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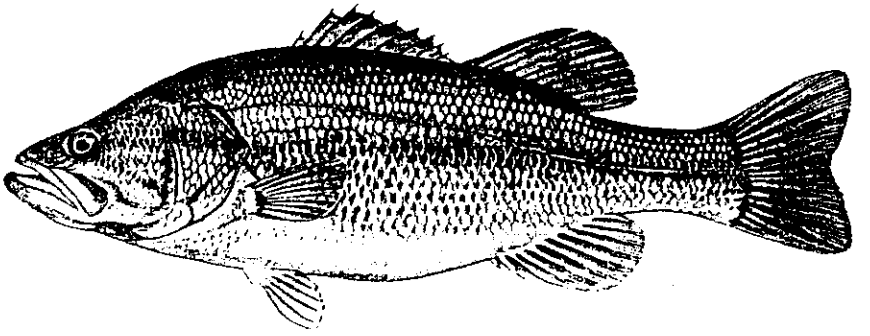
# SEA GRANT PROGRAM



# LAGNIAPPE

## FRESHWATER FISHING REGULATION ACTIONS

The Louisiana Wildlife and Fisheries Commission has taken action on freshwater fishing regulations that will affect Toledo Bend Reservoir and the Atchafalaya Basin.

For Toledo Bend, the Commission created a 12-inch minimum size for spotted bass while leaving the 14-inch minimum size limit in place for largemouth bass. The two fish can be told apart by rubbing your finger on the tongue of the fish. Spotted bass have a rough patch of teeth on the tongue while the largemouth bass tongue is smooth.

They also created a 10-inch minimum size for crappie (sac-au-lait) for the months of March through November in Toledo Bend. The reason for no size limit in December, January and February is that during these months, much of the crappie fishery takes place in 40 to 50 foot depths. Crappie caught at these depths have a very poor survival rate when released, because of decompression of their air bladders. All crappie caught during these months must be kept and cannot be culled. Both of these regulations should go into effect on September 1, 1997. The changes will make Louisiana regulations consistent with Texas regulations so that fishermen don't have to obey two sets of regulations on the same lake.

The Commission also voted to keep the 14-inch minimum size for bass in place in the Atchafalaya Basin. This regulation was put in place after Hurricane Andrew in 1992, to assist in recovery of the fishery.

Sampling by biologists using shocking machines in the basin has not shown much change in number of bass over 14 inches now as compared to before the hurricane. However, surveys of fishermen's catches have shown a dramatic increase in the catch of bass 14 inches long and longer per hour of fishing. A 14-inch bass weighs about 1½ pounds. Surveys of fishermen taken at boat ramps showed that 71% of bass fishermen and 65% of all fishermen favored the 14-inch minimum size. Only 3% of bass fishermen and 4% of all fishermen surveyed favored going back to no minimum size restrictions.

Department of Wildlife and Fisheries monitoring results before the regulations showed the largest size group of bass harvested in the basin were in the 11-inch range. Bass spawned in the first two years after Hurricane Andrew (1993, 1994) took about 3 years to grow to 14 inches. Growth rates have slowed somewhat in later spawns, and no one is sure as to whether this is due to environmental factors or to crowding. The average size of bass harvested presently is just a hair under 2 pounds, which is a quarter pound larger than before the 14-inch minimum size regulation.

During the department's public meetings and the commission hearing, several sportsmen did comment about their concern that minimum size regulations force them to keep larger bass, which tend to have higher mercury concentrations in their flesh. Bass are a fish species that tends to accumulate mercury in their flesh.

The 14-inch minimum size regulation applies to the Atchafalaya Basin and the Lake Verret/Palourde complex. Department of Wildlife and Fisheries Inland Fisheries Division biologists will continue to monitor the fishery and evaluate it.

**SPECK, DRUM AND REDFISH BIOLOGY**

Speckled trout, black drum, and redfish are all members of the drum family and very popular recreational and commercial fish. For the last two years, LSU fisheries biologists have conducted research on the reproductive biology of these fish and the results are very interesting.

They found that 50% of female speckled trout can spawn at age 1 at an average length of 6 inches and slightly over one-half pound in weight. Fifty percent maturity for female redfish and black drum was at ages 4 and 5. Female redfish averaged 12 pounds and 29 inches long. Black drum averaged 26 inches long and also 12 pounds in weight.

