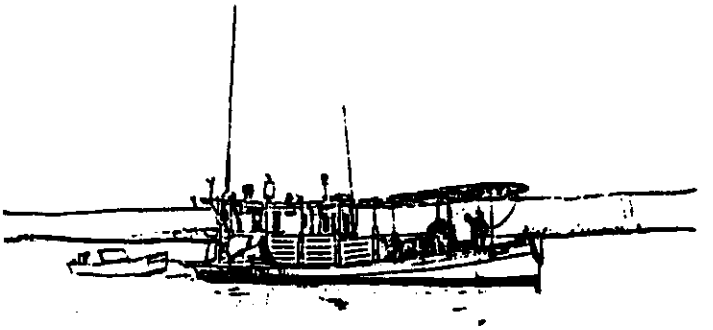
Louisiana State University
**Agricultural Center**
Louisiana Cooperative Extension Service

July 1, 1999
Volume 23, No. 7

Jefferson Parish Office
1855 Ames Blvd.
Marrero, LA 70072

(504) 349-5644
Fax: (504) 349-8817

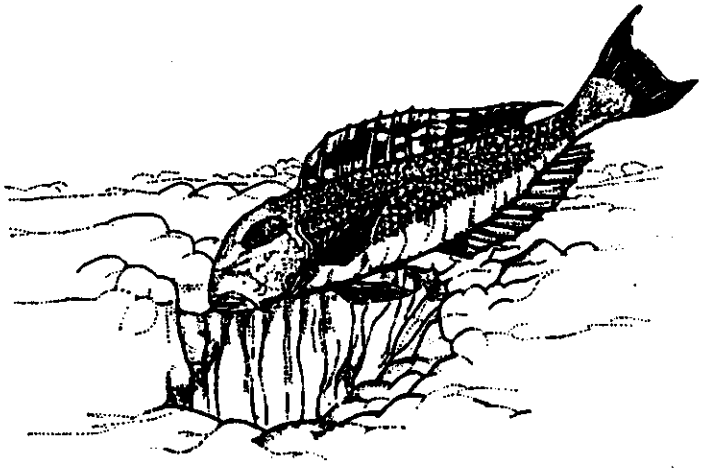
# SEA GRANT PROGRAM



# LAGNIAPPE

## WEIRDO

What Louisiana saltwater fish is colored like a rainbow, lives in tunnels, can weigh over 30 pounds, and tastes like lobster. Give up? The answer is a tilefish.

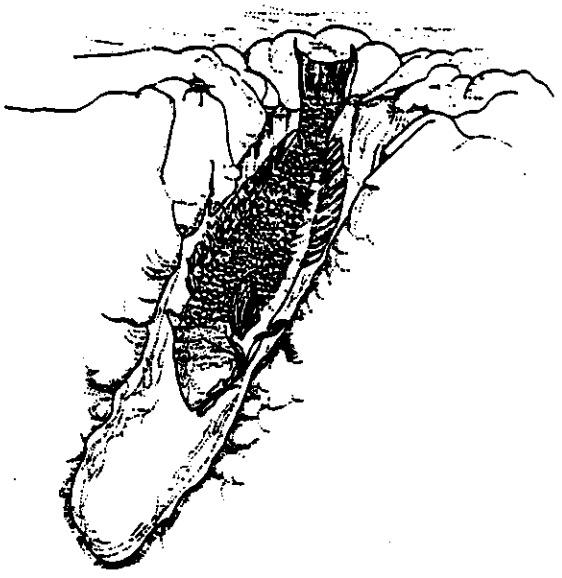


Tilefish were first discovered in 1879 by a commercial cod fisherman off of Massachusetts, and given their scientific name of *Lopholatilus chamaeleonticeps* in 1880. Tilefish are now known to occur along the entire east Atlantic and Gulf coasts south to Venezuela in South America. In that entire range, they are found only a belt never more than 20 miles wide in deep waters, usually near the edge of the continental shelf. In the Gulf of Mexico off the Louisiana coast, tilefish are found in waters 600 to 1200 feet deep. In this zone, water temperatures are very stable and range only a few degrees over the course of a year.

