

Lagniappe



February 2, 2004 Volume 28, No. 2

FEDERAL SHARK REGULATION CHANGES

The National Marine Fisheries Service (NOAA Fisheries) has announced several changes to shark regulations in federal waters. One of their goals is to reduce catch levels for the large coastal shark category by 45%, even though the 2002 shark stock assessment showed that blacktip shark stocks have been rebuilt and sandbar sharks are no longer overfished. The small coastal shark group is not considered overfished.



Recreational Changes

- The only gear now allowed for use by recreational fishermen is rod and reel and handline gear
- Recreational fishermen can now keep one bonnethead shark per person per trip with no minimum size, as well as one Atlantic sharpnose shark with no minimum size per trip, and any one other shark per vessel per trip that is a minimum of 54 inches long and not on the prohibited list.
- Sportfishermen are reminded that a federal angling permit is required to fish for sharks, and that all landings must be reported to NOAA Fisheries within 24 hours. For more information, go to www.nmfspermits.com.

Commercial Changes

- Commercially-taken sharks will no longer be broken into ridgeback and non-ridgeback categories.
- The minimum commercial size limit is removed, since seasonal closures will provide protection for young sharks.
- Vessels with bottom longline gear on board must use non-stainless steel corrodible hooks, and have linecutters and a dipnet on board. They must move



one nautical mile after an interaction with a protected species. Vessels will also be required to have a dehooking device onboard once the dehooker type has been approved for use.

- Overall Atlantic/Gulf of Mexico commercial quotas have been lowered from 1,760 metric tons to 454 metric tons for small coastal sharks and from 1,285 metric tons to 1,017 metric tons for large coastal sharks.
- The Atlantic/Gulf of Mexico shark quota has been sub-divided into North Atlantic, South Atlantic and Gulf of Mexico quotas. The Gulf gets 4% of the small coastal quota and 42% of the large coastal quota.
- After the federal quota is reached and the federal shark fishery is closed, landings of sharks caught in state waters will be counted against the federal quota.

SPECKLED TROUT GROWTH COMPARISONS

That speckled trout have different growth rates in different areas of their range doesn't surprise many biologists. Studies on speckled trout growth have been conducted in every state from Texas through Virginia, but little effort has been made to compare them. Recently two biologists did so, using 17 studies done in the Gulf and south Atlantic states.



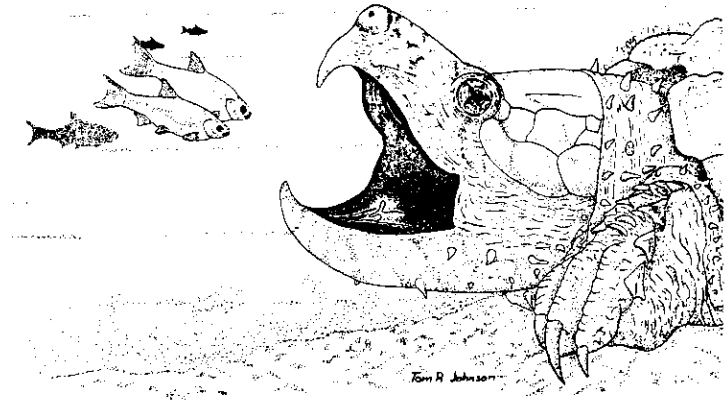
Comparing studies done in different ways is difficult. One method of collecting fish may produce different results than another. Aging of fish by counting growth rings on the fishes' scales can produce slightly different results than counting the growth rings in their otoliths (ear bones). Calculating growth rates can be especially tricky for smaller trout because of their lengthy spawning season. A trout hatched early in the season (April) has much more time to grow before the growth ring is formed in late winter, than does one hatched late in the season (September).

Even after accounting for these variables, the biologists found some significant differences in growth rates by regions. They found that the largest fish at each age, both male and female, were on the Atlantic Coast, followed by the northern Gulf of Mexico from the Florida Panhandle through Galveston Bay, Texas. The slowest growing speckled trout were on the south Florida Peninsula and the central and southern Texas coast.