The spawning season was April to September for speckled trout, August to October for redfish, and January to April for black drum. Incredibly, all three species were found to spawn about once every 4 days during their spawning periods.

All three fish produced huge amounts of eggs. Speckled trout averaged 250,000 per spawn and 11 million eggs per season. Redfish averaged 1.54 million eggs per spawn and about 30 million per season. The numbers for black drum were also 1.54 million per spawn, but their season average was 40 million, as they have a longer spawning season than redfish.

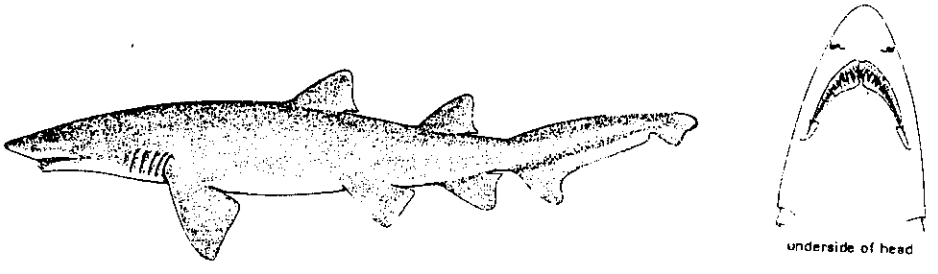
The biologists also compared the amount of eggs produced to the weight of the fish. For both speckled trout and black drum, the eggs per pound of body weight decreased as the fish got older and larger. For redfish the number of eggs per pound of body weight increased as they got larger. This may mean that for redfish, older fish may be more important for their contribution to the spawning potential of the species than younger mature fish are.

Source: Comparative Reproductive Biologies of Red Drum, Black Drum, and Spotted Seatrout from the Northern Gulf of Mexico, by David Nieland and Charles Wilson. Coastal Fisheries Institute, CCEER, Louisiana State University. Presented at the 18th Annual meeting of the Louisiana Chapter of the American Fisheries Society. February 1997.

## SHARK REGULATIONS CHANGE

The National Marine Fisheries Service has announced new shark regulations for recreational and commercial fishermen, effective immediately. First, for all fishermen, whale, basking, sand tiger, bigeye sand tiger, and white sharks are off limits and may not be kept if caught.

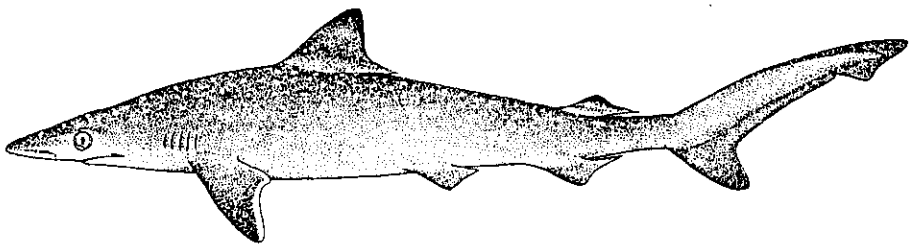
White sharks are rare in the Gulf, but do occur. Whale and basking sharks are not likely to be caught on hooks. Sand tiger sharks are, but may easily be identified by their snaggle-toothed appearance. They look like they have too many teeth for their mouth and many of the lower teeth project out from the jaw at a 45 degree angle.




Sand Tiger Shark

For commercial fishermen, the yearly quota on large coastal sharks has been cut in half, to 1,275 metric tons and a quota has also been created for small coastal sharks.

Recreational fishermen will also have changes in their limits. They are limited to 2 sharks per **vessel** per trip, **plus** 2 Atlantic sharpnose sharks per **person** per trip. Atlantic sharpnoses are one of the easiest sharks to identify.



Atlantic Sharpnose Shark

They are typically small, under four feet long, and are the only shark with thumbprint-sized white spots scattered on the body. They are very common in the Gulf of Mexico, and caught in good numbers by both recreational and commercial fishermen.