Tilefish are one of our most beautiful fish. Their backs and uppersides are aqua-blue with green highlights. This blends into a pinkish band down their side which in turn

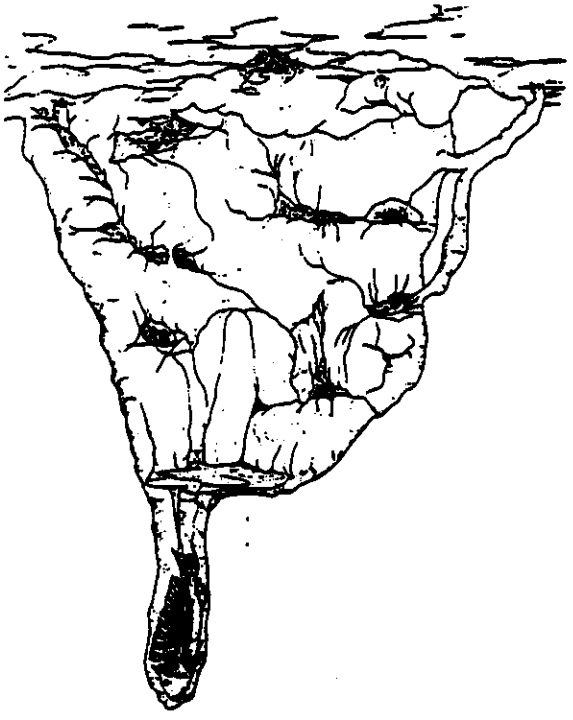
blends into a silvery-yellow belly. The tail fin is golden with blue-green stripes and the entire fish is covered with bright golden dots.

Its color is exceeded only by its taste. The flesh is snow-white with a fine flake very similar to freshwater crappie (sac au lait). Some people believe the taste resembles crab or lobster. Indeed, much of the diet of tilefish consists of crabs and other crustaceans, with some finfish thrown in for variety.



Tilefish live a most unusual lifestyle. As mentioned earlier, they live in burrows in mud bottoms. Human divers in the northeastern U. S. (where tilefish live in slightly shallower water) have noted that tilefish spend the day moving slowly around bottom obstructions. Tilefish feed only during daylight hours, even though light penetration to the depths that they live is very low. Tilefish feed most heavily between 10 a.m. and 3 p.m. Feeding is done within 10 feet of the bottom. The main food items are crabs and lobster-like crustaceans, although clams and snails, starfish, and finfish are also eaten. Large tilefish eat more finfish and will even eat small tilefish when they get the chance. It appears tilefish will also scavenge, as garbage items from vessels, such as lamb chop bones and potato peelings, have been found in their stomachs.

When night falls, tilefish retreat to their burrows. Divers have observed a smaller fish, assumed to be a female, enter the burrow and a larger fish, thought to be a male, settle down across the mouth of the burrow for the night.



Tilefish do not seem to school as some other fish do, but rather live in groups or clusters. Fishermen fishing on tilefish grounds catch few other species mixed with them. In the Gulf of Mexico, the most common fish caught with tilefish is probably the snowy grouper which lives in deeper water than other groupers. In waters deeper than 900 feet the catch is almost

entirely tilefish.

In spite of the abundance of tilefish in the Gulf, a stable fishery is never been developed for this excellent food fish. Louisiana's commercial landings peaked at 282,486 pounds in 1988. Much of Louisiana's landings came from bottom longliners whose main targets were snapper and grouper. When longlining was banned inside of 300 foot depths to protect red snapper, many longliners left the Gulf, shifted to other equipment, or went out of business.

A recreational fishery for tilefish has not developed in Louisiana either, probably because of the depths the fish lives in, their distance from shore, and lack of awareness of the fish. In the stretch of the Atlantic Coast off of New York and New Jersey, a modest charter and party boat fishery exists. In this area, tilefish occur in more moderate depths nearer to shore.

