

Lagniappe



Research and Extension Programs
Agriculture
Economic/Community Development
Environment/Natural Resources
Families/Nutrition/Health
4-H Youth Programs

May 1, 2006 Volume 30, No. 5

Dear Reader,

This will be the last *Lagniappe* Newsletter bearing my signature. As you read this, I will be enjoying some vacation time before my official retirement date of May 31, 2006. The LSU AgCenter and the Louisiana Sea Grant College Program have committed to continue publishing the newsletter. The highpoint of my career has been the fine friendships that I have made over the past 30 years. Jerald Horst

SILVER SEATROUT

When Louisiana fishermen talk about "white trout", they are usually lumping together two species that closely resemble each other, the sand seatrout and the silver seatrout. The silver seatrout, *Cynoscion nothus* is silver in color, without any of the yellowish coloration on the back and fins that the sand seatrout, *Cynoscion arenarius* has. A close look will also show that the silver seatrout has many very small dark dots arranged in lines that slope diagonally downwards on their body. If all else fails, simply count the anal (belly) fin rays. The sand seatrout has 11 and the silver seatrout has 8-9.

Silver seatrout are seldom caught in coastal bays and lakes, spending most of their time in waters from the beach line out to 100 feet deep. This fairly small (seldom over 14 inches long) fish is the sixth most important by weight, of the 200 or so members that make up a group called groundfish.



Scientists sampling groundfish have developed a good bit of information on the species. Samples came from trawls from both sides of the Mississippi River Delta and from Campeche Bowh, Mexico.

The smallest maturing silver seatrout that they found were 5.6 inches long. Ripe, ready-to-spawn females were found in April and October. It seems that spawning occurs March to October, with an early peak and a late peak. Mature fish were found at all depths sampled, 30-300 feet. The number of eggs produced per female ranged from 16,800 for a 5-6 inch, 1.4-ounce fish, to 389,500 eggs for a 10.2-inch fish.



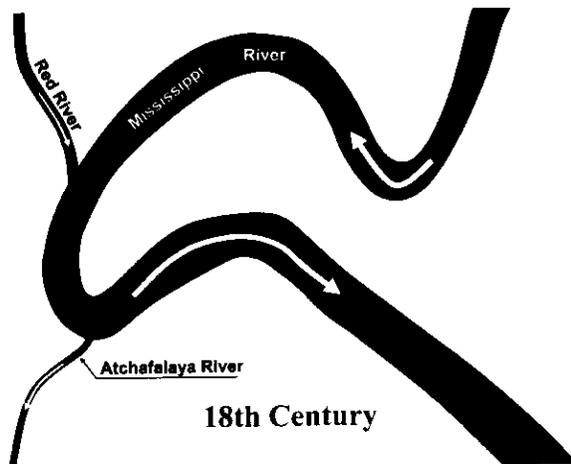
The biologists examined 429 silver seatrout stomachs from the Mississippi River Delta samples. Fish size ranged from 1.3 to 11.2 inches long. Finfish were easily the most important food item, followed by a variety of small shrimp, including pelagic shrimp, roughneck shrimp (blood or sugar shrimp), pistol shrimp and humpback shrimp. Anchovies and small cod-like fish called codlets were tied for the most important finfish eaten.

Source: *Reproduction and Food Habits of Seven Species of Northern Gulf of Mexico Fishes*. Peter F. Sheridan, David L. Trimm and Bruce M. Baker. Contributions in Marine Science. Vol. 27: 175-204. 1984.

THE ORIGIN OF THE ATCHAFALAYA

Where the funny sounding name comes from is known. It is Choctaw for "long river", but the name is full of contradictions. First, it isn't long at all, only being 140 miles long, from where it is formed at Old River near Simmesport by waters diverted from the Mississippi River to meet the Red River, to its mouth on Atchafalaya Bay.

Second, it probably wasn't recognizable as a single major channel river at all during the time that the Choctaw Indians roamed the land. Rather, it was a 50-mile wide swath of swamp lands, laced with interlocking bayous, sloughs and lakes. Even today, it might really be considered more of a long, overgrown Mississippi River pass than a river on its own right, because it carries water away from the Mississippi River to the sea.

