



Louisiana State University

Agricultural Center

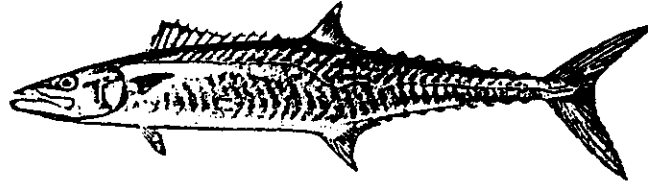
Louisiana Cooperative Extension Service

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SEA GRANT PROGRAM



LAGNIAPPE

KING MACKEREL REGULATIONS CHANGE

The National Marine Fisheries Service has approved several changes proposed by the Gulf of Mexico Fishery Management Council. First, the minimum size limit on king mackerel taken in federal waters has been increased from 20 to 24 inches. This applies to both recreational and commercial fishermen. The state of Louisiana will likely approve a similar regulation for its waters.

The recreational bag limit will stay at 2 fish, but the captain and crew of charter and headboats will have a zero bag limit, effective immediately. These boats may only land 2 king mackerel for each non-crew member of the party.

Finally, commercial fishermen will now have a trip limit of 3000 pounds of king mackerel per vessel per trip. This has no immediate effect because the commercial king mackerel season is closed for the year, but will be in effect when the next season begins on July 1, 2000.

The overall harvest quota for king mackerel in the Gulf remains unchanged at 10.6 million pounds. The division between commercial and recreational fishermen is also unchanged at 3.39 million pounds commercial and 7.21 million pounds recreational.

ANGLING FOR ECONOMIC DEVELOPMENT

The promotion of recreational fishing is often seen as an economic development opportunity for coastal parishes and communities. While there is truth to this, sportfishing activity by local residents has very little economic impact, as no "new" money enters the community. If fishermen didn't spend their money on recreational fishing they would likely spend it on some other activity in the community.

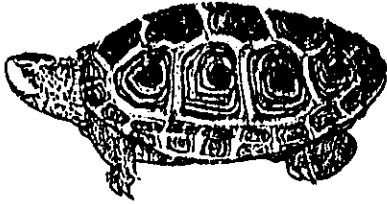
Tourist fishermen who come into coastal communities, on the other hand, bring "new outside money" into the community and do have a significant economic impact. Some states do a much better job than others of attracting non-resident fishermen. Louisiana, with its enormous fisheries resources and large number of resident recreational fishermen has not done well at attracting out-of-state anglers, as the table below shows. Louisiana ranks third in the country in number of resident coastal anglers, but twelfth in non-resident coastal anglers.

1998 In-State Anglers		1998 Out-Of-State Anglers	
State	No. of Anglers	State	No. of Anglers
Florida	2,263	Florida	2,384
California	1,163	North Carolina	611
Louisiana	467	South Carolina	402
North Carolina	397	New Jersey	353
Maryland	395	Maryland	304
Washington	347	Virginia	289
New York	346	Massachusetts	226
Massachusetts	315	California	198
Connecticut	299	Delaware	186
New Jersey	282	Rhode Island	186
Virginia	279	Maine	114
Oregon	181	Louisiana	106
South Carolina	181	Alabama	98
Georgia	127	Connecticut	73
Maine	104	Mississippi	66
Alabama	97	New Hampshire	57
Rhode Island	77	Oregon	51
Delaware	67	New York	42
Mississippi	64	Washington	42
New Hampshire	61	Georgia	18

Source: *Fisheries Statistics of the United States, 1998*. Current Fishery Statistics No. 9800. National Marine Fisheries Service.

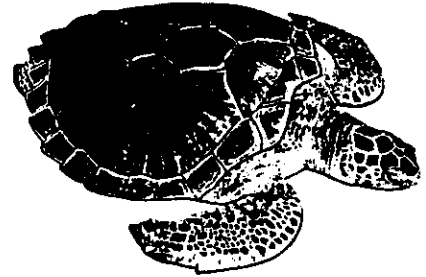
COWAN

LIVE COWAN FOR SALE. This was a common sign painted on the sides of New Orleans retail seafood markets or on A-frames on the sidewalk in front of these markets until the 1970's. For those that don't remember those days, "cowan" meant turtle. While the turtle fishery was never a major fishery on the scale of shrimp, oysters, or catfish, it was an important source of income for some fishermen seasonally.