Sources: *Biological and Fisheries Data on Tilefish, Lopholatilus chamaeleonticeps Goode and Bean.* Bruce L. Freeman, Stephan C. Turner. National Marine Fisheries Service, Sandy Hook Laboratory. 1977. *Fisherman's Guide: Fishes of the Southeastern United States.* Charles S. Manooch III. North Carolina State Museum of Natural History. 1984.

**ESSENTIAL FISH HABITAT LAWSUIT**

Two years ago the "200 Mile Act" was renewed by the U. S. Congress as the Fishery Conservation and Management Act (FCMA). One of the provisions of this act required the identification of Essential Fish Habitat (EFH) and action to "minimize to the extent practical adverse effects on such habitat caused by fishing..."

In April, the first lawsuit was launched in federal court over EFH. The suit by the Florida Wildlife Federation brought against the Secretary of Commerce, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, and the Gulf of Mexico Fishery Management Council, alleges that the FCMA was violated because the defendants did not properly assess the negative impact of fishing gear on EFH and for continuing to allow shrimp trawling and other fishing activities to damage the Gulf of Mexico ocean floor and the plants and animals located there. The suit maintains that by allowing the continued destruction of EFH in the Gulf that the defendants are reducing the populations of fish and other marine life relied upon by members of the Florida Wildlife Federation for fishing, collection, photography, and research.

According to the suit, the EFH Amendment for the Gulf of Mexico only assessed the effects of three fishing gears, shrimp trawls, recreational fishing gear, and fish traps, and ignored all others such as longlines, gill nets and seines. The suit also maintains that the assessment done for the three gears that were assessed was inadequate, with only one

page on shrimp trawls, one sentence on recreational gear and two paragraphs on fish traps.

The suit requests that the defendants be judged in violation of the FCMA, and that the defendants be required to revise the EFH amendment and prepare a new environmental assessment. Also requested is an order awarding the Florida Wildlife Federation its attorney fees and costs.

It is important to note that the lawsuit concerns all Gulf of Mexico waters, not just those off of Florida.

## FINFISH LANDINGS

Louisiana's commercial fishery is based around six fisheries groups, shrimp, crabs, oysters, menhaden, freshwater finfish and marine finfish. Fisheries landings for five of the six groups, allowing for market changes and productivity cycles, have been relatively stable for years. The major exception is for marine finfish, almost all of which (except for red snapper and wahoo) have shown significant declines in landings.

| Species | 1998 Landings | Record Landings | Year | % Change |
|---|---|---|---|---|
| Amberjack | 121,794 | 710,752 | 1988 | -83% |
| Cobia | 48,954 | 76,439 | 1993 | -36% |
| Dolphin | 67,782 | 560,409 | 1991 | -88% |
| Black Drum | 1,782,083 | 8,756,913 | 1988 | -80% |
| Flounder | 139,929 | 938,076 | 1987 | -85% |
| Groupers | 247,264 | 948,319 | 1986 | -74% |
| King Mackerel | 842,778 | 1,489,539 | 1983 | -43% |
| Pompano | 61,106 | 114,646 | 1994 | -47% |
| Speckled Trout | 111,979 | 1,978,038 | 1986 | -94% |
| Sharks | 2,964,860 | 5,600,788 | 1989 | -47% |
| Mangrove Snapper | 38,728 | 59,913 | 1993 | -35% |
| Vermilion Snapper | 451,260 | 812,918 | 1990 | -44% |
| Swordfish | 675,025 | 1, 320,647 | 1988 | -49% |
| Tilefish | 37,676 | 282,486 | 1988 | -87% |

| | | | | |
|---|---|---|---|---|
| Bluefin Tuna | 26,868 | 298,379 | 1987 | -91% |
| Yellowfin Tuna | 2,958,087 | 12,391,978 | 1988 | -76% |
| Blackfin Tuna | 46,011 | 193,533 | 1993 | -76% |

In a few cases like yellowfin and blackfin tuna, the decline has been market-driven. Swordfish landings in Louisiana have historically been erratic, but some of the decline has also been caused by more regulations on the fishery. Most of the decline for most species however, has been almost solely due to more stringent regulations, including closed seasons, trip limits, increased size limits and gear restrictions. More are coming. The shark fishery has just had a major increase in regulation. More federal restrictions are currently being developed for some grouper species.

