

# Lagniappe



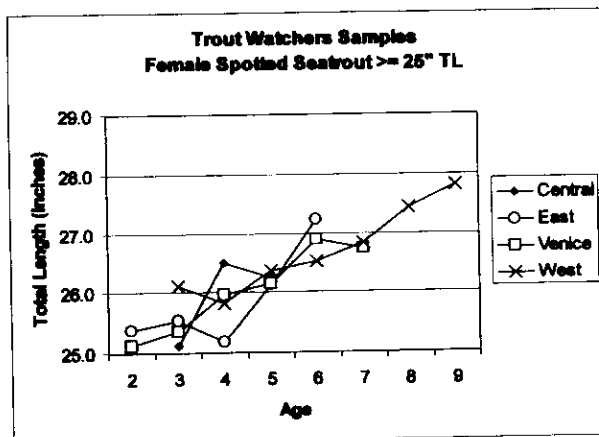
May 2, 2005 Volume 29, No. 5

## TROUT WATCHERS REPORT NO. 2

A little over two years ago, LSU AgCenter's Sea Grant Program and the Louisiana Department of Wildlife and Fisheries (LDWF) began recruiting recreational speckled trout fishermen to catch speckled trout over 25 inches long. While much is known about the biology of the species, age and growth data on larger fish is somewhat sketchy. In the entire LDWF database, information on only 128 specks over 25 inches long existed. Learning more about the make-up of the population of big fish was the goal of the **Louisiana Trout Watchers Program**.



More than 60 fishermen were trained to remove otoliths (ear bones), measure length, and determine sex for trout. These fishermen produced 254 pairs of usable otoliths, almost tripling the data on big fish in the LDWF database.



At first, the state was divided into 3 zones, West, Central, and East for the sake of data analysis. After the otoliths began coming in, it became evident the fish from the mouth of the Mississippi River were at least a different subgroup, so "Venice" was added as a fourth zone. The graph on the left shows length at age for speckled trout by zone. West is the area west of the Atchafalaya River; East is east of the Mississippi River; Central is the area between the two rivers; and Venice is the Mississippi River mouth delta which

straddles two zones, but is actually isolated from them both. The breakdown in trout caught for the program by zone was as follows: Venice — 136, West — 90, East — 22, and Central — 10.



The graph above illustrates the growth rates from the four zones for female speckled trout. Males grow slower than females. Since only 18 of the 254 usable fish turned in to the program were males, the possibility existed that they could have skewed the data, if by chance a number of them clustered in one spot rather than being randomly distributed. So they weren't included. Notice that the line for Central Zone fish is kind of wacky. This is result of having so few fish from there to analyze. Only one 5-year fish was from the zone and as chance would have it, she happened to be a slow-grower, so the graph shows 5-year old fish as growing smaller instead of larger in the Central Zone.

Of the total, five of the aged fish were real fast-growing fish under 3 years old. Three of them were from the East Zone and 2 were from the Venice Zone. None were from the West Zone. For 3-year old fish, the West Zone is still underrepresented. Only 7% of its fish age-3 and older were 3 years old. The percentages for the rest of the state were: 21% for Venice Zone, 21% for the East Zone, and 30% for the Central Zone.

For old fish, the numbers remained just as lop-sided — but in the other direction. Two fish in the study were 9-year olds and both were from the West Zone. Five fish were 8 years old, and again, all 5 fish were from the West Zone. Obviously, speckled trout in the West Zone are living longer.

Harry Blanchet, Finfish Programs Manager for the Louisiana Department of Wildlife and Fisheries says that in his view, fish in the West Zone are living longer because only Lake Calcasieu is heavily fished there, but fish are coming to the lake from a large amount of surrounding unfished or lightly fished waters, including Vermilion Bay and shoreline waters outside the beach all the way to Vermilion Bay. Atchafalaya River discharges keep these waters difficult to fish much of the year. Blanchet said that many shallow marsh areas in west Louisiana are also isolated behind water control structures and that these grow speckled trout that later move out, as well.

Others would probably like to give credit to the number of anglers on Calcasieu Lake who practice catch-and-release.