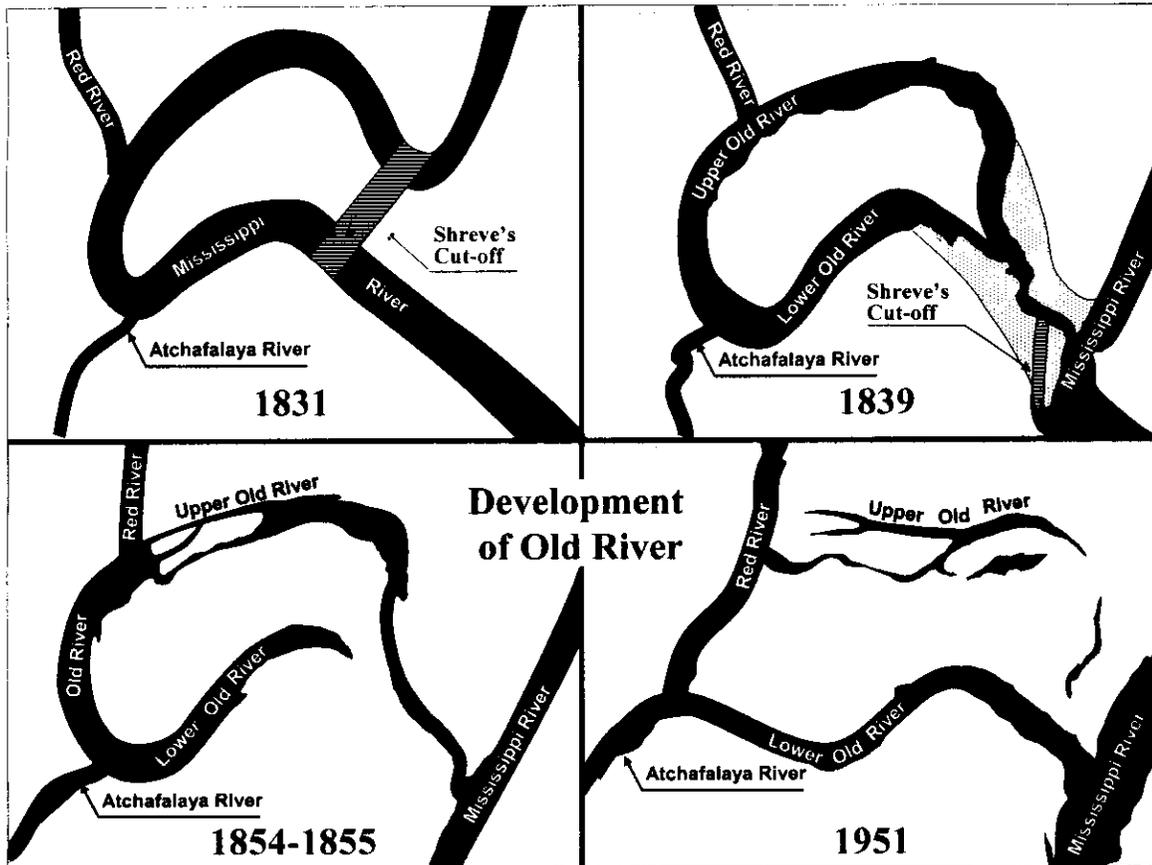


In the 1700s, near the present site of Old River, the Mississippi made a large loop to the west. The Red River dumped into the Mississippi near the end of the loop. Near the bottom of the loop, a fairly small waterway, choked with a huge logjam, flowed southward as the Atchafalaya River.

In 1831, Captain Henry M. Shreve, the famous steamboatman and founder of Shreveport, Louisiana, dug a cut across the narrow neck of land in the river bend. The river's

currents immediately shifted to the shorter route and the old river channel began to fill with sediments. The abandoned channel began to be called "Old River".

The Red River no longer flowed into the Mississippi River but rather went through the Old River channel into the Atchafalaya River, which was still congested by a 30-mile-long logjam. In 1839, the state of Louisiana began to remove the logjam, which resulted in a free-flowing and navigable Atchafalaya River.



