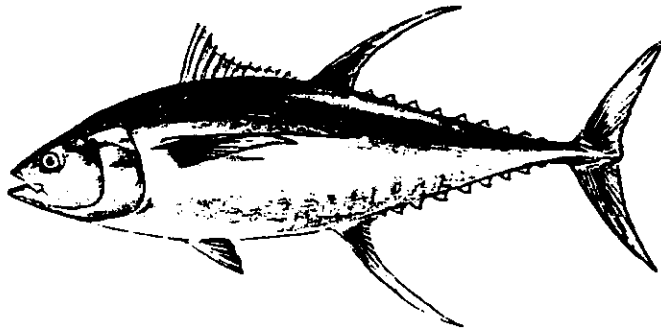


February 1, 2000
Volume 24, No. 2

SEA GRANT PROGRAM



LAGNIAPPE

PUBLIC HEARING ON LONGLINE CLOSURE

The National Marine Fisheries Service has set the local public hearing on their proposal to close all Gulf of Mexico waters west of 90 degrees longitude each year from March 1 to September 30 to pelagic longlining. This is roughly everything west of central Grand Isle, Louisiana. The local hearing will be at 7 pm on Wednesday, February 16 at the Four Points Hotel, 333 Poydras St, in New Orleans.

RECREATIONAL BLUEFIN TUNA SEASON CLOSURES

The National Marine Fisheries Service (NMFS) has announced the closure of recreational harvest of large medium and giant (trophy) bluefin tuna in the Gulf of Mexico. According to NMFS, the recreational quota was reached on January 8 and the season is now closed until May 31, 2000.

While only a limited number of bluewater recreational fishermen in Louisiana take the opportunity to target these large fish, a substantial population of giant bluefins spends the winter months in the Gulf off of southeastern Louisiana. During the open season, recreational fishermen are required to notify NMFS within 24 hours of landing such a tuna by calling the toll-free number 1-888-872-8862.

YELLOWFIN TUNA

Mention tuna to most people in Louisiana, and they will think of the stuff in a can or "Charlie the Tuna" from old television commercials. However, yellowfin tuna are the most valuable commercial food fish landed in the state, worth an average of \$9.4 million annually the last 3 years. This is more than double the value of the next most valuable species, red snapper.

Recently, the National Marine Fisheries Service (NMFS) compiled final figures on U.S. commercial and recreational landings of this species for the last 18 years, as required by the Fisheries Act of 1995. These landing figures are for the Atlantic Ocean and Gulf of Mexico combined. A metric ton is 2,200 pounds.

Year	Commercial metric tons	Recreational metric tons
1981	1888	1274
1982	819	912
1983	358	2196
1984	1775	405
1985	6342	3394
1986	5102	4836
1987	5710	3952
1988	9166	1899
1989	6530	1930
1990	5121	545
1991	5495	1418
1992	5982	957
1993	4386	1898
1994	3775	4522
1995	4395	4157
1996	3788	4498
1997	4105	3569
1998	2693	2927

As expected, the figures show large commercial landings for this fish, especially after 1984. What is surprising are the large recreational landings in recent years. In the last five years of the period, recreational landings were 19,673 metric tons as compared to 18,756 metric tons of commercial landings.

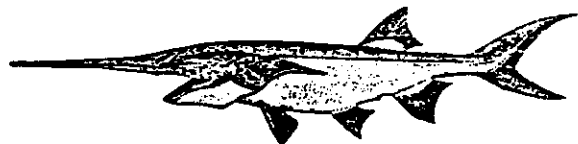
Atlantic tunas are managed under an international treaty with other tuna-producing countries, which somewhat complicates management. Management by treaty is done because of the highly migratory behavior of the fish, which can take it from one country's jurisdiction to another in a matter of days or weeks.