## FISH ARE A BIG LOUISIANA BUSINESS

A recent listing of agricultural commodities in Louisiana in 1996 released by the Louisiana State University Agricultural Center. points out the importance of fish and seafood products to Louisiana. Listed below are the commodities' values (after value-added processing) in descending order of economic value.

| | |
|---|---|
| Forestry | $ 3,838,293,523 |
| Poultry | 714,483,401 |
| Cotton | 567,131,216 |
| **Marine Fisheries** | **479,642,075** |
| Sugarcane | 445,502,050 |
| Rice | 390,696,701 |
| Feed Grain Crops | 362,987,938 |
| Milk | 325,045,394 |
| Soybeans | 277,056,311 |
| **Aquaculture** | **275,735,452** |
| Cattle and Calves | 201,646,368 |
| Nursery Stocks and Ornamentals | 159,839,624 |
| Home Gardens | 116,687,648 |
| Horses | 112,058,647 |
| Sweet Potatoes | 92,367,801 |
| Commercial Vegetables | 42,838,289 |
| Hunting Leases | 41,059,678 |
| **Freshwater Fisheries** | **38,006,811** |
| Hay, Sold | 35,552,800 |
| Wheat | 28,145,213 |
| Sod Production | 16,880,325 |
| Pecans | 15,062,762 |
| Swine | 13,681,726 |
| Fruit Crops | 11,733,357 |

| | |
|---|---|
| **Alligators (wild)** | **7,179,938** |
| Honey | 2,262,827 |
| Ostrich/Ratites | 2,153,450 |
| Sheep | 1,844,597 |
| Fur Animals | 1,664,050 |
| Rabbits | 1,148,372 |
| Greenhouse Vegetables | 1,093,406 |
| Peanuts | 1,080,959 |
| Exotic Animals | 479,000 |
| Quail/Pheasant | 168,450 |
| Tobacco | 44,688 |
| Other Oilseeds | 2,510 |
| **Total** | **$ 8,521,257,356** |

## F.C.C. RADIO REGULATIONS

The Federal Communications Commission (FCC) has dropped the requirement for an FCC license on all voluntary vessels. The following vessels are considered voluntary and do not need the license.

1) All commercial fishing vessels that are state registered
2) Any Coast Guard documented commercial fishing vessel that does not fish over 12 miles offshore

Coast Guard documented commercial fishing vessels that fish more than 12 miles offshore **are** required to have a VHF radio on board and **are** still required to have an FCC license for all radios and radars aboard their vessel.

If you are not required to have an FCC license but did get one in the last 3 years you may get a refund under the following circumstances:

SHOULD I RENEW MY LICENSE?

If you operate a marine VHF radio, radar, or EPIRB aboard a voluntary ship operating domestically, you are not required to apply for a new license or renew your current license. Although a license is no longer required for those ships, you may still renew your license and retain your call sign by writing "VOLUNTARY SHIP RENEWAL" in large letters across the top of the application form.

SHOULD I RETURN MY LICENSE TO THE FCC FOR A FEE REFUND?

If your license was issued prior to July 18, 1994, you paid a non-refundable $35 application fee and are not eligible for a refund. If you applied for a license after that date, however, you paid a regulatory fee in addition to the non-refundable application fee and may be eligible for a refund. Follow the instructions below to obtain your refund.

1) You paid $115 for a license between July 18, 1994, and February 7, 1995. You paid a $45 application fee and a $70 regulatory fee ($7 per year, 10 year license) and are entitled to a $56 refund ($7 per year for 8 unexpired years of your license). Submit your service license with "REFUND" written across the top to Federal Communications Commission, SHIP REFUND, 1270 Fairfield Road, Gettysburg, PA 17325-7245. A $56 refund check will be sent to you by mail.

2) You paid $115 for a license between February 7, 1995, and September 17, 1995. You paid a $45 application fee and a $70 regulatory fee ($7 per year, 10 year license) and are entitled to a $63 refund ($7 per year for 9 unexpired years of your license). Submit your station license with "REFUND" written across the top to Federal Communications Commission. SHIP REFUND, 1270 Fairfield Road, Gettysburg, PA 17325-7245. A $63 refund check will be sent to you by mail.

3) You paid $75 for a license after September 17, 1995, and received a license in the mail. You paid a $45 application fee and a $30 regulatory fee ($3 per year, 10 year license) and are entitled to a $27 refund ($3 per year for 9 unexpired years of your license). Submit your station license with "REFUND" written across the top to Federal Communications Commission. SHIP REFUND, 1270 Fairfield Road, Gettysburg, PA 17325-7245. A $27 refund check will be sent to you by mail.