A person would logically assume that lower landings would result in higher prices under the laws of supply and demand. Often the reverse is true. When fish are placed under a quota, fishermen usually fish harder in an attempt to make their individual catches as large as possible before the quota is filled. This "derby" effect places large amounts of fish on the market in a very short period of time, resulting in a sharp price decline.

When the season closes, no fish are available. Restaurateurs, who must have products to serve year round, then turn to other sources of supply such as imports or farm-raised freshwater fish. When the season reopens, some restaurateurs stay with their new source rather than buy the original fish. Seafood buyers then have to deal with shrunken demand for what they buy from fishermen and the same short-term oversupply of the fish during the open season. Prices drop more and the cycle continues.

When this will end and if there will still be a viable marine commercial finfishery is anyone's guess. The current system is a roller coaster ride for commercial fishermen, seafood dealers and seafood consumers.

## SOFT CRABBER'S HAACP ALERT

Most seafood processors and dealers are well aware of the federal requirements to have taken HAACP training and have a HACCP plan for their business. HAACP (Hazard Analysis Critical Control Point) is a required program designed to minimize food safety hazards for seafood consumers.

Commercial fishing operations are exempt by law from HACCP requirements. As it turns out however, the shedding of softshell crabs for sale is not exempt! This is legally classified as a form of seafood processing and therefore soft crab shedders must meet HAACP requirements. This applies even to fishermen that shed their own crabs and do not buy shedder crabs from other fishermen. It applies no matter what type of shedding system

is used.

Currently, HAACP training is being provided in-state. Unfortunately, the HAACP class is almost three full days and the class is held in Baton Rouge. The possibility of a class being held in this area does exist, but only if enough registrants are from the area to justify moving a class. Soft crab shedders should register for a class by calling Michael Moody in Baton Rouge at 225/388-4141. The cost of the class is $100. If enough shedders call, the class can be moved, but the decision will not be made until the calls are received.

**SCARY!**

Louisiana's coastal land loss is a very serious situation. The final report from the COAST 2050 planning initiative estimates that the state will lose 514,460 acres of marsh by the year 2050 if nothing is done. That is 21% of today's marsh. Projections are that freshwater diversions will prevent 49,000 acres of that loss and that Breaux Act coastal restoration projects will save another 66,000 acres during that time period. That still leaves us with a projected loss of over 400,000 acres of marsh.

What is most alarming in the report is what the effects of subsidence (land sinking) and sea level rise will be on Louisiana's coastal cities and towns. The table below shows the current elevation above sea level for Louisiana's coastal cities, the rates of yearly subsidence and sea level rise, and the projected elevations of the cities in the years 2050 and 2100.

| CITY | CURRENT ELEVATION (ft) | SUBSIDENCE PLUS SEA LEVEL RISE (inches/year) | ELEVATION LOSS BY 2050 (ft) | ELEVATION LOSS BY 2100 (ft) |
|---|---|---|---|---|
| New Orleans | -10.0 to +15.0 | .30 | 1.25 | 2.82 |
| Thibodaux | +2.0 to +12.0 | .31 | 1.28 | 2.92 |
| Hopedale | +1.0 to + 2.5 | .32 | 1.35 | 3.02* |
| Golden Meadow | -3.0 to + 2.0 | .32 | 1.35 | 3.02* |
| Leeville | +1.0 to + 2.0 | .39 | 1.61* | 3.54* |
| Pointe a la Hache | +3.0 to + 4.0 | .44 | 1.84 | 4.00* |
| Grand Isle | +1.0 to + 2.0 | .50 | 2.07* | 4.60* |

*Areas where loss of elevation is near or over the elevation of the highest level in the city.