Treaty management has not stopped NMFS from taking a hard look at the fishery. Much of the pressure on NMFS has come from national and international environmental groups. Regulation has also increased. For example, tuna are the only fish that NMFS requires a special recreational permit to land, and the number of commercial longliners has been capped at the current number. More regulation is sure to come.

Source: *A Review of Available Atlantic Tuna (Bigeye, Albacore, Yellowfin, and Skipjack) Commercial and Recreational Landings Information for the U.S.: 1980-1998*. Craig Brown. National Marine Fisheries Service, Miami. 1999

SPOONBILL CATS

Paddlefish, or spoonbill catfish as they are often called by freshwater fishermen, are a primitive fish species found in almost all of Louisiana's natural water bodies. They are often seen by commercial fishermen, but few sportsmen notice them because they do not bite on hooks. They feed by straining microscopic animals (zooplankton) from the water with their huge mouths.



These fish were once very common in much of the United States. By the early 1900's their numbers were much reduced, probably due to habitat destruction, pollution and/or over-fishing. During the first 20 years of this century, some paddlefish were harvested for their roe (eggs) which were used to make caviar. Prices were \$1.50-2.00 per pound for the eggs. Louisiana was the first state in the U.S. to protect paddlefish when the state legislature approved a closed season in 1914. This was later changed, and protection was provided with a 15-pound minimum size limit.

Later commercial paddlefish harvests were low, averaging under 27 thousand pounds per year between 1966 and 1986. All the harvest during this period was for their flesh rather than their roe. Prices were also low, ranging from 11 to 37 cents per pound. Then in the late 1970's, the U.S. banned all imports from Iraq and Iran, two of the world's largest sturgeon caviar exporters. U.S. markets turned again to paddlefish roe as the next best substitute and prices for the roe rose to \$12-15 per pound.

Nonresident commercial fishermen began fishing for paddlefish in Louisiana by 1984, concentrating their effort in the Mermentau River. Because of public concern and the fact that so little was known about the health of the fish's population, the fishery was closed by the Louisiana Wildlife and Fisheries Commission in 1986.

It has remained closed until present, but since 1986 Department of Wildlife and Fisheries (DWF) biologists have conducted substantial research on the fish, sampling their population, and tagging and releasing both wild and hatchery-raised fish. Biologists used

gill nets, otter trawls and hook and line snagging to sample the Calcasieu, Mermentau, Atchafalaya and Pearl Rivers, two backwater swamps, Henderson lake, and Larto-Saline, and three lakes, Yucatan, Grand (southwestern Louisiana), and Ponchartrain. During the three year period, 334 paddlefish were collected. All fish were measured, weighed, sexed, and aged by counting the rings in a cross section of their jawbones. Highest catch rates were in Lake Henderson, followed by Lake Ponchartrain. No paddlefish were caught in the Calcasieu River or Yucatan Lake.

The smallest fish caught was 24 inches long and the longest, a male fish was 63 inches. The heaviest was a 46-pound female. Although other studies indicate that paddlefish can live to 30 years, no fish older than 14 years old were captured in Louisiana.

Male paddlefish began maturing by 4 years old and by age 9 all were mature. Females began maturing at 7 and all were mature by 10 years old. Spawning takes place in the spring, when the fish begin to migrate up rivers when water temperatures are between 50 and 66°F. Males seem to spawn every year and females once every 2 to 5 years. The largest number of mature fish were found in Lake Ponchartrain. Females captured in the study had egg count estimates of 65,716 to 136,843 eggs per female.

Paddlefish can make long migrations. In Louisiana, paddlefish have been observed to travel 40 miles from Toledo Bend Reservoir into Texas through the Intracoastal Waterway. Movements of 500-800 miles have been observed in the Missouri River.

DWF biologists plan to continue their work in cooperation with 21 other states in the Mississippi Interstate Cooperative Resource Association. This will include more sampling, tagging of fish, and hatchery production and stocking.