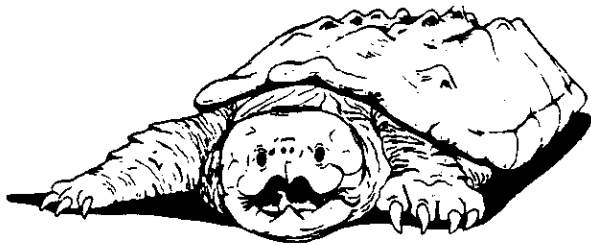
Source: *Age Determination and Growth of Spotted Seatrout, Cynoscion nebulosus (Pisces: Sciaenidae)*. Michael D. Murphy and Robert H. McMichael, Jr. *Biology of the Spotted Seatrout*, pp 41-56. CRC Press. 2003.

ALLIGATOR SNAPPERS IN LOUISIANA

The alligator snapping turtle, usually called the loggerhead turtle in Louisiana, is the largest freshwater turtle in North America, often reaching weights well over 100 pounds. Alligator snappers have historically been fished commercially, along with the common snapping turtle, for use in turtle soup in New Orleans Creole restaurants. The species has also been pursued by recreational fishermen for personal use, usually ending up in sauce piquants and stews. The species is found in 14 states in the Mississippi River drainage, although only Louisiana, Arkansas and Mississippi are entirely within the species' range.



Male alligator snappers grow larger than females. The largest male on record had a shell length of 32 inches. Newly hatched turtles have shell lengths of 1.4 to 1.7 inches. They are long-lived animals. Wild alligator snapping turtles have been aged up to 45 years old and they have lived longer than 70 years in captivity. Most research indicates that they must reach 15-17 years of age before being old enough to reproduce. Nesting takes place between April and July, with females laying 9-44 eggs. The nests are dug with the females' hind legs and are often constructed on the overgrown ends of sandbars. Nests average about 40 feet away from the water, although they have been found as far as 234 feet away. After laying her eggs, the female covers the nest, using her tail and hind legs to pack the soil. Nesting is done during the day. Incubation takes from 79 to 107 days, depending on temperature.



Alligator snapping turtles are considered ambush predators. They lure small fish into striking range by opening their mouths and wiggling a remarkably worm-like extension on their tongue. Besides fish, they also eat crawfish, crabs, freshwater clams, snakes, small alligators, other turtles, snails, salamanders, water plants, wild grapes, acorns, hickory nuts, tupelo gum and palmetto fruits, and roots.

These are the most aquatic of all turtles and are found on land only when the young hatch and travel to water or when the adult females nest. They do not bask in the sun like many other turtles, and they don't often swim. Usually they move by walking along the water bottom, only coming to the surface to breathe every 40-50 minutes. They are extremely secretive and a substantial number of alligator snappers can be in a

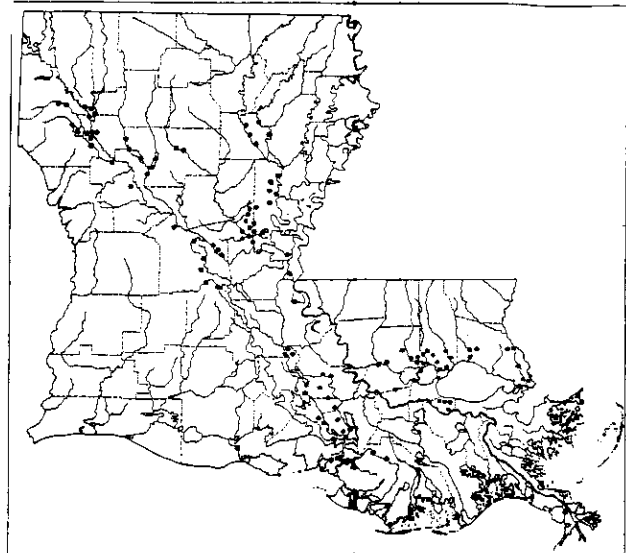
small water body without people knowing about them. When they surface to breathe, only the small, pointed tip of the nose breaks the water's surface.

