If neither of these alternatives apply, the Port District can contract with salvage dealers to remove the vessel for its salvage value.

The first task is to identify the type and location of abandoned or derelict vessels. The Port District is asking people who use the Jefferson Parish waterways to help with this task.

The first targets for clean-up are the main waterways, Bayou Segnette, Bayou Barataria, and the Harvey Canal. They are asking users to get the following information on each vessel that they report:

1) Type of vessel, (shrimp boat, barge, etc.)
2) Location (enough information to find the vessel)
3) Owner identification, (Please supply as much information as you can. They need registration numbers, vessel name, and owner name if known)

4) Environmental evaluation (Does the vessel contain hazardous material? Is it leaking into the water?)

Report this information to the Port District either by FAX or by mail. Send it to:

Phyllis McLaren
Jefferson Port District
3445 N. Causeway Blvd., Suite 300
Metairie, LA 70002
FAX (504) 833-7676

The Port District will relay the information to the Coast Guard.

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THE GUMBO POT

Combination dishes using fish fillets and shellfish are some of my favorites. When preparing this dish be sure to use soft bread crumbs, not the dried sort you can buy in a can. If you use dried crumbs, they absorb the moisture in the mix and swell and you end up with a bread dish, not a seafood dish.

Shrimp Stuffed Fillets

1½	pounds cooked, peeled and deveined shrimp	3	tablespoons chopped fresh parsley
10	5-inch long fish fillets	½	teaspoon dried dill
1½	cups soft bread crumbs	½	teaspoon salt
2	lightly beaten eggs	¼	tsp red pepper
¼	cup fresh lemon juice	3	tablespoons margarine
¼	cup white wine	1	tablespoon lemon juice
			paprika

Place 5 fillets on greased baking sheet. Mince the shrimp if they are large. In a mixing bowl, combine shrimp, crumbs, eggs, lemon juice, wine, herbs, salt, and pepper. Spread stuffing on 5 fillets. Cover with remaining fillets. Drizzle with lemon juice and margarine. Sprinkle with paprika. Bake at 350 degrees for 20 minutes or until fish is done. Serves 4-5.

Sincerely,

Jerald Horst
Area Agent (Fisheries)
Jefferson, Orleans, St. Charles, St. John