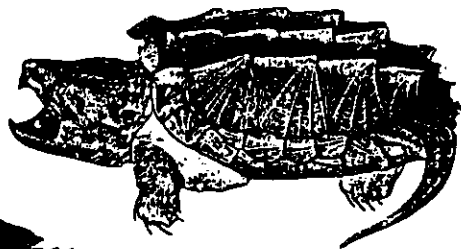


An early commercial turtle fishery existed for the diamondback terrapin. Very few were eaten in Louisiana. Instead, they went to the major northern cities, where diamondback terrapin soup was a high-priced dish during the 1920's. At its peak, these turtles brought \$85 per dozen in New York. The fishery was collapsed by the double whammy of the great depression and strict regulations to prevent overfishing. This turtle is still fairly common in the state's brackish and salt marshes. Louisiana's last recorded landings of diamondback terrapin were of 144 pounds sold for \$29 in 1977.

Sea turtles, now protected from harvest by the Endangered Species Act, were once also a significant fishery. In 1934 the catch of sea turtles in Louisiana was 288,770 pounds valued at \$8,069. In 1935 it was 218,409 pounds for \$13,200. The last recorded landings of sea turtles in Louisiana were made in 1975 with 1,588 pounds worth \$552.



ALLIGATOR
SNAPPER



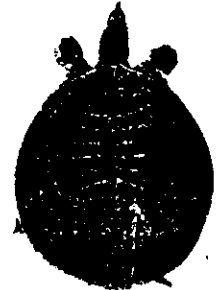
SNAPPER

Louisiana's major fishery for turtles for food has always been for freshwater turtles, primarily the snapper and the alligator snapper (locally called loggerhead). These turtles reach large sizes, up to 35 pounds for the snapper and over 200 pounds for the alligator snapper, and have powerful jaws capable of inflicting a nasty bite.

Freshwater turtles have always been worth at least twice as much per pound as sea turtles. Compared to sea turtles, the freshwater turtle catch in 1934 was 533,500 pounds (\$80,025), in 1935 was 849,000 pounds (\$127,735), and in 1936 was 865,000 pounds (\$129,759).

In the last 35 years, freshwater turtle landings have not even come near those of the 1930's, with a peak in pounds of 103,607 in 1989, and a peak in price of \$1.00 per pound, live weight, in 1991.

Other species of freshwater turtles are occasionally landed and marketed, such as the red-eared turtle (mobilian) and the softshell turtle shown at the right. The pancake-shaped softshell turtle has a soft leathery shell rather than a hard shell. Turtle gourmets in years past cleaned and ate portions of the shell as well as the meat when they made turtle stew.



The most valuable turtle fishery in Louisiana was not for food, but for baby freshwater turtles sold for pets. Many species were harvested, including map turtles, with most common one being the red-eared turtle. Reports have it that the craze started at the Chicago World's Fair in 1933. By 1934, the catch was 2,546,087 turtles, 6,129,235 in 1935, and about 4,800,000 in 1936. These turtles brought 10 cents each.

The demand for these quarter-sized animals was so great that several dozen turtle farms sprang up in the state. By the 1970's, fear of salmonella infections in children from handling these pet turtles prompted the U. S. Food and Drug Administration to ban the interstate shipment of baby turtles. In spite of a method developed at Louisiana State University to inoculate the turtles against salmonella, the ban remains in effect today. The wild baby turtle harvesting business does not now exist, and only a handful of turtle farms are still in business. All of their production is shipped out of the United States.

L.D.W.F. ISSUES WARNING TO BOATERS IN M.R.G.O. AREA

The Louisiana Department of Wildlife and Fisheries Enforcement Division has issued a warning to boaters regarding very shallow and treacherous areas on both sides of the Mississippi River Gulf Outlet (MRGO) in St. Bernard Parish. The warning stems from numerous recent incidents in which small recreational and commercial vessels have run aground on shallow spoil areas surrounding the MRGO.

The spoil deposit on areas are shown on newer navigational charts, but do not appear on many boating maps. These areas are not marked and pose a danger to all area boaters because they are too soft to walk on and too shallow for rescue boats to reach. The areas are so shallow that stranded boaters often cannot be rescued until the tide rises, which has forced some people to wait for hours on vessels that have run aground.