Alligator snapping turtles spend most of their daylight hours in hiding and become active at night. Adults typically move in water from 90 to 375 feet per night, but can occasionally move over a half-mile. Home ranges are 45-290 acres.

The alligator snapping turtle was considered for status as a federal endangered species in the mid-1990s. It was removed from consideration after a number of state studies showed good population numbers. However, by the late 1990s, 13 of the 14 states with alligator snapper populations had prohibited their commercial harvest. Only Louisiana still allows commercial sale of wild-caught animals, although Arkansas does allow sale of farm-raised alligator snappers. Of the 14 states, only Florida (limit 1), Kentucky, Louisiana (limit 4), Mississippi (limit 4), and Missouri (limit 5) allow non-commercial harvest for personal use.

The minimum size for commercial harvest in Louisiana is 15 inches, shell length. Commercial harvests appear to be declining primarily because of the tremendous effort needed to profitably fish for alligator snappers, the limited number of buyers, a common, but incorrect belief that the species is legally protected, and because techniques such as "poling" for turtles have not been passed on to younger generations of fishermen. Currently, Louisiana has only one licensed turtle meat operation and about a dozen dealers selling turtle meat. Most turtle meat sold comes from the common snapping turtle, rather than the alligator snapper.

Still, Louisiana has been criticized for its liberal rules for harvest of the species. The Louisiana Department of Wildlife and Fisheries (LDWF) received federal funds from the U.S. Fish and Wildlife Service to study the state's population of alligator snapping turtles. With this money, LDWF contracted a professional turtle trapper to survey, over a 6-year period, 123 sites in 4 areas: southeastern Louisiana, the Atchafalaya Basin, the Red River drainage, and the Ouachita River drainage. Within each area, lakes, rivers, bayous, sloughs, and canals were sampled.



The trapper used 4-hoop, single-throat, 3 to 3½-foot hoop nets baited with carp or menhaden (pogies). All trapped turtles were weighed, measured, sexed (if adult), tagged, and released. A total of 541 turtles (310 adults) were captured. In adults, the male-female ratio was about even. The ratio of adults to juveniles was about the same between the areas.

Adult females ranged in size from 12.2 to 21.8 inches (shell length) and 13.9-55.9 pounds in weight. Males ranged from 12.2 to 24.9 inches and 11.9-103.8 pounds. Turtle weights were not significantly different between the 4 areas. Catch rates in the Ouachita drainage were almost twice as high as in the Atchafalaya Basin. The Red River drainage and southeast Louisiana were between the two. The lower catch rates in the Atchafalaya may be due to a much higher number of the nets there being fished in lakes and slack water than in the other areas.

Catches in southeast Louisiana were compared between waterbodies that have had high harvest pressure and waterbodies with little or no harvest pressure. As could be expected, catches were 33% lower in areas with high harvest pressure than in areas with no harvest pressure. Interestingly, turtles from high harvest pressure spots averaged larger than turtles from low harvest pressure locations.

Only one tagged turtle was recaptured. A female was tagged in April 1997 in Ruddock Bayou and was recaptured in July 1998 in the first mile of the Abita River above the Bogue Falaya River. In the 15 months between captures, the turtle had to travel along Lake Pontchartrain for about 25 miles, then up the Tchefuncte and Bogue Falaya Rivers for another 10 miles.

When compared to other states, the catch per net rate in Louisiana for alligator snapping turtles is lower. Even when non-harvested streams in Louisiana are compared to non-harvested streams in Arkansas, the Louisiana catch is lower. Jeff Boundy, the LDWF biologist in charge of the Louisiana study, cautions that this may be partly due to the use of more sampling nets per area in Louisiana, where 25 nets were used per night in a location. In other states, 6-12 were used. Also, because of the theft problems, nets in Louisiana were often placed in less desirable areas to hide them. Average weights and lengths for Louisiana turtles were very similar to those from other states.