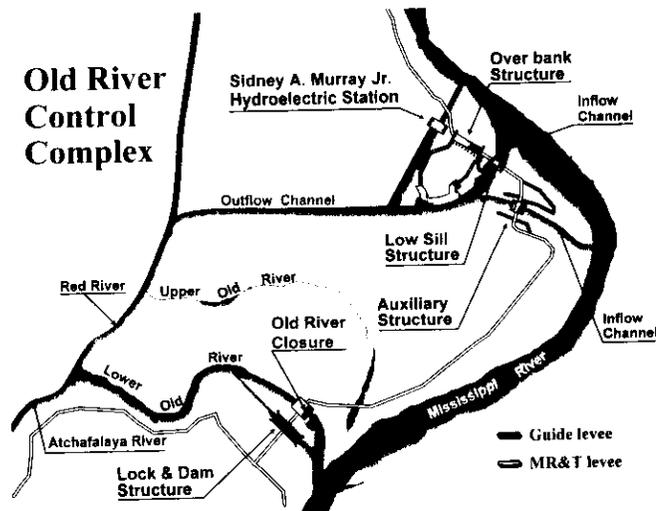
After the removal of the logjam, waters from the Mississippi River began to flow through the lower part of Old River into the Atchafalaya. Through Old River, the Atchafalaya River, began to capture more and more Mississippi water, as the Atchafalaya River's route to the sea was only 142 miles long, compared to 315 miles down the Mississippi River channel.

By 1951, it became obvious that the Atchafalaya would take all of the Mississippi River's flow unless something was done. In 1954, U. S. Congress authorized and funded the Old River Control Project. Construction began in 1955 on the Low Sill and Overbank control structures.

An outflow channel was dug out enough to build the Low Sill Structure. This is a series of huge controlled gates set on a massive concrete base. The Overbank Structure was built as a long series of ungated concrete openings in the Mississippi River levee that allow passage of floodwaters when the river reaches high stages. The Low Sill Structure passes waters at all river stages, the amount of which can be

controlled by its gates. In 1962, the U.S. Army Corps of Engineers finished dredging the connections to the Red and Atchafalaya Rivers at each end of the Outflow Channel and the Low Sill Structure began passing water.

In 1963, a Navigational Canal and Lock for barge and vessel traffic was completed next to Old River, 11 miles downstream of the Low Sill Structure. A dam was then constructed across Old River. The Low Sill and Overbank Structures and the Navigational Lock made up the complete Old River Control Structure system in 1973, when a massive 100-year Mississippi River flood occurred. The raging waters undermined the Low Sill Structure, seriously weakening it.



During the next eight years, the Low Sill and Overbank Structures were repaired, but strong floods in 1974, 1975 and 1979 threatened the system. In 1981, the Corps of Engineers began building an Auxiliary Control Structure with a new inflow channel to relieve pressure on the Low Sill Structure. The Auxiliary Control Structure was completed in 1986.

The last major structure placed at the site was the Sidney A. Murray Jr. Hydroelectric Station in 1990. The turbines of this station produce enough pollution-free electricity for a town of 200,000 people and get priority on water flows from the Mississippi River.

With the three diversion channels, the Old River Control Structure can pass 200,000 cubic feet of water per second or 300 million gallons per minute. The structure is operated to maintain 70% of the combined flow of the combined Mississippi/Red Rivers down the Mississippi River channel and 30% down the Atchafalaya River. To maintain this flow, water on the Mississippi River side of the structures is, depending on the season, from 4 to 19 feet higher than on the Atchafalaya side.

Source: U.S. Army Corps of Engineers, New Orleans District.

SELLING THE SIZZLE

There is an old saying amongst salesmen that to sell lots of steaks, you must sell the sizzle, not the steak. The promotion of seafood products has become a high priority for the seafood industry. Many things can be used to sell the sizzle, including snob appeal.



Wine sales in America went through the ceiling when consumers were offered a wide variety of choices and developed a completely new vocabulary to compare very tiny differences in taste. Like wine, oysters came in a whole range of subtle and not-so-subtle tastes.

At one time, Louisiana seafood consumers recognized the many different tastes available in Louisiana oysters. A detailed history of the Louisiana oyster industry is found in a PhD dissertation prepared by an LSU graduate student in 1979. The excerpt below shows how discriminating oyster connoisseurs described just part of the variety of Louisiana oysters in the 1880s.