Sources: *Louisiana Paddlefish Investigations*. Bobby Reed. Louisiana Department of Wildlife and Fisheries. Final Report, Project No. F-60 (03). 1989. *Micras National Paddlefish Research Project*. Bobby Reed. 20th Annual Meeting of the Louisiana Chapter of the American Fisheries Society. 1999.

PROGRESS ON FISHERIES MUSEUM

The Louisiana Marine Fisheries Museum Task Force has announced another major step in the development of the Louisiana Marine Fisheries Museum. A contract has been let for the restoration of the first museum building at the site or the old Rosethorne Elementary School, near the northern boundary of the Town of Jean Lafitte. The museum will be on the banks of the Intracoastal Waterway on Highway 303.

Restoration is scheduled to be completed by March 19, 2000. Temporary displays will be placed in the museum until permanent exhibits are developed. A ground breaking ceremony was held for invited guests on January 20. After further development, a grand

opening will be scheduled. In the interim, the museum may be visited by appointment by calling Task Force Chairman Art Cormier.

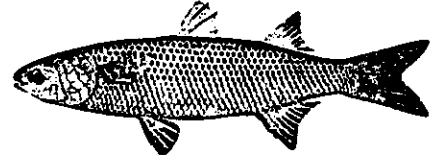
Museum Task Force Members

Scott Adams Jefferson Economic Development Commission	504/833-1881
William H. Bousted, Legal Advisor	504/347-8008
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Carolyn Kass Falgout, Fund Raising Coordinator	504/748-7053
Randy Gros	504/341-5683
Sara Ann Harris, Exhibit Coordinator LA. Seafood Promotion and Marketing Board	504/568-5693
Tim Kerner Mayor, Town of Jean Lafitte	504/689-2208
Roy Ross Ross Construction	504/689-4757
Paul Thibodaux LA. Cooperative Extension Service	504/682-0081 Ext 2233

Anyone wishing to donate old fishing equipment or willing to have fisheries related photographs duplicated for the museum should contact Sandy Corkern or Art Cormier. Individuals or companies that wish to make a financial contribution may contact Carolyn Kass Falgout. In the near future, the task force will have signed numbered posters of the museum by artist/educator Gina Hymel Fitch for sale.

FRESHWATER HOOPNET FISHERY FOR MULLET OPENED

The 1999 Louisiana Legislature, with Act 838, authorized the creation of a freshwater fishery for striped mullet with hoopnets and directed the Louisiana Wildlife and Fisheries Commission to adopt rules for the fishery. The Commission did so at its January meeting and the fishery is now open.

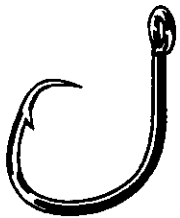


The rules are as follows:

- 1) Mullet may be taken by commercial fishermen with hoop nets (without lead nets) in freshwater areas of the state. These are waters above the saltwater-freshwater line not specifically zoned as saltwater.
- 2) Mullet caught in freshwater areas may not be possessed by commercial fishermen in the saltwater areas of the state.
- 3) No mullet may be taken from hoopnets or possessed on the water between the hours of official sunset and official sunrise.

These rules do not affect the commercial strike net fishery or the recreational fishery. Recreational fishermen are still limited to 100 pounds of mullet per person per day and may not sell their catch.

CIRCLE HOOKS



The Gulf of Mexico Fishery Management Council is encouraging all commercial and recreational fishermen to use circle hooks when fishing for red snapper in order to reduce the mortality (death) rate of fish that are caught and then released because of minimum size limitations. The council has considered, but for the time being, stopped short of making circle hook use mandatory for snapper fishing. At first glance, it's hard to imagine how this awkward-looking hook can catch anything.

The big advantage that circle hooks offer is that fish are almost never deep-hooked. When the fish takes the bait and attempts to swim off, the hook pulls out of the throat and to a corner of the mouth, where the hook rotates and pierces the jaw, usually in the corner. Once the fish is hooked, it finds that it is almost impossible to shake the hook out. Jaw-hooked fish have a much higher survival rate after release than deep-hooked fish.