In his report, Boundy agreed with other researchers that public reports are of little value in estimating population numbers for alligator snapping turtles. Streams that are reported as "turtled out" often have "relatively large numbers" of the animal.

The report concluded "To date no additional restrictions on take of alligator snapping turtles are planned by Louisiana. Several proposals from the public to halt take of alligator snapping turtles were based on misinformation presented by televised and written media, or in misinterpretation of source of exports."

Sources: *Alligator Snapping Turtle (Macrolemys temminckii) Surveys in Louisiana 1996-2001*. Jeff Boundy, Louisiana Department of Wildlife & Fisheries. July 31, 2003. *The Alligator Snapping Turtle [Macrochelys (Macrolemys) temminckii]: A Review of Ecology, Life History, and Conservation, with Demographic Analyses of the Sustainability of Take from Wild Populations*. Robert N. Reed, Justin Congdon, and J. Whitfield Gibbons, Savannah River Ecology Laboratory. *Snapping Turtle Habitats*

SINGLE-SEX CRAB SHEDDING

North Carolina soft shell crab shedders who have experienced higher death rates (mortality) with male crabs than female crabs in closed shedding systems turned to North Carolina researchers for help. Their theory was that sex pheromones (hormones) released by female crabs in the systems caused the higher mortality. Efforts by males to mate with the females could cause stress in the males.



With funding by the North Carolina Blue Crab Research Program, researchers compared male peeler crabs' molt time and mortality between two separate closed shedding systems – one containing males and females and another containing only males. Both systems were monitored for six days. During the period, temperature, dissolved oxygen, salinity, pH, nitrite, nitrate, and ammonia were closely watched. The study was done in April 2002, and repeated in May and June.

The studies found that molting times for male crabs wasn't different, whether females were present or not. But in the tanks with females present, the mortality rate was indeed a good bit higher. The researchers' report stated: "Results indicate that reducing mortality and increasing profits in crab shedding operations may be possible by operating separate shedding systems for males and females."

Source: *Single-Sex Shedding*. Marine Extension News. North Carolina Sea Grant. Fall 2003

SHRIMP MARKETING SURVEY

As massive increases of imported farm-raised shrimp have steadily driven the price of shrimp in the U.S. downward, some shrimpers have turned to direct marketing of their catch to the public to increase their income. Marketing shrimp to the public is entirely different than selling catches to docks.



Commercial shrimp fishermen may likely face more competition from a new source. As southeastern U.S. fish farmers are also getting clobbered by imports and oversupply, more of them are looking to aquaculture of freshwater and saltwater shrimp as an option. In Louisiana alone, the total value of farm-raised catfish declined to half from 2000 to 2002. Between 2000 and 2003, the number of catfish farmers dropped by two-thirds.

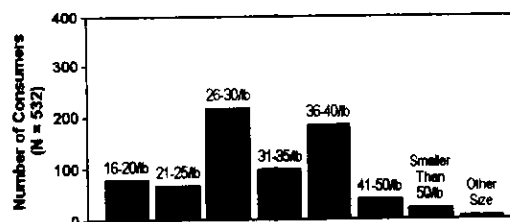
Recently, two Florida researchers conducted a survey to determine attitudes, preferences and shrimp-purchasing behavior of consumers in the southeastern United

States. While the survey was intended to provide information to potential shrimp farmers, the information gathered is very useful for wild shrimp fishermen who are interested in direct-marketing their catch.

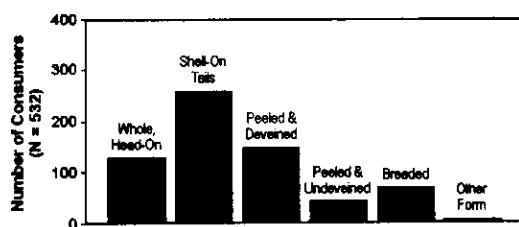
A six-page mail survey was sent to a randomly selected sample of households in nine southeastern states. Of the 5,000 surveys mailed, 778 were undeliverable, and 532 completed surveys were returned, for an overall response rate of 13%. Eighty-five percent identified themselves as Caucasian, 8% as African-American and 2% as Hispanic. Shrimp were purchased for at-home consumption by 84%, and 96% of the respondents said that at least one person in the household ate shrimp. Sixty-eight percent considered shrimp to not be difficult to prepare at home.