But neither explanation explains why no fast-growing 2 and 3-year old fish turned up in the West Zone during the study period, Surely anglers would release a fast-growing two-year old 5-pound fish just as well as they would a five or six-year old 5-pound fish. A number of studies are currently going on which may soon help explain these differences.

Catches by month were also very interesting and broke some widely-held beliefs. April produced 45 fish over 25 inches, May produced 49, June, 45, July, 46, and August produced 39. March produced 11 fish, and no other month produced more than 7, although at least one fish came in each month. It has been almost held as gospel that big trout are really only caught in March, April and May and that the hot months of July and August are "little trout" months.

The largest male speckled trout turned in to the study was 28 inches long, 4 years old and caught in Lake Calcasieu on June 19, 2004. The largest female was 32

inches long, 8 years old, and caught in Lake Calcasieu on July 8, 2003. The 5 largest speckled trout were caught in 5 different months, June, July, August, October, and December. None were caught in March, April or May.

The LSU AgCenter's Sea Grant Program and the Louisiana Department of Wildlife and Fisheries extends their most sincere thanks to those anglers who volunteered their time to participate in this study the past two years. A total of 38 anglers reported fish otoliths and data to the program. The anglers who produced the most speckled trout 25 inches and longer for analysis were Terry St. Cyr with 50, Ed Sexton with 29, and Rudy Hall and John Perrin tied with 27 each.

## **2005 FISHERIES BILLS**

Listed below are the fisheries and fisheries-related bills which have been introduced into the 2005 Regular Session of the Louisiana Legislature. This is a fiscal session so each senator and representative is limited to only 5 non-fiscal bills. If you need information on the status on any of these, you may call the capital at 1-255-342-2456 or 1-800-256-3793. People with computer access can do the same by using the following Web Site address: [www.legis.state.la.us](http://www.legis.state.la.us). In the bill summaries below, the Louisiana Department of Wildlife and Fisheries is referred to as LDWF.

### House Bill 124 — Wooton, Dartez, Dupre, & Gautreaux

Increases the Shrimp Trade Petition Account fee for 2006 from \$10 to \$15. The fee must be paid by each person who purchases recreational or commercial trawl, skimmer, or butterfly net gear licenses.

### House Bill 127 — Frith

Defines theft of crawfish to include fraudulent practices as well as taking without consent. Provides penalties based on the value of crawfish involved.

- \* \$500 or more - Up to 10 years imprisonment and a \$3,000 fine
- \* \$300 to 499 - Up to 2 years imprisonment and a \$2,000 fine
- \* \$299 or less - Up to 6 months imprisonment and a \$500 fine. Repeat offenders may be imprisoned up to 2 years and fined up to \$2,000.

### House Bill 154 — Pitre

Prohibits towns of less than 25,000 people from passing laws that prevent fishermen or their employees from peddling seafood on the streets and in public places.

### House Bill 179 — Frith

Allows the use of mechanical oyster dredges by Louisiana citizens in Calcasieu Lake.

### House Bill 238 — St. Germaine

Allows 50% instead \$50 from the sale of lifetime hunting and fishing licenses to be deposited in the Conservation Fund, with the rest going into the Lifetime License Endowment Fund. Allows 35% of the amount in the Endowment Fund to be used to purchase stocks and bonds.

House Bill 245 — Powell

Deletes the "crab trap on a trotline" recreational and commercial gear license. Increases the recreational crab trap gear fee from \$10 to \$15, with \$5 being dedicated to the Derelict Crab Trap Removal Program Account. Increases the commercial crab trap gear fee from \$25 to \$35, with \$5 being dedicated to the Derelict Crab Trap Removal Program Account, and \$5 being dedicated to the Crab Promotion and Marketing Account within the Louisiana Seafood Promotion and Marketing Fund.

House Bill 331 — Hill

Increases from 2 to 4 the number of representatives on the Louisiana Fur and Alligator Advisory Council who are active alligator farmers.

House Bill 357 — Montgomery

Creates the Lake Bistineau Conservation District.