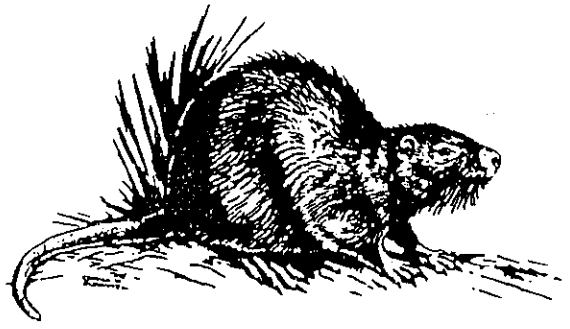
4) You paid $75 for a license after September 17, 1997, and did not receive a license in the mail. You will receive a $75 refund check in the mail. There is no need to call or write the FCC to get your refund. It will be sent automatically. Keep in mind that the FCC must process nearly 16,000 refunds in this category alone.

Source: David Johnson, U. S. Coast Guard Commercial Fishing Vessel Safety Coordinator.

## BOOSTING THE FUR INDUSTRY

Louisiana's fur trapping industry was once more important to many people than commercial fishing. In fact, commercial shrimping, crabbing and finfishing was once something done between the real money-making seasons, the fur seasons. Louisiana, until as late as the 1970's, produced more fur than any other state in the U. S. and more fur than the whole of Canada.

For a number of reasons, the fur trapping industry has gone into a serious decline in the last 20 years, forcing people to depend more on commercial fishing, which in turn has also become more highly regulated, causing it to become more difficult to make a living from fishing.



In an effort to bring the fur industry some life, the Louisiana Fur and Alligator Advisory Council has coordinated the development of a new company called Louisiana Bayou Furs Inc. The new company has seven major coastal land companies as investors.

The new company will buy furs during the trapping season and hold them for resale later in the year. Apparently, many of the large fur manufacturers are not ready to accept furs until May or June, long after the trapping season is over. Most of the old-time fur buyers who used to buy and hold furs are no longer in business.

Fur manufacturers make their decisions too late in the season to allow trappers to plan their season. Trappers need to know there is a market and about how much they will receive for their fur before they begin trapping. Without this knowledge, the number of active fur trappers will be reduced, resulting in underharvest.

Nutria and muskrat levels in the marshes are in very high numbers. Both animals can "eat-out" all of the plants in an area, which can worsen the problem of coastal land loss.

**MERCURY TESTING -- MACKEREL & CHOUPIQUE EGGS**

The Louisiana Department of Environmental Quality (DEQ) is still conducting extensive testing for mercury accumulations in Louisiana fish. In one species of fish, king mackerel, DEQ has found concentrations of mercury above the level where DEQ and the Louisiana Department of Health and Hospitals consider issuing consumption advisories.

The sample was from eight king mackerel supplied to DEQ by the Louisiana Department of Wildlife and Fisheries. Six of the eight fish were above 0.5 parts per million (ppm) mercury and two were over 1.0 ppm. It is important to note that eight fish is a very small sample, and that more sampling is needed.

On another note, Louisiana has a small but important freshwater commercial fishery for bowfin (choupique). These fish are used for "caviar" production. Choupique are often one of the first species of fish show high mercury concentrations. DEQ sampling in the Atchafalaya Basin where the fish are being caught, show very, very low concentrations of mercury in all roe samples.

As further mercury testing results become available, I will publish them.

Source: Special thanks to Emelise Cormier of the Louisiana Department of Environmental Quality, and Margaret Metcalf of the Louisiana Department of Health and Hospitals.

## AMBERJACK BIOLOGY

Amberjack are an important recreational and commercial fish in Louisiana. There is some concern by federal fisheries biologists about fishing pressure, which has resulted in the recreational limit being dropped from three to one.

A recent stock assessment found that while fishing mortality has gone up and down somewhat since 1990, that overall it has gone down 70% on adult fish (over 4 years old) and 91% on juvenile (young) fish. In 1990, size limits and recreational bag limits were put on amberjacks. Fishing mortality is defined by biologists as a measurement of the rate of removal of fish from a population by fishing.