When asked what factors influenced their shopping decisions on shrimp, 72% said price, 54% said appearance and 31% said the availability of recipes or preparation information were important. Fresh, never-frozen shrimp were preferred by 57% of the people

The most popular count sizes were 26-30/lb followed by 36-40/lb (tails). Most consumers did not buy shrimp smaller than 40-count for at-home use. It is interesting to note that half of all shrimp imported into the U.S. are in the 41-50 count range.



Shrimp consumers were asked to rate the importance of several features. Not surprisingly, freshness, quality, taste, and smell were the top-rated features among all groups except Hispanics, who rated price as the second most important feature behind freshness. Country-of-origin labeling was relatively unimportant. It was most important to African-Americans and least important to Hispanics. Labeling wild-caught, farm-raised or imported were at the bottom in importance on the 16-feature list.



In this survey, the most popular product form was shell-on tails (unfrozen), although 31% said that they did purchase fresh head-on shrimp. African-American respondents were more likely than others to buy breaded shrimp.

Seventy-two percent of the surveyed consumers said that they would be willing to buy shrimp directly from a shrimp farmer. The most frequently selected location for direct purchases were at a fish farm (62%), followed by a community farmers market at 56%. It is reasonable to assume that these responses apply to wild-caught shrimp as well as locally farm-raised shrimp.

Finally, a big 86% of the consumers agreed that it is important to know the date when the shrimp were harvested. Shrimp producers may be able to increase sales and add value to their product by displaying the harvest date for their shrimp.

Source: *Shrimp-Buying Behavior of U.S. Consumers*. Ferdinand F. Wirth & Kathy J. Davis. Global Aquaculture Advocate. October 2003.

GULF COAST SEAFOOD EXPO

A Gulf Coast think tank is creating the first ever seafood trade event showcasing domestic product. They are pulling out all the stops to produce a first-rate outlet for seafood dealers from Texas to Florida. According to Louisiana Seafood Promotion and Marketing Board Executive Director Ewell Smith, "The vision is to provide a fresh new alternative for the country's seafood buyers".

Each year buyers gather by the thousands at the Louisiana Foodservice Expo, this region's largest and most comprehensive food trade event. In August 2004, the Louisiana Seafood Promotion and Marketing Board will join the Louisiana Restaurant Association to launch the **Gulf Coast Seafood Pavilion** an enclave of 48 southern seafood dealers. Louisiana Restaurant Association CEO Jim Funk said, "I believe the Pavilion has the potential to grow into a major seafood event, to be held annually in conjunction with the Louisiana Foodservice Expo."

Space is limited. Interested seafood dealers may reserve a booth by calling Sandy Riddle, LRA Vice President of conventions and exhibitions, at 504-454-2277, or visit www.GulfCoastSeafoodExpo.com

MERCURY – WHAT IS A CONSUMER TO DO?

In the last three years, a blizzard of news releases from environmental groups seeking to reduce mercury emissions from industry smokestacks and from the National Academy of Sciences about the health effects from mercury in fish, has caused much concern among consumers. These fears were heightened by the recent recommendation by the Environmental Protection Agency (EPA) that the maximum safe dose per day be lowered by 80%, about the amount of mercury found in one can of tuna.

On the other hand, the U.S. Surgeon General and other authorities have repeatedly recommended increased fish consumption to reduce heart attack risk in adults and for proper brain and nerve development in children before birth. This is exactly opposite to studies that indicate that the developing nervous system of children in the womb are most at risk from mercury, and other studies that indicate increased heart attack risks from mercury in fish.