House Bill 385 — Wooton

Provides that if a vessel owner is a resident of a state that has eligibility restrictions for vessel licensing, that owner shall be under the same eligibility restrictions in his application for licensing a vessel in Louisiana.

House Bill 397 — Baldone

Removes the requirement that a legal net or trawl be attached to a wharf at a camp in order to be exempt from the unattended net prohibition. Repeals the requirement that unattended nets be seized and destroyed.

House Bill 475 — St. Germain

Updates the shrimp trawling line in Breton and Chandeleur Sounds.

House Bill 477 — Dove

Prohibits any local game and fish commission appointed by a parish government from regulating the movement or mooring of any vessel on navigable waters with its jurisdiction.

House Bill 484 — Dartez

Increases the Shrimp Trade Petition Account fee paid by each person who purchases a commercial shrimp gear license from \$10 to \$15 for 2006.

House Bill 518 & Senate Bill 278 — Ritchie & Nevers

Provides for authority, composition, duties, responsibilities, powers, and functions of the Washington Parish Reservoir District.

House Bill 535 — Triche

Provides that any person who can prove that at least 51% of his income came from commercial crabbing in any one of the years 2002, 2003 or 2004, may purchase a crab gear license in 2005.

House Bill 587 — Odinet

Authorizes the Louisiana Department of Wildlife and Fisheries to create rules to permit the use of fish excluder devices on oyster leases. Provides that only one device can be used on each lease, that it be properly marked and insured, that it cover no more than 30 acres, and that it can be used only once per year, for a 60-day period during either March-April or October-November.

House Bill 596 — Fanin

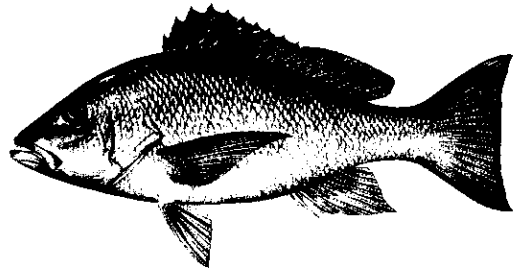
Creates the Jackson Parish Dugdemona Watershed Authority

Senate Bill 224 — Hollis

Provides for allowing local outlets to sell and issue commercial fishing licenses and boat registrations similar to the way that recreational licenses are sold by local outlets.

**RED SNAPPER: ONE STOCK, TWO STOCKS?**

Fisheries management is complicated. Federal guidelines require separate management plans if separate stocks (distinct populations) of a single species exist. Since active management of Gulf of Mexico red snappers began in 1991, all red snappers in the Gulf have been considered a single stock and managed that way. Genetic studies have so far supported the single stock theory.



The last time that the existence of more than one stock for a Gulf fish species was seriously debated was over king mackerel. Indeed, king mackerel are now managed with separate regulations for the western Gulf, the eastern Gulf and the Atlantic (which includes southern Florida Gulf waters).

Recently, scientists have found some evidence that red snappers off of Texas are different than those collected off of Louisiana and Alabama. In their study, they sampled recreationally-caught fish from Dauphin Island, Alabama, Port Fourchon, Louisiana, and Port Aransas, Texas. The fish were randomly sampled. A few smaller fish were also sampled during scientific sampling cruises. Each fish was weighed, measured, and had otoliths (ear bones) removed for use in aging the fish.

A total of 5,192 fish were sampled over 3 years. Age was determined for 5,007 of the fish. The fish ranged in weight from 4 ounces to 38.3 pounds. Ages ranged from 1 to 45 years, with 90% of the fish being between 2 and 6 years old.

Texas had a much higher proportion of younger fish; 63% were age 3 or less, compared to 30% for Alabama and 39% for Louisiana. Because fish from the Louisiana sample were larger and that could have biased the results, the scientists narrowed their focus to fish from 2–10 years old from each area.

Red snapper from all 3 areas showed a similar growth pattern of rapid growth up to about 10 years of age with little drop-off in the rate of growth. But significant differences between areas existed. Texas red snapper reached smaller maximum sizes, but grew faster to get there than Louisiana or Alabama fish.