The finest oysters came from Four Bayous, Lake Peliot and Bayous Fontenelle, Cyprian, Chalons and Cook. A slightly lower quality of oyster was produced in the Timbaliers, East Bay and the Great Lakes (Barataria Bay). These oysters commanded the highest price and constituted the majority of the raw shop and counter trade products reaching New Orleans through the French Market landings.

The Bayou Chalons oyster was described as being large, long and possessing a clean shell while those from Four Bayous were middling, round and firm. Oysters from Bayous Fontenelle and Cyprian were described as small, hard, and round, and much preferred by connoisseurs. Oysters from Lake Peliot were preferred for frying because they were round, very fat, and salty with a hard eye. Oysters from Bayou Cook were legendary for their flavor and most went to retail counters in New Orleans. They commanded a price of from \$2.50 to \$4.00 per barrel in the 1880s.

Oysters coming from the Timbalier grounds were clumped and long, while Salinas oysters were considered less rich in flavor than those of the highest quality. East Bay oysters were said to be of a very good kind, with a light-colored shell and very white inside and those from the Great Lakes were in demand because of their peculiar flavor. One account ranked the oysters from Grand Isle and Barataria Bay as being next to those from Bayou Cook in quality, but commanding about the same price as those from the Salinas (Salt Works Canal). In 1880, this amounted to \$1.25 to \$3.00 per barrel.

Now, sadly, 120 years later, in much more sophisticated times, Louisiana oysters are almost never promoted or sold by locality of harvest. In fact, on the national market where the popularity of raw seafood bars is growing, Louisiana oysters are lucky even to be identified as "Louisiana oysters" rather than just being lumped together with other Gulf states oysters as "Gulf oysters". This isn't the approach to use to appeal to upper-end food connoisseurs who will spend two to three dollars per oyster.

Other states have set an example for what Louisiana could do. Tiny Massachusetts, with only 78 oyster cultivation licenses, markets its oysters by several major shellfish growing regions: Wellfleet, Barnstable, Brewster, Orleans, and Dennis, as well as eight lesser regions.

Some names, such as Wellfleet are known internationally. At food events, trade shows and other functions, Massachusetts oysters from different areas within the state

are run in competition with each other. Foodies develop fierce loyalties for their particular oysters. Sampler plates of raw oysters from each region can be ordered.

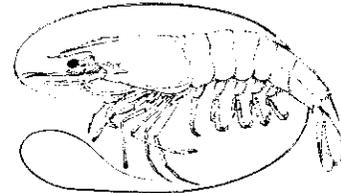
Yet, here in Louisiana, the home of great food, with 1,100 oyster farmers and many, many more times the acres of growing area than Massachusetts, all with oysters that have their own taste, we just market "oysters".

Opportunity lost.

Source: *The Development of the Louisiana Oyster Industry in the 19th Century.*
Karen M. Wicker. PhD. Dissertation. Louisiana State University,
Department of Geography and Anthropology. 1979.

EFFECTS OF ALTERING SHRIMP NURSERY AREAS

It is well-accepted that young brown and white shrimp depend very heavily on coastal marshlands for their growth and survival. Also well-accepted is that human alteration of those marshes will have a negative effect on fisheries that depend on the wetlands. Camps and homes are built in these areas, canals are dredged for boat access, and shorelines are bulkheaded.



Just how serious the effects of these alterations are on fisheries species is often not realized or is just ignored. A 40-year old study done in Texas puts numbers on these effects. Two areas $\frac{1}{3}$ of a mile apart on Clear Lake, just west of Galveston Bay, were studied. One shoreline was natural, with heavy growths of oyster grass to the water's edge. The other shoreline had a concrete bulkhead. Sediments were dredged from the lake side of the bulkhead and filled behind it. Tides and currents were the same in both areas. Testing during the study showed that salinities and temperatures at the two areas were usually identical.

Over a 10-month period, the researchers made many 100-foot sweeps with a marsh net parallel to the shore. At each site, sweeps were made right along the shore or bulkhead, 50 feet out and 100 feet out. All the shrimp caught were recorded. At the end of the 10-month period, the natural shoreline area had catches of brown shrimp $2\frac{1}{2}$ times higher than the bulkheaded shoreline had. For white shrimp, catches were 14 times more for the natural area than for the bulkheaded area.