A recent paper in the New England Journal of Medicine examines the risk to humans from the four major sources of mercury: dental filings, mercury vapor in the home, mercury in fish, and mercury in vaccines. Concerning mercury from fish, the journal article calls the National Academy of Sciences findings on mercury risk to be "speculative and unjustified". It points out that the only medical reports of mercury poisoning from fish are those from Minamata Bay and the Agano River in Japan in the 1950s and 1960s. The paper says "Overt cases of poisoning are now rare. In the

United States, the only reported cases in the past 35 years involved a family that consumed the meat of a pig fed treated grain and a university professor who was accidentally exposed in the laboratory."

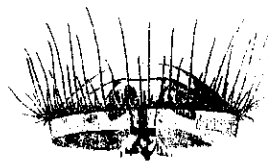
"The EPA guideline is derived from reports of subtle and small neuropsychological changes in children in the Faroe Islands study, whose exposure was mainly from whale consumption. A similar study in the Seychelles found no adverse effects from fish consumption alone," states the report. "The majority of the general population in the United States has levels of exposure well below the EPA guideline, but 8 percent or so have levels that are slightly higher. Although a National Academy of Sciences committee reported that 60,000 children in the United States were at risk as a result of prenatal exposure, they failed to provide any justification or explanation for that conclusion." The paper does recommend discouraging the consumption of whale meat because of its very high mercury concentrations.

The report also casts doubt on a link between mercury and heart disease. "Several studies have reported statistical associations between cardiovascular disease and mercury, mostly in the form of methylmercury, said the report. Thus, firm conclusions about cause and effect cannot be yet made, since cardiovascular disease has multiple risk factors (e.g., family history, stress, dietary habits, smoking, alcohol use, diabetes, and socioeconomic status)." The report concludes that the evidence that exposure to very low doses of mercury from fish consumption, or receiving dental fillings or vaccines containing mercury is open to wide interpretation. "Moreover, attempts to reduce such exposure may pose greater health risks than those hypothesized to occur from mercury."

Source: *The Toxicology of Mercury—Current Exposures and Clinical Manifestations*. Thomas W. Clarkson, Laszlo Magas & Gary J. Meyers. The New England Journal of Medicine, 349:18. October 30, 2003.

FRESHWATER JELLYFISH??

Jellyfish are almost always thought of as marine creatures. However, one species of jellyfish can be found in freshwater, and is actually quite common in Louisiana. While scientists know it as *Craspedacusta sowerbyi*, its common name is simply "freshwater jellyfish." This one species is found almost worldwide.



It has an almost clear, milky-white color and grows to nearly an inch in diameter. They typically appear in freshwater ponds and lakes in the late summer, sometimes in large enough numbers that the water appears speckled. Then they may disappear for years. Their reappearance is unpredictable.

Each jellyfish has 50 to 500 tentacles and if closely watched, the animal can be observed to be swimming by pulsing the bell (body) and tentacles. Only the short tentacles are involved in feeding and have nematocysts (stinging cells). Nematocysts are also found around the mouth and on the edge of the bell. None of them are strong enough to give noticeable stings to humans.

Strangely, most populations seem to be all males or all females. The eggs and sperm sacs can be seen as four darker areas arranged near the center of the bell. Both eggs and sperm are released into the surrounding water, where fertilization occurs.

LOUISIANA CONSERVATION HISTORY 101

Louisiana's Department of Wildlife and Fisheries and Wildlife and Wildlife and Fisheries Commission may be the most important branches of state government for Louisiana's recreational and commercial fishermen. The department/commission have a long history dating back to 1857, when the General Assembly (legislature) of Louisiana passed a law to protect game birds in Louisiana. Control of this law was later given to the parish police jury.

The development of the Louisiana oyster industry prompted the next major conservation steps. In 1870, fear of oyster reef depletion caused the legislature to close the oyster season annually from April 1 to September 15. In 1871, the Legislature changed the closure to May 1 to September 15. Then, in 1886, the Legislature passed Act 106, which divided the state into 3 oyster districts and authorized the governor to appoint an oyster commissioner for each district. The act also authorized the leasing of up to 3 acres of waterbottoms by individuals or corporations. Act 110 in 1892 increased the amount of waterbottom available for leasing to 10 acres per person.