The scientists noted that environmental factors such as food availability, habitat preferences, and fish populations could cause the differences. About 70-80% of the Gulf of Mexico red snapper catch has come from the waters surrounding the Mississippi River delta. Other scientists have found an association of the nutrient-rich river waters with increased fish numbers and growth rates for menhaden (pogies), king mackerel, striped anchovy, and yellowfin tuna.

The biologists noted that red snappers have never been evenly found all over the Gulf of Mexico. The commercial fishery began off of the Florida panhandle about 20 years before the Civil War and during its early years it was centered between Mobile, Alabama and Fort Walton, Florida. Landings data indicates that the fishery, and possibly the fish population, shifted westward over a 100-year period from natural rock outcroppings off of the Florida Panhandle to oil and gas platforms in the north-central Gulf.

Recent data indicates that currently there is a center of abundance of red snapper off southwest Louisiana and a second, smaller center off Alabama. Red snapper have never been reported as plentiful off of Texas and it is possible that there are fewer red snapper available for harvest off Texas.

The scientists concluded that regardless of whether the reason for the difference in Texas versus Louisiana/Alabama is genetic or due to habitat, the results of their study support the creation of more than one red snapper management unit in the Gulf.

Source: *Red Snapper (Lutjanus campechanus) Demographic Structure in the Northern Gulf of Mexico Based on Spatial Patterns in Growth Rates and Morphometrics*. Andrew J. Fischer, M. Scott Baker, Jr., and Charles A. Wilson. Fishery Bulletin. Vol. 102, No 4. October 2004.

## **CATFISH FOOD HABITS STUDY**

While the commercial fishery for freshwater catfish in the United States has struggled because of competition from farm-raised catfish, the recreational catfishery is booming. Once considered trash fish outside the South, channel, blue and flathead catfishes are now highly regarded throughout their range.

Whole magazines and books are devoted to recreational catfishing and large blues and flatheads are considered to be freshwater big game fish in some states, complete with charter guides that target 50-pound and larger fish. Both blue and flathead catfish have been stocked outside their range, specifically to provide trophy fisheries. Channel catfish are hardy, willing biters, and good fighters, and heavily stocked in public fishing lakes, even in the northern and midwestern U.S.

Catfish are unfairly viewed as swimming garbage disposals, although they do eat a wide variety of food items. Blue catfish diets have not been as well-studied as the food habits of channel and flathead catfish have. Also, catfish food habits for tailwaters below dams have not been compared to those of catfish from the waters of the reservoir created by the dam. This is of interest because both fishermen and biologists have noted that tailwater catfish seem to average larger and heavier than other catfish. This may be due to more or better food being discharged through the turbines of a dam, or to food-fishes being attracted and concentrated by the strong water flow below dams.

In 2001-2002, biologists in Alabama studied the food habits of all three species of catfish from the waters of three reservoirs on the Coosa River and the tailwaters within the 2 miles downstream of each dam. Catfish were mainly collected by electrofishing (shocking), although monofilament gill nets were also used. Catfish collections were made all four seasons of the year, but except for blue cats, no catfish were collected in the winter when cold temperatures prevented effective shocking.



Blue Catfish

For blue catfish, 241 fish were collected and divided into two size groups, under 12 inches, and 12 inches and larger. For the small fish, the most important food item was small clams, especially in tailrace fish, where they were more important than all other food items combined. So many clams were eaten by some fish that they could be seen and felt through the stomach wall of the fish. Small blue catfish also ate mayfly and dragonfly larvae, plants/debris, and some fish. Larger blue cats from tailraces ate (from most to least) plants/debris, clams, unidentified fish, and dragonfly larvae. In reservoirs, they ate unidentified fish and mayfly larvae.

The biologists did not capture many blue catfish over 20 inches long, even though fishermen caught them. The tendency of large blue catfish to stay in swift water and deep channels made electrofishing for them difficult. Other studies have found that large blue catfish feed heavily on shad and herring. Clams were most heavily eaten in the summer by small blue catfish and fish were most heavily eaten by larger fish in the summer. Insects were most heavily eaten in the spring by both size classes.