The shallow areas were created when the U.S. Army Corps of Engineers dredged the MRGO to restore the depth necessary for ship traffic after Hurricane Georges and

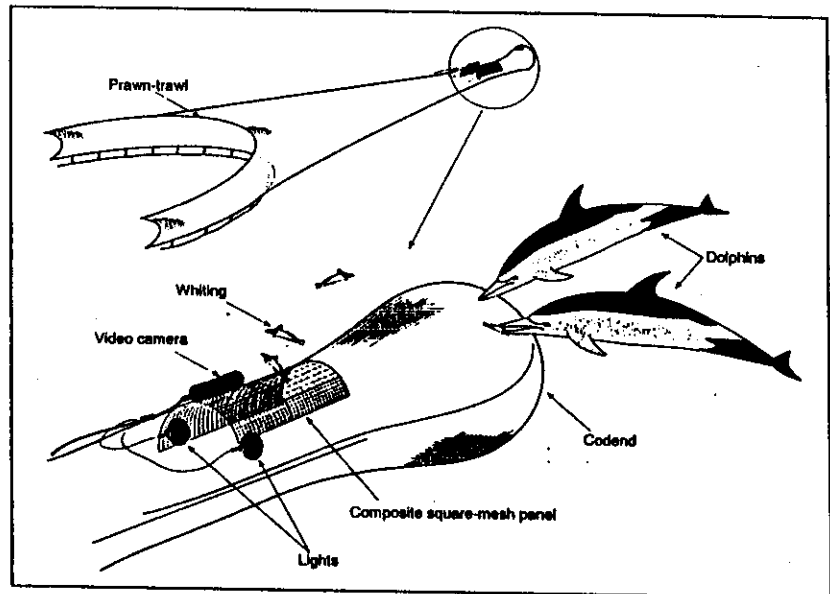
Tropical Storm Frances last fall. LDWF officials warn boaters using the MRGO area to consult current nautical charts, note the locations of all spoil areas and operate with extreme caution.

RED SNAPPER REGS FOR CHARTER BOATS

The National Marine Fisheries Service has approved a zero-fish bag limit for captain and crew of for-hire vessels and a four-fish bag limit for all other recreational anglers. This was done to slow the recreational catch rate and prolong the season. This new regulation will go into effect on January 1, 2000, when the season reopens.

SHRIMP TRAWLS & DOLPHINS

Shrimp, or as they are known in Australia, prawns, provide a major commercial fishery down under. Prawn fishermen, like Gulf of Mexico shrimpers, use bottom trawls as their primary fishing gear. In Australia, bottlenose dolphins (the same species we have in the Gulf) are often seen around shrimp boats scavenging bycatch raked off of vessel decks after sorting and also removing finfish from trawl bags (codends) while the trawls are being picked up.



Australian scientists interested in finding out if dolphins also raided shrimp nets while they were being towed in fishing position, mounted lights and a video camera on a commercial trawl. The results confirmed what most shrimpers suspected.

Dolphins regularly swam up to the rear of the trawl bag and using their beaks and foreheads, pushed the meshes strongly forward and upward. This action opened the meshes of the trawl enough to allow small fish to escape, which they immediately grabbed and ate. The dolphins showed a definite preference for some items, such as whiting (a relative of our channel mullet or kingfish) and squid. They never ate any shrimp or crabs that were released. Interestingly, the dolphins never fed on whiting released by the composite square-mesh panel, the Australian version of a bycatch reduction device (BRD).

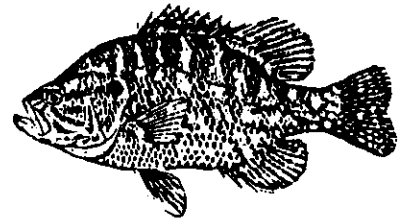
The researchers made several observations from their study:

- * Dolphins may receive a strong nutritional benefits from interacting with shrimp trawls. A mature bottlenose dolphin will eat over 26 pounds of food per day.
- * This and other work indicates that very little danger exists of dolphins becoming entangled in shrimp trawls.
- * Research to test trawls for bycatch reduction in areas with dolphin activity may not produce accurate results.
- * Shrimpers working in areas with large dolphin populations may want to consider protecting the trawl bag with a heavy mesh panel, as the dolphins' behavior releases shrimp as well as finfish.

Source: *Bottlenose Dolphins, Tursiops truncatus, Removing By-catch from Prawn-trawl Codends During Fishing in New South Wales, Australia.* M. K. Broadhurst. Marine Fisheries Review. Vol 60, No. 3. 1998

GLUTTON

The goggle eye, or as biologists like to call it, the warmouth, is probably the prettiest freshwater fish in Louisiana. Its bright red eye, attractive mottled olive green color, and huge mouth make it unmistakable for any other fish.