As can be seen, by 2050 by all of Grand Isle and most of Leeville will be below sea

level. By the year 2100 every city in east and central coastal Louisiana except parts of New Orleans and Thibodaux will be below sea level. Today, New Orleans is already protected by 520 miles of levees, 270 floodgates, 92 pumping stations. More of such flood protection work will almost certainly be needed for Louisiana's coastal cities and towns.

A copy of the report, *Coast 2050: Toward a Sustainable Coastal Louisiana* can be obtained by contacting Annell Park, LDNR, Coastal Resources Division, P O Box 94396 Baton Rouge, LA 70804-9396. 225/342-9430.

**FEDS CHANGE RED SNAPPER SIZE**

The National Marine Fisheries Service (NMFS) has announced, effective immediately, an increase in the minimum recreational size limit for red snappers from 15 inches to 18 inches. The action was taken in an attempt to lengthen the recreational red snapper season, which was projected to close on August 5. As it now stands, the 18-inch minimum size will be in effect through August 28, when the season closes for 1999. NMFS is considering delaying the start of the season for the year 2000 until March 1, but no decision will be made made until later this year.

**MAYDAY! MAYDAY!**

Commercial fishing is still listed as the most dangerous occupation in the United States with 131 deaths annually per 100,000 employees. Some of the dangers involved were supposed to be reduced by the Fishing Vessel Safety Act of 1988. Included in the act were requirements that certain offshore commercial vessels had to carry EPIRBs (emergency position indicating beacons).

In theory, when a vessel sinks, an EPIRB is supposed to float free and activate itself to send a signal to a satellite that relays the signal to a Coast Guard station that in turn sends helicopters, vessels or planes to the exact location at sea where the EPIRB is broadcasting from.

Unfortunately, it seems that many fishermen installed their EPIRBs and forgot about them. For example, a Coast Guard Marine Safety Officer in Maine looked at EPIRBs on 47 vessels. Of these, 30 (64%) failed one of the inspection points, and 20 of these (42%) had several failures. In order to work properly, EPIRBs must be maintained. Here's how to make sure that your EPIRB can save your life.

**Replace the batteries.** Batteries are designed to last 5 to 8 years. Surprisingly, over 25% of the EPIRBs in the Maine study failed the battery test.

**Turn the EPIRB on.** Believe it or not, this most basic rule is often ignored. In sinking after sinking, EPIRBs have been later found floating-with the switch in the "off" position.

**Check the seals.** Some of the early EPIRBs sold have had problems staying watertight. Seals can be checked by turning the EPIRB off, taking it out of the bracket and turning upside down to see if it drips water that has leaked into it.

**Replace the release mechanism.** The hydrostatic release on EPIRBs is there to make sure that it comes loose from the vessel and floats to the surface to send a signal if the vessel sinks. Hydrostatic releases are simply thin rubber diaphragms that won't work if they are weathered or cracked. They need to be replaced every two years because of exposure damage.

**Check the placement.** Where the EPIRB is mounted is important. If it is mounted where it cannot float free, it is useless. For example, an EPIRB mounted under a cabin top will likely become trapped if the boat goes down by the stern. Every boat is different in regard to rigging, outriggers and so forth. A fisherman should think about what would happen to the device if the boat were to go down by the stern or the bow, or if it were to roll over.

**Test the EPIRB.** The test cycle should be conducted often. An EPIRB that won't perform in a test probably won't send a distress signal.

By no means is the Gulf of Mexico as mean of an ocean as the North Atlantic or North Pacific. However, the Gulf does experience some vicious squalls and other bad weather. A fisherman may only have to drown once to learn how important his EPIRB is.

Source: *Mayday Malfunction.* Michael Crowley. National Fishermen. September, 1998.

**DANGER AT SEA**

In response, to the danger involved in commercial fishing, the U.S. Coast Guard and other agencies have actively been on a safety campaign. Generally, fishermen show low levels of interest in safety programs. Recently, three professors of Anthropology and Maritime Affairs at the University of Rhode Island studied New England commercial fishermen to find out "what makes them tick" on safety issues. The results were interesting.

- Fishing for a living, worldwide, tends to attract more active, adventurous, aggressive, and courageous personality types then do land-based jobs. Even their language and reaction to challenges tends to be aggressive. This in turn causes them to minimize their view of danger.