The stock assessment panel did find, however, that the number of juvenile fish was highest in 1991 but has dropped every year since. In 1996, the number was only 14% of what it was in 1991. The biologists noted that the survival rate of amberjack after spawning, but before they get large enough to catch, changes quite a bit from year to year.

Source: Gulf Fishery News. Vol. 19, No. 1. Gulf of Mexico Fishery Management Council

## ALUMINUM FUEL TANK PROBLEMS

Aluminum fuel tanks are in wide use in boats in Louisiana. Unfortunately, the U. S. Coast Guard has noted many corrosion and leakage problems with their use, and recently awarded a grant to Underwriters Laboratories (UL) to study the problem.

UL noted that while 92% of the aluminum fuel tank failures were due to corrosion, that fatigue cracking occurred at baffle welds in tanks built of 0.090-inch thick aluminum. Abrasion from rubbing against metal fasteners was also a minor problem.

Amazingly, 23% of the owners of gasoline-powered boats in the UL study continued to operate their boats after a fuel tank problem was detected. Since most of the people in the study were members of major boating organizations that promote boating safety, UL concluded the problem was even worse among the general public. A fuel leak into the bilge or a closed compartment can cause a serious explosion.

UL concluded that boat owners had two choices, use of other material or proper construction and installation of aluminum tanks.

### OTHER MATERIALS

**Stainless Steel.** This seems, at first glance, to be an obvious choice, since it is "stronger" than aluminum. Stainless steel is, however, susceptible to pitting and corrosion in the marine environment, although at a different rate than aluminum. It is also susceptible to stress-corrosion cracking, especially at weld areas. Only 316 L stainless

steel alloy with a wall thickness of 0.031-inches is considered suitable for marine fuel tank construction. American Boat and Yacht Council standards require stainless steel fuel tanks to be less than 20 gallons and cylindrical in construction, with domed heads to limit wall stress.

**Fiberglass**. These fuel tanks, which are really fiber-reinforced plastic tanks built with fire-retardant resins, have been around for many years. While they are very good, they are very labor intensive and therefore expensive to build. This limits their use in low and medium priced boats.

**Polyethylene**. Red plastic tanks are commonly used today, especially in smaller outboard powered boats. If properly installed, they should last the life of the boat. They do not corrode, but they do tend to swell when first fueled up, and some polyethylene resins may get environmental stress cracking.

**Coatings**. Some boat owners have tried coatings such as zinc chromate primers and paints, and epoxy-based coatings, while others have covered their old leaking aluminum tanks with fiberglass to form a new tank. The major difficulty is getting the material to stick to the tank in a thick enough layer that doesn't have any pores or air spaces. Any water penetration will cause the coating to lose its grip and corrosion will worsen on the aluminum tank. If properly applied, however, UL concluded that chromate treatments and epoxy points can effectively delay or prevent corrosion.

ALUMINUM TANKS

The thickness of the aluminum used in fuel tank construction is important. Simply doubling the thickness of the material can increase the time that it takes for pitting to penetrate the tank by eight times.

Aluminum tanks must be built of a saltwater resistant alloy such as 5052, 5083, or 5086, which have a very low copper content. Every effort must be made never to get any copper or brass fitting (even a chip or filing) in connection with aluminum. A 300 series stainless steel fitting should be used between the aluminum tank and any copper or brass fitting. Aluminum is a very anodic material, and it in contact with copper or brass in the presence of moisture always creates a very bad galvanic cell.

Finally, if the tank is bedded in foam, the aluminum surfaces must be degreased, primed or etched to assure a bond of foam to the tank to keep out moisture. It is also important to use the correct foam to get good bonding and no water absorption.

Source: U. S. Coast Guard Boating Safety Circular 79. April 1997.

## COASTAL LAND LOSS CAUSES

Wetland land loss is a natural part of the dynamic environment of Louisiana's coast. The dramatic creation and loss of wetlands has occurred over thousands of years

due to rapid natural changes in sea level, shifts in the location of the mouth of the Mississippi River, sinking of coastal lands due to the heavy weight of the river's deposits and erosion.

Overall, there has been more wetland gain than wetland loss and this has built our current marshes and swamps. All of this took place since the end of the last Ice Age between 12,000 and 7,000 years ago, when world sea levels rose over 330 feet. Only after sea levels stabilized about where they are now, could the Mississippi River's sediments create the vast wetlands now present.