At the natural area, 98% of the white shrimp were caught in the sweeps along the shore and only 2% from the 50-foot and 100-foot out sweeps. What few white shrimp were caught at the bulkheaded area were mostly caught in the sweeps made 100 feet from shore.

More brown shrimp at the natural area were caught in the sweeps near the shore than those made 50 feet out and 100 feet out. At the bulkheaded site, the most

postlarval brown shrimp were caught in the sweeps next to the bulkhead. Juvenile brown shrimp were caught in about the same numbers in sweeps made along the bulkhead and those made 50 feet out.

Source: *Natural and Altered Estuarine Habitats of Penaeid Shrimp*. Cornelius R. Mock. Proceedings of the Gulf and Caribbean Fisheries Institute, pp.86-98. 1966.

HABITATS AND OYSTERS

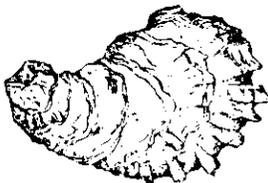
The effect that human alteration of marsh habitats can have was further demonstrated by another study done by federal biologists in Texas. The goal of their research was to see if man-made canals dredged as part of a waterfront housing development would make good oyster-growing habitat. What they found was just how much effect human alteration of marshes has on oysters.

They compared two areas as shown on the right, an altered area (A) which was a canal that has been dredged and bulkheaded, and a natural area (N) in a dead-end bayou located near the altered area.

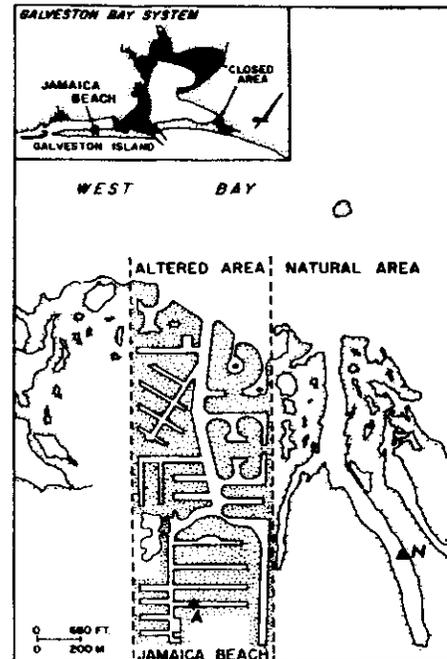
For a 12-month period, the biologists placed asbestos plates out in both areas to monitor oyster spat set. Spat set is a term that describes the settling out of free-floating oyster larvae to cement themselves to a hard surface, where they live the rest of their lives.

They also placed in each area, eight sizes of young oysters in trays to monitor their growth and survival. Dead oysters were replaced by oysters of the same size every two weeks.

Spat set occurred from late May until October, with the greatest set occurring in September. While neither area had heavy spat set, the natural area had 14 times as many spat set as the altered area.



The young oysters placed in trays in the natural area grew much faster than those in the altered area. The average increase in length in the natural area was 2.1 inches per year, while the average increase in length in the altered area was 1.3 inches per year. The average crease in weight (for all sizes combined) was 58% greater



in the natural area. In the altered area, growth lagged worst from July through September, especially for the larger oyster sizes.

The annual death rate for the oysters in the trays was 91% in the altered area and 52% in the natural area. Deaths were higher for all size classes of oysters in the altered area. They noted that several fish kills occurred in the altered area in the summer because of low oxygen. They felt that either high concentrations of plankton, or low dissolved oxygen, or "foul" water resulting from the decaying fish or a combination of all three may have caused higher oyster deaths and lower growth rates, as well as lower numbers of spat setting in the altered area.

Source: *Setting, Growth and Mortality of Crassostrea virginia in a Natural Marsh and a Marsh Altered by a Housing Development.* Donald Moore and Lee Trent. Proceedings of the National Shellfisheries Association. Volume 61, pp 51-58. 1971.