- While there was evidence that the youngest and least experienced fishermen feared danger the least, the researchers also found that the more accidents that fishermen experience and survive the less concern they have with the incidents. They did note that it was possible that some fishermen who experienced dangerous incidents left the occupation because they couldn't

handle it, resulting in a population of fishermen with a higher tolerance for danger.

- The further from shore that fishermen work, the higher their tolerance for danger was. The researchers suggested that this was an adaption to reduce the stress of fishing further at sea.

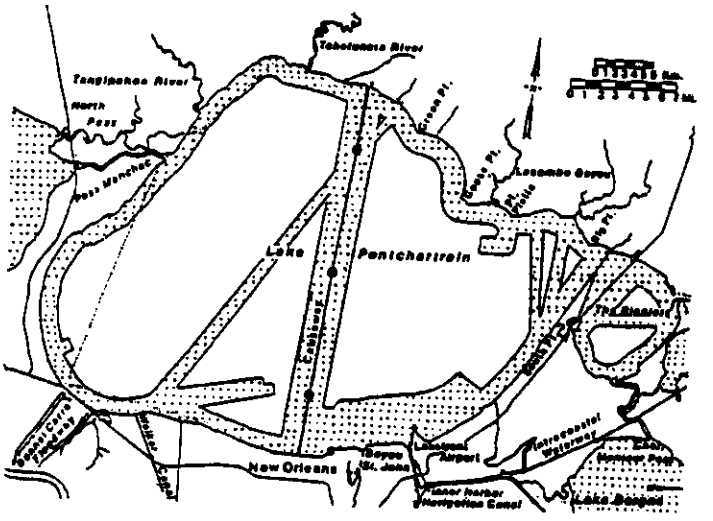
- Captains showed less concern over and more acceptance of lesser dangers at sea than crewmen. Captains are in a leadership position and have to set brave, courageous examples for their crew if they expect them to face the challenges of successfully fishing. Captains also usually have more fishing experience than crew members and are less likely to over-react to what they feel is a manageable crisis.

The researcher's felt that the findings of the study will be useful in designing safety training courses that will be of interest to fishermen.

Source: *Thresholds of Danger: Perceived Risk in a New England Fishery.* R. B. Pollnac, J. J. Poggie and S. L. Cabral. Human Organization, Vol. 57 No. 1, 1998

## LAKE PONCHARTRAIN WATER CLARITY

Lake Ponchartrain, the largest lake in Louisiana, experienced extensive shell dredging for rangia clam shells from 1933 to 1990. Dredged shells were used as construction material, most often for road construction. In the 1980's this activity began to come under intense fire as public perception about the environmental affects of shell dredging shifted. In 1990 the activity was outlawed.




**Lake Ponchartrain. Stippled areas show where shell dredging was prohibited.**

Since then, claims have been made that the water in the lake has become clearer. It was known that shell dredging produced short term localized increases in turbidity (lack of water clarity), but little was known about the widespread effects of dredging.

In an attempt to get some answers, two scientists from the University of New Orleans compared water clarity readings taken the last 5 years that shell dredging was allowed with readings taken the 5 years after it was prohibited. The sampling stations, indicated by the large black dots on the Lake Ponchartrain Causeway on the map on the previous page were established by the Louisiana Department of Environmental Quality. They were located 4 miles from the north shore, mid-lake and 4 miles from the south shore. The monthly samples were correlated against wind speed and salinities, both of which can affect water clarity.

The results showed that before 1990, water clarity was about the same at all 3 sites. After 1990, when shell dredging was stopped, water clarity at the north shore station increased by 50%. Interestingly, water clarity at the south shore station showed no change. The mid-lake station showed about half the change of the north shore station.

Several factors may account for these results. First, sediment particles take longer to settle out from low-salinity waters than from higher-salinity waters. Water salinities are lower in the northern part of the lake than in the southern part, and probably were more affected by shell dredging. Stopping shell dredging may therefore have had more of an effect on north shore waters.