So does its appetite. Goggle eye will strike everything from 9-inch bass worms down to the smallest cricket in the cricket cage. They usually like to call the weediest, stumpiest spot they can find their home.

Not a lot of research has been done on this small but interesting fish. Probably the most detailed study done in waters similar to Louisiana was conducted in the Suwannee River and the Okefenokee Swamp in Georgia. Biologists there captured several hundred goggle eye over a five year period to study their reproductive biology, growth rates and diet.

They found that goggle eyes will live up to 8 years old, reaching over 8 inches in length. They grew to 5 inches, a size most fishermen will keep, at 3 to 4 years old, but usually started spawning before that, at 2 to 3 years old. Goggle eyes are not as prolific spawners as some other sunfish, like bluegills which will spawn many times in one year. The biologists conducting this study observed only one spawn per fish per season.

Spawning activity peaked in May and the number of eggs produced per fish ranged from 8,721 to 20,064.

As could be expected, goggle eyes ate just about anything—insects, shrimp, crawfish, and fish. Goggle eyes 1 to 3 inches long fed mainly on insects, especially the aquatic larvae of flies and dragon flies. Fish, freshwater shrimp and some crawfish were also eaten.

By 3 to 5 inches long, they increased their consumption of fish, crawfish, and especially freshwater shrimp, although insects remained the biggest food item. Goggle eyes 5 to 7 inches long ate less insects and shrimp, and a lot more fish and crawfish. The largest goggle eyes, those over 7-inches long, ate less insects and surprisingly, less fish, but dramatically more crawfish.

Source: *Life History of the Warmouth in the Suwannee River and Okefenokee Swamp, Georgia*. J. Germann, L. McSwain and D. Holder. Proceedings of the 28th Annual Conference, Southeastern Association of Fish and Wildlife Agencies. 1974.

D.N.R. TACKLES UNDERWATER OBSTRUCTIONS

Louisiana has now become one of the first states in the United States to undertake a comprehensive underwater obstruction removal program. Obstructions in Louisiana's coastal waters pose a hazard to recreational and commercial boaters. Additionally, shrimp trawlers lose many nets on these "hangs" as they are commonly called.

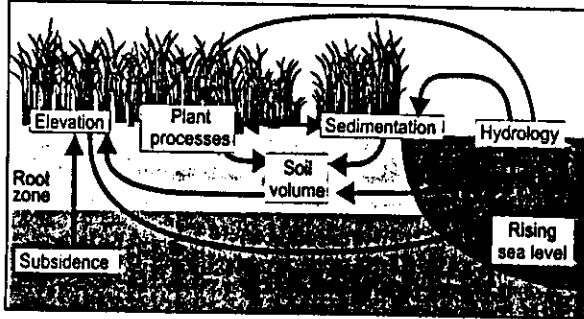
Locating and identifying underwater obstructions is the most difficult step in their removal. Recognizing this, the Louisiana Department of Natural Resources Underwater Obstruction Removal Program is asking fishermen and boaters to contact them if they are aware of the location of such hazards. Program administrator Bruce Ballard will, after being notified of an obstruction, send a boat and diver to the location within two weeks to get an exact fix on it and mark it with a temporary marker.

Ballard states that the hazards will be targeted for removal at the earliest date that an obstruction removal crane and barge are in the area removing other obstructions. To date, the program has completed a trial project offshore of Grand Isle and a full scale project in Lake Borgne. Currently, obstructions are being actively removed in coastal waters off of the parishes stretching from Plaquemines to Terrebonne. Area surveys are in progress or planned for Breton Sound, inshore waters in Terrebonne Parish, and East and West Cote Blanche Bays.

Anyone wishing to report an obstruction may contact Ballard by telephone 225/342-6293, FAX 225/342-5529 or at his e-mail address smtp:"bruceb@dnr.state.la.us". Ballard

requests that callers have Loran, GPS or latitude and longitude numbers for the obstruction, or better yet be willing to go on the dive boat to locate the obstruction.

GLOBAL WARMING, SEA-LEVEL RISE, AND COASTAL MARSH SURVIVAL



The fact that southern Louisiana is barely above sea-level and that these lands are sinking is fairly well known. While erosion is widely blamed, the causes for coastal land loss are much more complex than that.

Sea-levels are rising and most scientists expect them to continue to rise due to global warming. Coastal wetlands build upward

(elevation) due to both the deposit of sediments from waters and the build-up of live and dead marsh plant material.