UNDERWATER OBSTRUCTION LOCATIONS

The Louisiana Fishermen's Gear Compensation Fund has asked that we print the coordinates of sites for which damage has been claimed in the last two months. The coordinates are listed below:

<u>Loran Sites</u>	<u>Lat. & Long. Sites</u>		
None	29 05.020	90 54.100	TERREBONNE
	29 09.451	91 07.189	TERREBONNE
	29 15.892	89 52.741	JEFFERSON
	29 17.353	89 39.882	PLAQUEMINES
	29 50.212	89 22.853	ST. BERNARD
	30 00.571	89 32.797	ST BERNARD
	29 09.517	90 38.639	TERREBONNE
	29 14.189	90 01.316	JEFFERSON
	29 16.800	90 54.470	TERREBONNE
	29 18.091	89 45.716	PLAQUEMINES
	29 34.542	89 33.771	PLAQUEMINES
	29 51.394	89 40.440	ST BERNARD
	29 14.399	89 57.406	JEFFERSON
	29 15.109	90 04.779	LAFOURCHE
	29 37.980	89 47.330	PLAQUEMINES
	29 41.787	89 22.018	ST. BERNARD

WHAT'S ON YOUR MIND?

In 2005, Responsive Management, a respected public opinion surveying company was contracted by the Southeastern Association of Fish and Wildlife Agencies to survey public opinion about fish and wildlife management and issues in 16 southeastern U.S. states. A report was prepared for each state and one was done for the region. Louisiana's report is interesting.

A surprising 52% of Louisiana residents could not name the Department of Wildlife and Fisheries (LDWF) as being the agency most responsible for managing and conserving fish and wildlife in the state. In spite of this, satisfaction with the Department is good; 77% said they were very or somewhat satisfied with the Department. Only 6% were dissatisfied.

Twenty-nine percent of residents identified themselves as hunters and 43% said that they were fishermen. Public opinion in Louisiana is friendly to hunters and fishermen, as 90% approve of legal hunting, and 95% approve of legal recreational fishing. Trapping was approved of by 67% of residents and disapproved of by 25%.

A majority (58%) of Louisiana residents rated their concern for threatened and endangered species at 7 or higher on a scale from 0 to 10; the average was at 6.7. The major factors that residents feel contribute to species becoming threatened or endangered in Louisiana are habitat loss and/or fragmentation (29%), over-hunting/overtrapping/overfishing (24%), pollution (21%) and poaching (19%).

The people in the survey were asked to rate the importance of 14 program areas/efforts of LDWF. They were then asked to rate the performance of LDWF in the same areas/efforts.

The top 3 efforts/areas of importance were:

- * Conserving fish and wildlife habitat
- * Enforcing fish and wildlife laws
- * Providing opportunities for boating safety education

The top 3 efforts/areas in performance by LDWF were:

- * Providing opportunities for recreational fishing
- * Enforcing fish and wildlife laws
- * Managing wildlife populations

Only enforcing fish and wildlife laws was in both groups. Five efforts/areas had substantially higher importance ratings than LDWF performance ratings:

- * Providing educational programs on the state's fish and wildlife
- * Providing opportunities for boating safety education
- * Restoring native fish and wildlife to the state
- * Conserving fish and wildlife habitat
- * Providing opportunities for hunting safety education.

A surprising number of people did not know how LDWF is funded. Among hunters, only 38% said by hunting licenses and 36% said fishing licenses. For non-hunters, the numbers were 17% and 16%. Fishermen's numbers were even lower. Only 30% said hunting licenses and 29% said fishing licenses. For non-fishermen, the numbers were 18% and 17%.

Sixty percent of hunters, 61% fishermen, and over 73% of non-hunters/fishermen incorrectly said some form of general taxes funded the Department. Six percent of

hunters, 5% of fishermen and 4% of non-hunters/fishermen also incorrectly said that fines were used to fund LDWF.

When asked if they would support or oppose increased hunting/fishing license fees to cover the costs of fish and wildlife conservation and management, 63% of hunters and fishermen said that they would support the move and 31% of hunters and 25% of fishermen said they would oppose the change.

They were then asked if they would support a fee increase if it resulted in more opportunities to hunt or fish. Support increased to 71% of hunters (20% opposed) and 70% of fishermen (17% opposed).