Also, since more areas near the south shore were off limits to shell dredging than on the north shore, the effects of shell dredging may have been less intense on the south shore. Finally, the south shore receives urban rainwater runoff from metropolitan New Orleans and has almost no natural wetlands left. Nutrients in this runoff introduce plant fertilizers that can promote algae growth. Increased algae growth since shell dredging has ended may have offset increases in water clarity due to lower amounts of suspended dredging sediments.

Source: *Recent Trends in Water Clarity of Lake Ponchartrain.* J. C. Francis and M. A. Porrier. Gulf Coast Research Reports. Vol 11, 1-5. 1999.

**TOO CLEAN?**

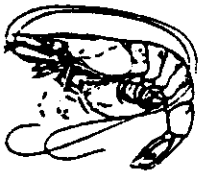
Just 20 years ago, Lake Erie, on the U. S.-Canadian border, was frequently called a "dead lake" primarily due to overfertilization (eutrophication) of its waters. Much of the cause was sewage discharge high in phosphorus. Now, mostly due to strict regulations on discharges, phosphorus levels have dropped and the waters of the lake have become clear again. Sounds like a success story.

But—the Ontario Federation of Anglers and Hunters is now pushing for weaker controls on certain pollution discharges. It seems that lower levels of nutrients (phosphorus) mean lower levels of microscopic floating algae (phytoplankton), the basis for food chains that produce fish at their end.

The federation says levels of phosphorus may have fallen below the level needed to produce plant growth and fish, and that maybe some fish are better adapted to murky water than clear water.

Source: *Lake Erie Too Clean?* River Crossings. Volume 7, Number 5. Mississippi Interstate Cooperative Resource Association.

## COUNCIL CREATES B.R.D. ADVISORY PANEL

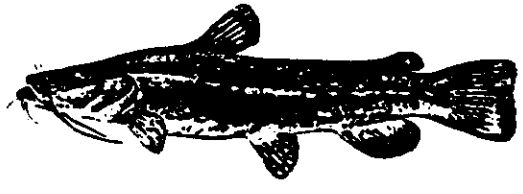


The Gulf of Mexico Fishery Management Council is looking for members for a Special Bycatch Reduction Device (BRD) Advisory Panel. This new panel will be made up of fishermen, scientists, engineers, environmentalists and others with a knowledge of BRDs and their ability to reduce the bycatch of young red snappers. The panel will advise the Council on needs and recommendations for modifications to the BRD amendment to the Shrimp Fishery Management Plan.

Persons interested in serving on the panel should send a letter to the Gulf of Mexico Fishery Management Council, 3018 U. S. Highway 301 North, Suite 1000, Tampa, Florida 33619-2266 expressing their interest. They should include with the letter a short resume that describes their background with BRDs. Any person with a fishery violation in the last five years is not eligible to serve on the panel.

## IT'S SHOCKING

For years, almost anywhere in the United States where catfish are found, shocking or "telephoning" catfish with low voltage hand-cranked electrical devices was a no-no only slightly less worse than using dynamite. However, in 1985, the state of North Carolina boldly legalized the recreational harvest of catfish with shocking machines in the Cape Fear River, and in 1991 in the lower Black River.



The reason for this action was to control flathead (known as goujon or yellow catfish in Louisiana) catfish. Flatheads are not native to North Carolina, but in 1966, eleven flatheads were introduced in the Cape Fear River to develop a trophy catfishery. By 15 years later, they spread to 138 miles of the river and became the most common catfish (by weight) in the river.

In the early 1970's blue catfish, also non-native to North Carolina, were introduced into the river and rapidly became the most common catfish (by number) present. By the 1990's the two species had put "a squeeze play" on the 3 native catfish species, the white

catfish, the yellow bullhead, and the brown bullhead.