Circle hooks offer other advantages. When properly used, catch rates are much higher than with J-shaped hooks. They are also safer, with no exposed point to hook a fellow fisherman. Circle hooks are also much less likely to snag on bottom or debris. After

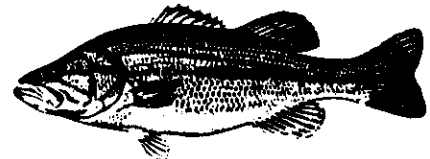
the fish is landed, the hook can be removed with a simple twist using needle nose pliers or with a dehooking device.

While commercial fishermen have been using circle hooks for some time, first-time recreational users will need re-education not to set the hook. Jerking the rod in response to a bite will pull the hook from the mouth of the fish nearly every time. The fish must be allowed to hook itself when it swims away. Another minor problem is that determining the right size circle hook can be difficult because hook sizes currently are not standard among manufacturers. This lack of standardization makes ordering circle hooks from a catalog a little difficult.

BASS FISHERMEN

Largemouth bass fishing has evolved in the last 20 years. Bass tournaments and bass clubs are now common, as a fairly new breed of specialized competitive fishermen targeting bass has developed from the "old-style" more generalized recreational fisherman.

To effectively manage a fishery, a manager must not only understand the habitat and its fish population, but also the fishermen that use the resource. The Texas Parks and Wildlife Department conducted such a study on bass fishermen using the 280 thousand acre Lake Fork, which is managed to produce a trophy bass fishery.



Under trophy management regulations the lake has produced 36 of the 50 largest bass taken from Texas public waters, including the current state record of 18 lb. 2 oz. Because of its reputation for producing trophies, the lake attracts fishermen from throughout Texas and from other states. Although the lake has good fishing for crappie, catfish and sunfish, 91% of the fishing effort on the lake targets largemouth bass. During peak bass fishing times all motels within an hour's drive of the lake are booked.

The study was conducted by sending mail surveys to fishermen stopped on the lake or at boat ramps over a one year period by biologists checking fish catches. A total of 848 anglers were sent surveys and 619 returned them, with 609 being usable.

Almost all anglers in the survey were white (98%) and male (98%). Their average age was 42 years old and their most common household income range was \$40,000 - \$49,999. They were highly experienced, having fished an average of 28 years and freshwater fished an amazing 62 days the previous year.

That Lake Fork anglers have an over-representation of specialized largemouth bass fishermen was also evident. The 62 days of fishing was over twice as high as for Texas

bass fishermen in general. Lake Fork fishermen were nearly 4 times more likely than other bass fishermen to rate themselves as skilled (30% vs 8%).

Lake Fork bass fishermen were over twice as likely to belong to a fishing club or organization (34% vs 15%), and almost 3 times as likely to have participated in fishing tournaments (57% vs 20%) than bass fishermen in general. Finally, Lake Fork anglers had invested nearly twice as much money in fishing compared to bass fishermen in general (\$13,174 vs \$6,555).

What does this tell a fisheries manager. First it shows that there is a segment or part of the recreational fishery that is willing to pay more for a trophy fishing experience. Secondly, this is only a part of the total bass fishery. There are also still many bass fishermen that would rather catch more, but smaller, fish per trip than fewer, larger ones. Therefore, it would not be wise to manage all reservoirs for trophies.

Finding the right combination of waters managed for the different needs of different anglers will be the challenge facing fisheries managers in the future.

Source: *Trip Characteristics, Expenditures, and Economic Value of a Trophy Largemouth Bass Fishery: Lake Fork Reservoir, Texas*. K. M. Hunt, S. M. Poarch, R. Riechers. Proceedings of the Fiftieth Annual Conference, Southeastern Association of Fish and Wildlife Agencies. 1996.