Fifty-eight percent of hunters and non-hunters, 53% of fishermen and 59% of non-fishermen agreed that the costs of managing fish and wildlife should be paid for with license fees. Sixty-one percent of all residents said that they supported using part of state gasoline taxes to control water plants, and 61% supported the use of Louisiana state general funds to support a non-game wildlife program.

The most important fish and wildlife issues identified by those surveyed were habitat loss (21%), polluted water/water quality (18%), poaching/fish and wildlife violations (9%), habitat fragmentation, low fish populations, air pollution/air quality (each at 6%) and erosion/coastal erosion, development/urban sprawl and protection of green space (each at 5%).

They were then asked if they thought that Louisiana's lakes, rivers, streams, and underground aquifers were healthy or unhealthy. Hunters and fishermen were more positive than others. Of non-hunters/non-fishermen, only 36/35% said the waters were healthy and 57/58% said they were unhealthy. For hunters, 59% said the waters were healthy and only 32% said they were unhealthy. For fishermen, 53% said the waters were healthy and 38% said they were unhealthy.

Residents identified the major factors contributing to water quality issues as industrial waste (49%), waste treatment plants/sewage (21%), litter/trash (17%), agricultural runoff (13%) and stormwater runoff (7%). Only 4% said oil spills and 3% identified erosion/coastal erosion. Twenty-four percent said that they didn't know.

Finally, people were asked where they look for their fish and wildlife information. The internet led all other answers at 32%, followed by magazines (18%), newspapers (14%), agency publications (12%), friends/family/word-of-mouth (9%), books (8%) and TV (7%). Forty-one percent of those surveyed go on the internet daily, 22% sometimes, 9% rarely and 25% never.

Source: *Public Opinion on Fish and Wildlife Management Issues and the Reputation and Credibility of Fish and Wildlife Agencies in the Southeastern United States: Louisiana*. Conducted for The Southeastern Association of Fish and Wildlife Agencies Under Multistate Conservation Grant VA M 10-R Awarded by the U.S. Fish and Wildlife Service. Responsive Management. 2005.

THE GUMBO POT

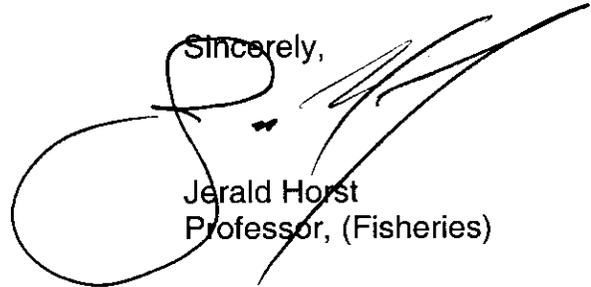
Seafood-Eggplant Casserole

Casseroles and dressings using seafood and eggplants can be found in many dozens of variations in Louisiana. Frequently, mirlitons are used in place of eggplants. Try this longtime New Orleans favorite.

2	medium eggplants, peeled and cubed	¾	tsp salt
¼	lb margarine	1	tsp dried thyme
3	medium onions, chopped	1	lb small peeled shrimp
1	medium bell pepper, chopped	½	lb crabmeat
1	stalk celery, chopped	½	cup green onion, chopped
4	cups water	½	cup parsley, chopped
1	tsp red pepper	¼	cup Parmesan cheese
1	tsp black pepper	¼	cup dry bread crumbs

Boil the eggplants in a saucepan with just enough water to cover them. Melt the margarine in a large, heavy pot. Add the onions, peppers and celery and slowly sauté until vegetables are soft. Do not scorch. When eggplants are tender, drain them and puree in a blender. Add the eggplants, 4 cups of water, pepper, salt and thyme to the seasonings in the large pot. Bring to a simmer and cook for 10 minutes over a medium heat. Add the shrimp and cook 5-7 minutes, until the shrimp turn pink. Add crabmeat and heat for 2 more minutes. Remove from heat and mix in green onions and parsley. Put the mixture in a baking dish and sprinkle with Parmesan cheese and breadcrumbs. Cook in oven set on "broil" until the breadcrumbs begin to brown. Serves 4.

Sincerely,



Jerald Horst
Professor, (Fisheries)