Before 1958, much of the wetland loss occurred because of shoreline erosion. Since then, land loss has rapidly increased and the way land is lost has changed. Presently, Louisiana has the greatest rate of coastal land loss in the United States. The causes of this loss are as follows:

**Natural substance (sinking)**. This is caused by the tremendous weight of the river's sediments actually warping the crust of the earth beneath the delta. Also included in subsidence is the natural compacting of the loose sediments deposited by the river.

**Sea level rise.** This is caused by an increase in the volume of water in the world's oceans. The causes are thought to be the melting of polar ice caps and glaciers, and the oceans' waters expanding as they are heated by global warming. This will probably continue, no matter what else is done with coastal restoration locally. The level of the sea in relation to land level at Grand Isle has shown an average rise of .4 inches per year between 1947 and 1988.

**Phase of delta-building cycle**. Over the last 7,000 years, the Mississippi River has built six deltas. As one delta ages and becomes less efficient in carrying water to the Gulf, the river picks a new channel and abandons its current one. Without new sediments, the old delta naturally breaks down. Deltas usually have active lives of 1200 to 1700 years. Much of Louisiana's land loss problems are due to the fact that the current delta at the mouth of the river is inefficient at delivering sediments to wetlands, and humans are controlling the river preventing a shift of its flow down the Atchafalaya River where it could more actively build a new delta.

**Leveeing**. Levees built along the Mississippi River prevent the river from overflowing its banks during flood periods. These flood waters historically delivered silts and clays to the wetland basins where they settled out or were filtered out by marsh plants.

**Reduced sediment in the river**. The sediment carried by the Mississippi River has declined since the beginning of this century due to changing agricultural practices, land and water use practices, and the trapping of sediments behind large dams on the Missouri and Arkansas Rivers. Between 1963 and 1982 alone, the sediment load in the river decreased by 50%. This has caused some scientists to question if the river is now carrying enough sediment to keep up with wetland loss, let alone to increase the amount of wetlands.

**Drainage**. Large areas of freshwater marshes were drained for agriculture during the last century. As these highly organic soils were exposed to air they decayed, dried, shrunk and suffered wind erosion, eventually ending up below sea level. When the levees around these areas broke they flooded, becoming permanent water. Examples are Delta Farms, Simoneaux Ponds, and the Pen.

**Canals and navigation channels**. These caused wetlands loss several ways. Large areas were destroyed by the actual dredging and spoil disposal itself. They also have indirect effects. Water current flows in the canal itself, erodes its banks causing even small canals and channels to enlarge. Spoil banks interrupt water flow over the marsh causing some areas to flood and some to dry. Both effects can cause losses as mentioned above. Scientists have estimated that 30-59% of the total wetland losses between 1955 and 1978 were due to the direct and in direct effects of canals and channels.

As can be seen, the causes of coastal wetland loss are complex and many. Solutions will also not be easy, probably will be expensive, and may be difficult to achieve. Next month -- the effects of wetland loss on fisheries.

Source: Scientific Assessment of Coastal Wetland Loss, Restoration and Management in Louisiana, by Donald Boesch and others. Journal of Coastal Research, Special Issue No. 20. 1994.

**COASTWALK '97**

On Saturday, May 31, individuals, families, and teams will participate in CoastWalk '97. This one-day, non-competitive event is sponsored by the Coalition to Restore Coastal Louisiana and the Barataria-Terrebonne Estuary Foundation.

CoastWalk is dedicated to coastal communities and the people who live and work in them. Their goal is to raise awareness about coastal issues, concerns, and solutions that will ensure a bright future for Louisiana's coastal areas. All proceeds from CoastWalk will support activities already underway to preserve and restore Louisiana's coast. Registration is $18.00 (ages 15 and over) or $5.00 (under 15).

CoastWalk's approximate 3 mile trek will begin and end at Peltier Park in Thibodaux. Immediately following the walk is the Le Fete d'Ecologie, sponsored by the Barataria-Terrebonne National Estuary Program. This festival includes food, entertainment, traditional craft booths, exhibits, and fun activities for the whole family. Festival admission is free.

For registration or information call 1-888-LA-COAST.

**Nutrient shortages**. Besides being composed of sediments, much of Louisiana's marsh "soil" is made up of undecayed vegetation. While marsh plant growth is limited by many things, shortages of nutrients, especially nitrogen can slow plant growth.