In a healthy marsh under a moderate rate of sea-level rise, marsh elevation increases at the same rate as sea-level rises and the marsh stays intact. If sea levels or land sinking rates (subsidence) increase, marsh plants spend more time in a flooded condition. This stresses the plants until they die, the soil volume collapses, and the marsh goes under water.

Traditionally, scientists have measured the rate of vertical accretion (upward land building) against the rate of change in sea-level to get a picture of the condition of our wetlands (relative sea-level rise). Recently, scientists with the U. S. Geological Survey did work over a two year period in 12 marshes which indicates that these methods don't paint an accurate picture of Louisiana's land-loss problem.

As an example, findings from a marsh at Bayou Chitigue, Louisiana showed a relative sea-level rise of 0.55 inches per year and a vertical accretion rate of 0.83 inches per year. This would indicate that marsh elevation would at least be keeping pace with sea-level rise. But it's not; the marsh is going underwater. Detailed measurements of what is taking place at shallow depths beneath the surface of the marsh show a rate of subsidence of 0.91 inches per year. This combined with the 0.55-inch rise in sea levels due to global warming, produce a rate of relative sea-level rise of 1.46 inches per year. This explains why the marsh is rapidly going underwater.

If global warming is a fact and sea levels continue to rise, accurate measurements of changes will be very important in determining the best marsh management and restoration practices.

Source: *Global Warming, Sea-level Rise, and Coastal Marsh Survival*. USGS FS-191-97. 1997. U. S. Geological Survey, National Wetlands Research Center.

CRAB BAIT BOXES

The Lake Pontchartrain Basin Foundation (LPBF) has issued an advisory to crabbers working in the area that large numbers of boxes used to hold bait fish have been washing up on the shores of Lake Pontchartrain. Apparently, some crabbers have been discarding the boxes into the lake after using the bait. Since the boxes float, currents and wind bring them to shore, creating a mess in some areas. LPBF urges crabbers to bring their boxes back to shore and dispose of them properly.

HELP ON COMMERCIAL FISHING SAFETY REGULATIONS

With the adoption of the Commercial Fishing Vessel Safety Act by Congress in 1988, a wide range of complex safety regulations on commercial fishing vessels were put in place. The rules are complex because different rules apply to vessels of different sizes. On top of that, the rules will vary depending on the waters the vessel works in. Because of the complexity of the rules, the U.S. Coast Guard hired civilian Commercial Fishing Vessel Safety Coordinators. These knowledgeable individuals have a thorough understanding of the law.

The backbone of this program is the FREE dockside exam that is offered to every commercial fishing vessel that wants one. The exam is a checklist of required safety equipment and other non-safety items that are required on board fishing vessels. The length of the vessels and how far these vessels work offshore determine the items on the checklist.

These exams are strictly voluntary and are to help the commercial fisherman understand and come into compliance with the sometimes-complicated safety regulations. If not all of the requirements are met, the fisherman is given a list of all the items needed to come into compliance. This list of items is confidential and the name of vessels not meeting all of the requirements is not given over to the law enforcement side of the Coast Guard. If all requirements on the checklist are met, then the vessel is given a commercial fishing vessel safety decal. This decal shows the law enforcement side of the Coast Guard that the vessel has met all the safety regulations. Unfortunately, in many cases this will not prevent the Coast Guard from boarding a vessel to check for TEDS and other non-related safety items.

Another service local commercial fishing vessel safety coordinators provide is to waive or drop fines issued to fishermen for non-compliance of fishing vessel safety regulations. Vessels that have been boarded and found to be in non-compliance are

mailed a letter of inquiry or waiver letter stating that they have 30 days to contact their local fishing vessel examiner and have a dockside exam. Upon request, the coordinator comes to the vessel and conducts a complete dockside exam; the checklist for the exam being determined by the length of the vessel and how far the vessel operates offshore.

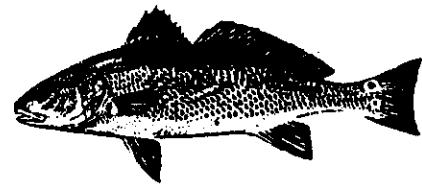
The two coordinators for south Louisiana are David Johnson at the Marine Safety Office New Orleans and Tim Arant at the Marine Safety Office Morgan City. Johnson's phone number (local) is 589-4234. His toll free number is 1 (800) 891-1197. His areas of responsibility are the following parishes: St. Tammany, St. Bernard, Plaquemines, Orleans, Jefferson, St. Charles, St. John the Baptist, St. James, Ascension, and Iberville. Arant's phone numbers are (local) 384-8670 ext. 289 and toll free 1 (800) 884-8724. His areas of responsibility are the following parishes: Lafourche, Terrebonne, St. Mary, St. Martin and Iberia.