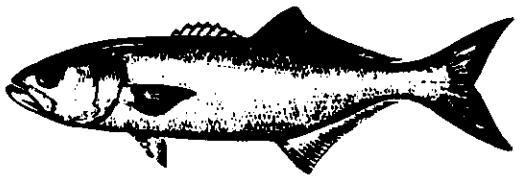
In research conducted in 1992, no bullheads and only a few white catfish were found. By 1997, even white catfish were no longer present. The scientists in the 1997 study concluded that the rise in flathead and blue catfish were the cause of the native catfish decline.

It seems that blue cats had out-competed the native catfish for food and space. At the same time, flathead catfish, which are well-known fish predators, had reduced native catfish numbers by feeding heavily on them.

The two years of research ending in 1997 also showed that more blue catfish were present in areas open to shocking than in closed areas. The reason appears to be that shocking selectively removes more flatheads, which feed on blue cats. Less flathead catfish in shocked areas meant higher blue catfish numbers in those areas.

Source: *Effects of Non-Indigenous Ictalurid Introductions and Recreational Electrofishing on Catfishes of the Cape Fear River Drainage, North Carolina (Draft).* Mary L. Moser and Steven B. Roberts. 1st International Ictalurid Symposium. 1998

**BLUEFISH**



Bluefish are a fish that just can't get any respect in the Gulf of Mexico, especially Louisiana, unlike off of the Atlantic coast where they are a desirable recreational and commercial fish. Probably for this reason, very little research has been done on the fish in the Gulf.

One study done in the late 1970's and early 1980's compared the age and growth of Gulf (Florida and Louisiana) bluefish to those from the Atlantic (Florida to South Carolina). A total of 1190 Gulf and 842 Atlantic fish were collected, aged, and measured. The fish were aged by counting the growth rings in their otoliths (ear bones), scales and a vertebra from their backbone.

For those people who have heard the stories of the monster-sized bluefish from the Atlantic Coast, the results are surprising. At each age, Gulf of Mexico bluefish were larger than Atlantic bluefish. For some unknown reason, a very large percentage of one year's sample from the Gulf was made up of fish over 2 feet long.

Gulf of Mexico bluefish reached 14 inches by age one, 17 inches by age two, 25 inches by age three, and 28 inches by age four. After that, growth almost stopped and fish

6, 7, and 8 years averaged the same size at about 30 inches long.

Source: *Age and Growth of Bluefish Pomatomus saltatrix from the Northern Gulf of Mexico and U. S. South Atlantic Coast.* Lyman E. Barger. Fishery Bulletin 88(4). 1990

**********

## THE GUMBO POT
### L & L's Seafood Pie

This month's recipe tied for first place in the Des Allemands Catfish Festival Catfish Cooking Contest and was prepared by Lois Ann Voisin of Des Allemands. Since catfish, crawfish and crabs are all in season, now is the time to try this delicious dish.

½ cup mayonnaise
2 tablespoons flour
½ cup evaporated milk
2 raw eggs, beaten
1 cup crab meat
1 cup catfish (boiled & flaked)
⅔ cup crawfish
6 oz Swiss cheese (finely shredded)
¼ cup chopped onion
¼ cup chopped bell pepper
salt and pepper to taste
1 9 - inch deep pie shell (additional pie shell optional)

In a medium bowl, mix mayonnaise, flour, evaporated milk, eggs, crab meat, catfish, crawfish, Swiss cheese, onion, and bell pepper. Season to taste. Pour into the deep dish pie shell. Top may be covered or latticed with another pie shell. Bake at 350° F for 45 minutes. Or until golden brown. Serves six.

Sincerely,

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

LOUISIANA COOPERATIVE EXTENSION SERVICE
LSU AGRICULTURAL CENTER
U.S. DEPARTMENT OF AGRICULTURE
KNAPP HALL
P.O. BOX 25100
BATON ROUGE, LA 70894-5100

OFFICIAL BUSINESS

Penalty for Private Use, $300

BLK. RT.

COVINGTON LA

U.S. OFFICIAL MAIL
PENALTY FOR PRIVATE USE $300
U.S. POSTAGE
0.17
P.B. METER 6056172

-700723429 5
6*1**********3-DIGIT 700
JERALD HORST
LCES
1855 AMES BLVD
MARRERO LA 70072-3429