**Accelerated decomposition**. With certain environmental changes, undecayed vegetative "muck" can quickly decay, causing marsh loss. Many of the marshes high in undecayed plant matter are in lower salinity areas and are very acid in ph. Saltwater penetrating these marshes raises the ph and these waters are also high in sulfates, conditions which scientists suspect increase the decay rate.

**High sulfide concentrations**. Marsh plants in subsiding marshes are stressed or killed by poisonous sulfides. These compounds are produced under conditions of low oxygen, by bacteria that convert sulfates to plant-toxic sulfides. The sulfides that escape into the air as hydrogen sulfide produce the familiar rotten-egg smell of the marsh.

**Salt stress**. Saltwater intrusion into fresh or intermediate marsh areas can stress or kill plants. Under some conditions, this can cause marsh loss. Under others, the fresher marshes are gradually converted to areas with more salt tolerant vegetation.

**Waterlogging stress**. As marshes sink or sea level rises, plants spend more and more of the time in water. Under these conditions, the chemical reactions involved in plant growth don't work well, often resulting in plants having slower growth or even dying.

**Overgrazing**. Marsh vegetation is eaten by muskrats and nutria. Declining fur prices have resulted in lower harvest of muskrat and nutria. As their populations have increased, so has the number of "eat-outs" of marsh vegetation.

**Direct erosion**. Direct erosion of wetlands by water currents and wind driven waves has always been a factor of marsh loss. Most people see the erosion of barrier islands as a result of other factors, when in fact it is a natural process. The first phase in this process occurs after the river abandons its delta. The sands at the outer edge of its delta are reshaped into an arc-shaped chain of islands such as those found off of the old Lafourche Delta (Timbalier Islands, Fourchon beach, Elmers Island and Grand Isle).

In the second phase, the marsh is completely lost behind the islands, leaving open water. This is the condition of the Chandeleur Islands, which are the remnants of the St. Bernard Delta. As the barrier islands slowly are driven backward by the sea's waves, they leave their source of sand behind so they lose height, finally sinking beneath the sea. An example of this final phase is Ship Shoal, off of Terrebonne Parish. Ship Shoals are the beaches of the barrier islands of the old Maringouin Delta.

**Oil, gas, and sulphur mining**. Some research indicates that very little subsiding of land should occur with deep extraction of oil and gas. However, local land loss in the areas of major oil and gas reservoirs supports the theory that it contributes to land loss.


**USED OIL POLLUTION FACTS**

Used engine oil, whether it is from vessels or cars and trucks can be a serious pollutant in our waters. Some facts:

* One gallon of used oil in one million gallons of water will kill half of all crab larvae (babies) exposed to it.

* The oil from one small engine, only 4-to 6 quarts will make an 8 acre slick.

* People who change their own oil put 180 million gallons of it into the environment. That is 16 times the oil spilled from the *Exxon Valdez* tanker oil spill in Alaska.

**********

**THE GUMBO POT**
**Deviled Oyster Casserole**

| | |
|---|---|
| 2 | pints oysters in liquid |
| 1 | cup melted butter |
| 1 | cup finely diced onions |
| 1 | cup finely diced celery |
| ½ | cup finely diced red bell pepper |
| ½ | cup sliced green onions |
| 1 | tbsp diced garlic |
| 1 | cup heavy whipping cream |
| ½ | cup diced egg |
| ½ | cup chopped parsley |
| 1 | tbsp Worcestershire sauce |
| 1 | tbsp hot sauce |
| 2 ½ | cups seasoned Italian bread crumbs |
| | salt to taste |

Preheat oven to 350 degrees F. In a two quart sauce pot, heat butter over medium high heat. Saute onions, celery, bell pepper, green onions and garlic until vegetables are wilted, approximately two to three minutes. Add heavy whipping cream, bring to a low boil and reduce to simmer. Add oysters and oyster liquid and cook until oysters are slightly curled. Remove from heat and add egg, parsley, Worcestershire and hot sauce and blend well into mixture. Sprinkle in bread crumbs, one cup at a time, until proper consistency is achieved. Mixture should remain moist but should hold together well with bread crumbs. Season to taste using salt. Place in a well greased 9 x 13" baking dish or individual shells and bake approximately one half hour. Serves 6

Sincerely,

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