GLOBAL WARMING OR GLOBAL COOLING?

Just when you thought that you had it all figured out - - the earth is getting warmer, the polar ice caps are melting, sea level is rising and coastal residents will be standing up to their noses in sea water - - guess what? Global warming may cause an ice age, at least according to some scientists.

The theory is that global warming will alter ocean currents, primarily the Gulf Stream. This current leaves the Gulf through the straits between Florida and Cuba and moves up the U.S. Atlantic Coast before veering eastward to Europe, where it heats that continent.

As the Gulf Stream flows northeastward, some of its water evaporates. What's left is saltier and heavier than the seawater around it. This denser water sinks to the sea bottom and flows back to the south where after mixing with fresh water from tropical rivers it starts the north-flowing cycle over again.

But with global warming, melting ice from Greenland and the Arctic Ocean would pump fresh water in the North Atlantic. Increased northern rainfall predicted with global warming would add more fresh water to that. The result would be that the Gulf Stream's

water would not become heavier and sink to move southward to resupply the current and as a result, the Gulf Stream would be shut off.

If that happened, Europe would get very cold. More snow would fall and the bright snow cover would reflect more of the sun's energy back into space, making it even colder. This alteration of ocean currents is also predicted to reduce the normal evaporation of water from the sea. Since water vapor is an important greenhouse gas, its reduction in the atmosphere would mean even more dramatic cooling - - a total of as much as 17° F.

Its no wonder a large segment of the public doesn't believe any predictions associated with global warming.

Source: - - - *And Then How Cold*. Time. Nov 8, 1999.

BARNACLES AND BLUE CRABS

Fishermen often ask me why scientists spend time and money studying things that seem to have no practical importance. For example, one person recently asked me why anyone needs to study barnacles on a crab's back. What often seems like a waste of research time later turns out to be useful. In this case, a barnacle (on the belly rather than the back) found on crabs can have serious effects.

The barnacle, *Loxothylacus texanus*, is a true parasite of blue crabs in the Gulf of Mexico. This barnacle is very difficult to recognize as a barnacle, not having the pyramid-shaped shell so commonly associated with barnacles. Much of the barnacle lives inside of the crab, with root-like branches that invade the tissue of the crab to absorb nutrients. The part of the barnacle that is on the outside of the crab appears as one or more bulges under the belly apron of the crab. This bulge, called the externa, contains a brood pouch



for the reproductive organs and the larvae (babies) of the barnacle. Crabs become infected when they are young by the swimming barnacle larvae, which penetrate a joint in the crab when it is in the softshell stage after shedding.

The barnacle has serious effects on the host crab. Infected crabs become sterilized and cannot reproduce. A male crab's glands are affected in such a way that the apron changes to look like a female's. Small females develop wide aprons and appear to be miniature mature crabs.

Infected crabs also stop growing and never reach the minimum legal size for harvest, so their production is lost to the fishery. These parasitized crabs compete with unparasitized crabs for food and space.

The rate of infected crabs appears to be highest in south-central Louisiana estuaries and certain high-salinity bays in Texas. Researchers in Bayou Jean LaCroix in Louisiana reported barnacle-infection rates in crabs of 62% in May, 61% in June, and 50% in July during their study. Other Louisiana research found a peak of infected crabs from July to September, with a rate of slightly over 17% in September.

Analysis of 25 years of trawl samples taken by the Louisiana Department of Wildlife and Fisheries indicates a 6% infection rate. Over 90% of the infected crabs were between 1½ and 3 inches wide. Less than 1% reached 4 inches in size.