More importantly, the act also abolished the Oyster Commission, declared oysters to be the property of each individual parish and provided that only parish residents could harvest them. This caused tremendous conflict because citizens in one parish crossed parish lines to harvest oysters in another and because parish boundaries are not marked on the water. The conflicts led to the creation of a legislative investigative commission in 1900.

Their report to the Legislature in 1902 resulted in the passage of Act 153, which created a 5-member Oyster Commission of Louisiana, with statewide control of the oyster industry. This commission later became the Oyster, Waterbottoms and Seafood Division, the first and oldest division of what is now the Louisiana Department of Wildlife and Fisheries.

In 1908, the Louisiana Legislature passed Act 278, creating the Board of Commissioners for the Protection of Birds, Game, and Fish. The board was given the authority to appoint game wardens, and anyone who hunted was required to buy a license to fund the wardens.

In 1910, the Oyster Commission and the Board of Commissioners for the Protection of Birds, Game and Fish were merged by Act 265. In 1912, with Act 127, all fish and wildlife activities were consolidated under the "Conservation Commission of Louisiana" as a department of state government. Act 105 in 1918 created the Department of Conservation under a Commissioner of Conservation. Commission members were appointed to four-year terms by the governor.

In November 1944, a constitutional amendment was approved creating the Louisiana Wild Life and Fisheries Commission, which later became the Louisiana Department of Wild Life and Fisheries in 1952, with a separate Wildlife and Fisheries Commission. The Legislature of Louisiana gave the new agency created in 1944, the responsibility of protecting, conserving and propagating the wildlife of Louisiana. The first Commissioner, John G. Appel established six major programs: 1) control of the water hyacinth, 2) control of predators, 3) enlarged fish rescue and restocking programs, 4) enlarged education and public relations programs, 5) enlarged enforcement programs, and 6) obtaining public shooting grounds.

Finally, in 1976, the name of the agency was changed to what it is now, the Louisiana Department of Wildlife and Fisheries. This long history makes the department one of the oldest conservation bodies in the nation.

Sources: *The Origins of Louisiana Conservation* Gerald Adkins. Marine Fisheries Review 50(4), 1988. *History of the Louisiana Wild Life & Fisheries Commission*. Steve Harmon. Education and Publicity Division, Louisiana Department of Wild Life and Fisheries. 1965.

THE GUMBO POT

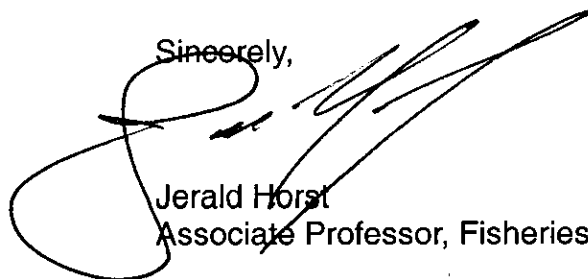
Oysters in Brown Sauce

This is an "old timey" recipe that is still as good as it ever was. Brown sauces, of course, have a roux. The finished dish has a sauce to thick too put over rice, but it is good served over a toasted English muffin or with freshly baked bread.

1	pint oysters with liquor	1	rounded tsp beef bouillon granules
1	medium carrot, finely chopped	1	cup cream
¼	cup onion, finely chopped	1	egg yolk, beaten
¼	cup parsley, finely chop	1	tsp lemon juice
½	stick butter		salt and pepper
2	tbsp flour		

Scald the oysters in their own liquor. Drain oysters and save liquor. Fry carrot, onion and parsley in butter until browned. Add flour and cook until brown. Add oyster liquor and beef bouillon. Cook until thick, stirring constantly. Add the oysters, cream and beaten egg yolk. Reheat lightly, remove from fire, add lemon juice and salt and pepper to taste. Serve immediately. Serves 3-4.

Sincerely,



Jerald Horst
Associate Professor, Fisheries