They will also provide free commercial fishing vessel examination guide books to any commercial fishermen that requests one with a call to the above mentioned phone numbers. Fishermen having any questions concerning fishing safety regulations should not hesitate to call.

HABITAT AND REDFISH

The fact that marsh habitat is important to fisheries production is well-known. However, not all habitats in any particular marsh are equal. Recently, scientists in Texas conducted a study on marsh habitat preferences by young redfish.

Previous research has shown that seagrass beds are important nursery habitat for estuarine fish. It is also known that when seagrass beds are not present in a marsh, that many fishes use other types of habitats. The researchers in this study used several methods of sampling to determine redfish habitat preferences in Galveston Bay, Texas.



As expected young redfish showed the strongest preference for seagrass. In areas where seagrass wasn't present, they most heavily used the edge area where waters met marsh grasses. These areas were preferred over open mud or sand bottoms, and even over oyster reefs. The research also indicated that growth rates for young redfish were highest in seagrass beds, followed by marsh edges, then open sand or mud bottoms, and lastly oyster reefs.

Source: *Recruitment Patterns, Growth and Predation of Red Drum (Sciaenops ocellatus) in Various Galveston Bay Habitats*. G. W. Stunz, T. Minello, and P. Levin. Gulf Estuarine Research Society, Spring, 1999 meeting. 1999.

THE GUMBO POT
Seafood Breton'

This is a good news - bad news recipe. The good news is that it tastes wonderful. It's even good as a leftover. The bad news is that it is a time-consuming dish to prepare. Allow yourself two hours from start to finish.

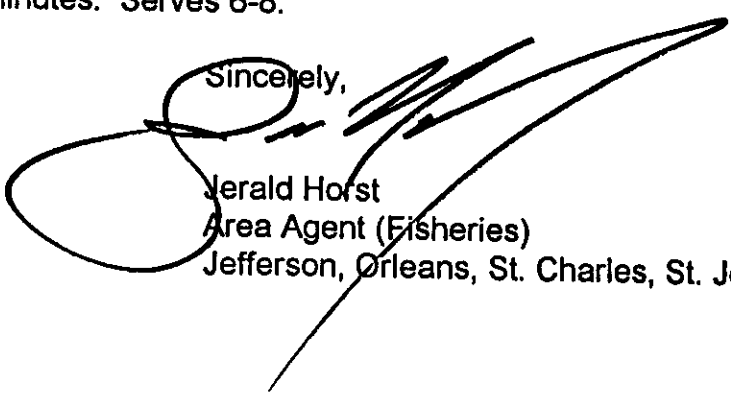
1	lb boneless cubed fish	1	tsp hot sauce
¾	cup green onion, chopped	1	tsp grated lemon peel
8	cloves garlic, minced	3	tbsp margarine
1	tsp Creole seasoning	1	lb peeled shrimp
1	tsp Italian seasoning		

Season fish with half each of green onion, garlic, Creole seasoning, Italian seasoning, hot sauce and lemon peel. Saute fish in large skillet with 1½ tablespoons margarine, just until done; being careful not to crumble fish. Drain fish on paper towel. Season shrimp with remaining green onion, garlic, Creole seasoning, Italian seasoning, hot sauce and lemon peel. Saute shrimp in remaining 1½ teaspoons margarine until shrimp are pink. Drain.

1	8-oz package cream cheese	½	cup onion, chopped
2	tsp milk	2	slices toast, cubed
1	can cream of mushroom soup	1½	tsp hot sauce
1	2½-oz jar sliced mushrooms	½	tsp Creole seasoning
¾	cup cooked rice	1½	cup grated cheddar cheese
		1	cup cracker crumbs

Heat cream cheese, milk and soup in microwave until cream cheese melts. Stir to blend. Add mushrooms, rice, onion, cubed toast, hot sauce and Creole seasoning. Mix well. Spray 9" x 13" casserole dish with non-stick vegetable spray. Layer ½ cooked fish, ½ cooked shrimp, and ½ sauce. Repeat layers. Sprinkle with grated cheese, then cracker crumbs. Bake at 350° F for 25 minutes. Serves 6-8.

Sincerely,


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