Sources: *Notes on the Occurrence and Distribution of Rhizocephalan Parasite (Loxothylacus texanus Boschma) of Blue Crabs (Callinectes sapidus Rathbun) in Louisiana Estuaries.* G. Atkins. Louisiana Wildlife and Fisheries Commission, Technical Bulletin 2. *Marine Maladies? Worms, Germs, and other Symbionts from the Northern Gulf of Mexico.* R. M. Overstreet. Mississippi-Alabama Sea Grant Consortium. 1978. *Studies on Loxothylacus texanus.* J. G. Ragun and B. S. Matherne. Proceedings of the Gulf Coast Regional Symposium on Diseased Aquatic Animals. Louisiana State University Sea Grant. 1974

PERSONAL WATERCRAFT

Personal watercraft (PWCs), also often called jet skis, are becoming increasingly popular. A recent report by the Izaak Walton League of America stated that there are 10 times as many PWCs in the US than there were a decade ago.

The report also accuses them of being big polluters. In 7 hours of use, a PWC produces the same amount of hydrocarbon and nitrogen oxide emissions as a 1998 passenger car driven 100,000 miles. PWCs also leak an estimated 165 million gallons of unburned fuel into America's waterways each year. The report also states that in some lakes PWCs may produce 90% of certain pollutants, even though they only use 10% of the gasoline burned on the lake.

PWCs are powered by inefficient two-stroke motors. While they are similar to two-strokes used by fishermen, they cause much more environmental damage than fishing boats, according to the report.

"PWC motors are 100 horsepower or more, and they are run continuously at high speeds. At those speeds, large engines operate very inefficiently, using up to 10 gallons

of gas per hour and spilling 25 to 30 percent of their fuel unburned." The US Environmental Protection Agency issued new standards in 1996 to regulate two-stroke emissions. These new standards require a 70% reduction in two-stroke emissions by the year 2006. PWC manufacturers are relying on new technology, such as direct fuel injection systems, to help them meet these standards by the deadline.

Source: *Caught in Wake: The Environmental and Health Impacts of Personal Watercraft.* Laurie Martin. Izaak Walton League of America. 1999.

THE GUMBO POT

Crawfish Stuffed Sweet Potatoes

Okay, all you adventurous eaters, here's one for you to try. Outside of being a tad too sweet for me, I enjoyed it. But then, I'm not a sweet-eater. Be sure not to leave out the pecans, they are wonderful in this dish.

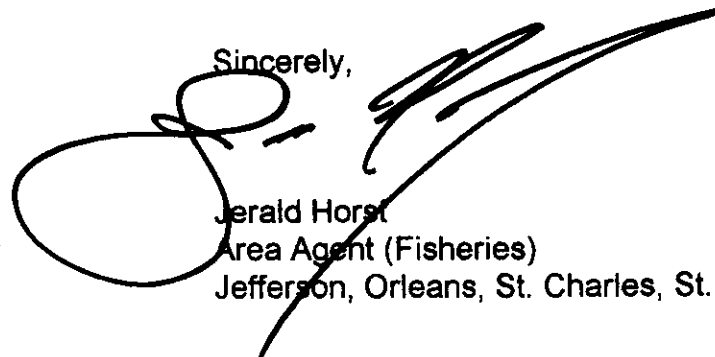
6 medium sweet potatoes
 ¼ cup softened margarine
 1 tbsp brown sugar
 ½ tsp salt
 ¼ tsp allspice
 ½ tsp cinnamon
 2 tbsp heated milk
 ¼ cup chopped pecans
 1 1lb chopped crawfish tails

Topping

½ cup flour
 ½ cup pecans
 ½ cup brown sugar
 ½ cup softened margarine

Bake sweet potatoes at 375 degrees for one hour. Cut a slice from one side of each potato and scoop out the flesh, being careful not to tear the shell. Mash potatoes with margarine, brown sugar, salt, allspice, cinnamon, and heated milk. Beat with an electric mixer until fluffy. Fold in pecans and crawfish. Fill mixture into potato shells. Mix topping ingredients and add to tops of stuffed sweet potatoes. Bake at 350 degrees for 15-20 minutes. Serves 4-6

Sincerely,



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