Channel catfish were also divided into two size groups, under 10 inches, and 10 inches and larger. The smaller fish ate very large numbers of insects and a significant amount of plants/debris in both tailwaters and reservoirs. Zooplankton was also very important in the diet of reservoir fish.



Channel Catfish

In larger channel catfish from reservoirs, by far the biggest food item was midge (mosquito-like flies) larvae, followed by plants/debris, and aquatic worms/millipedes. Tailrace channel cats fed most heavily on plants/debris, midge larvae and other insects, with some shad and other fish in their diet. Most of the fish were eaten in the summer, with lesser amounts consumed in the spring. Reservoir channel catfish did not eat fish.



Flathead Catfish

Flathead catfish were divided into three groups, small (under 10 inches), medium (10-20 inches) and large (20 inches and larger). Flathead catfish of all sizes ate more fish than either blue or channel catfish did. Small flatheads from reservoirs consumed finfish (especially channel catfish and crappie), crawfish, mayfly-larvae, and zooplankton.

Small tailwater flathead catfish concentrated on crawfish and zooplankton.

Medium-sized flathead catfish ate more crawfish than anything else in both reservoirs and tailwaters. Reservoir fish also ate large amounts of fish, including channel catfish, and plants/debris and zooplankton. In addition to crawfish, the diet of tailwater flatheads had large amounts of fish, especially other flathead catfish and channel catfish, and some plants/debris in it.

Large flatheads from both areas ate almost totally fish, with shad being the number one fish eaten. Other fish eaten by large both reservoir and tailwater flathead catfish included freshwater drum, channel catfish, and sunfish.

Source: *Food Habits of Catfishes in Tailwater and Reservoir Habitats in a Section of the Coosa River, Alabama.* Jeffrey C. Jolley and Elise R. Irwin. Proceedings of the Fifty-Seventh Annual Conference. Southeastern Association of Fish and Wildlife Agencies. October 2003.

## **FLORIDA CRAB LIMITED ENTRY**

The Florida Fish and Wildlife Conservation Commission approved a limited entry rule on April 15 designed to prevent overcapitalization of the commercial blue crab fishery in that state by managing the numbers of people in the fisherman. Overcapitalization occurs when so many people get into a fishery that it becomes difficult for the ones in the fishery to get a fair return on all their investment and effort. This is a form of rights-based fishing management.

On April 7-8, the organization Environmental Defense sponsored a workshop in New Orleans to discuss the advantages of establishing "rights-based" fishing management in the shrimp fishery. Such programs, using license number limits or individual transferable quotas, give commercial fishermen some rights over transfer of their license or harvest quota. Those rights involve having the ability to sell or transfer them to other people.

The Louisiana Crab Task Force currently has a rights-based limited entry plan for commercial crabbing ready to go, but has been informed that it will meet some resistance at the state level. The plan is sitting in limbo while the clock is ticking toward the expiration of the 2005 crab gear license moratorium.



The Florida rule, which was recommended by Florida's Blue Crab Advisory Board limits the total number of commercial crabbers and allows each qualified fishermen to use an equal number of traps. The details are as follows:

The new rules:

- Establish a hard crab endorsement and a soft crab endorsement, which can be associated with either an individual or vessel saltwater products license (SPL).
- Establish qualifying and re-qualifying criteria.
- Require trap tags and establish tag ordering criteria and a replacement tag program. The proposed annual fee for trap tags is 50 cents per tag.
- Establish an appeals board and criteria by which non-qualifying blue crab fishers could be allocated traps.
- Establish the Blue Crab Advisory Board by rule, and set criteria for appointment to the board.
- Prohibit the leasing or renting of endorsements, tags, or traps, and establish endorsement holder responsibilities.

The rule also specifies that blue crab endorsements will be transferable, and in order for a person to enter the fishery, the person must buy the endorsement and trap tags as a package from someone who is leaving the fishery. The person must also work no fewer than 14 days fishing for blue crab on the endorsement holder's vessel.

In order to qualify for a hard crab endorsement, the rule requires a minimum of 500 pounds of blue crab landings to have been reported on any one of a fishing entity's SPLs during one of three qualifying license years (2000-01, 2001-02, 2002-03). An entity may endorse multiple SPLs; however, any additional SPL requires a minimum of 7,500 pounds of blue crab landings to qualify. The proposed cost of this endorsement fee is \$125 (includes a \$25 trap retrieval fee).

Each hard crab endorsement entitles the owner to fish up to 600 blue crab traps, and an additional 400 traps offshore in the Gulf of Mexico, per endorsed SPL. A total of 150 soft crabs per endorsed SPL may be landed daily as bycatch. Fishermen can maintain as many as three shedding tanks without possessing a soft crab endorsement.

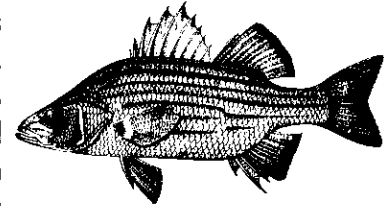
In order to qualify for a soft crab endorsement, the rule requires a minimum of 750 soft shell (also called peeler) crabs to have been reported on any one of a fishing entity's SPL during one of three qualifying license years (2000-01, 2001-02, 2002-03). An entity may endorse one additional SPL; however, the additional SPL requires a minimum of 2,500 soft shell crabs to have been reported in order to qualify. The proposed cost of this endorsement fee is \$250 (includes a \$25 trap retrieval fee).

The soft crab endorsement allows up to 400 peeler traps to be fished. Entities with more than one qualifying SPL are entitled to receive up to 250 additional traps with the additional endorsed SPL. The soft crab endorsement also allows the holder to operate a blue crab shedding facility with greater than 3 shedding tanks.

The proposed endorsement and trap tag fees must be approved by the 2006 Florida Legislature before the new FWC blue crab rules can be fully implemented for the 2006-2007 license year. The new rules will take effect by June 1, and the effective date for the blue crab limited entry program is July 1, 2006.

**TOLEDO BEND FISH RULES CHANGE**

The Louisiana Department of Wildlife and Fisheries has announced two regulation changes for freshwater fish in Toledo Bend Reservoir. First, the daily limit on yellow bass has been removed. Formerly, it was 50 per day. The second change was the removal of the 12-inch minimum size on spotted black bass. The 14-inch minimum size on largemouth black bass remains in effect.



**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 &amp; Long. Sites</u>		
26707	46975	CAMERON	29 24.338	90 03.023	JEFFERSON
27750	46880	TERREBONNE	29 28.470	89 31.990	PLAQUEMINES
28307	46826	LAFOURCHE	29 31.860	90 08.800	JEFFERSON
28331	46830	LAFOURCHE	29 32.673	92 03.447	VERMILION
	<u>Lat &amp; Long. Sites</u>		29 40.851	89 26.408	ST. BERNARD
29 04.990	90 53.730	TERREBONNE	29 41.563	89 14.794	ST. BERNARD
29 13.239	90 02.634	JEFFERSON	29 43.982	91 51.304	ST TAMMANY
29 17.329	89 57.034	ST. BERNARD	29 45.503	89 46.427	ST. BERNARD
29 19.577	89 28.685	PLAQUEMINES	29 51.348	89 40.417	ST. BERNARD
29 21.157	91 28.074	ST MARY	29 56.872	89 50.866	ST. BERNARD

**FISH GROWTH THEORY**

It is well-known that in many fish species that female fish grow larger than males. At last year's meeting of the Louisiana Chapter of the American Fisheries Society, LSU scientist Richard Condrey proposed an interesting theory on why this takes place. Condrey noted that in his studies of the backtip shark, growth rates seemed limited by how much food their stomachs could hold. He also noted in studies on freshwater paddlefish that a large volume of eggs in females tends to expand the size of the body cavity. The size of the body cavity of a fish, he notes, is what limits the amount of food that the stomach can hold.

Condrey noted that one thing that can stretch the size of the body cavity is the large egg mass that many female fish develop before spawning. He noted that mature ovaries in some fish can expand the size of body from 5% of the weight of the fish to 25%. The stretching of the body cavity size on female fish may allow them to gorge on more food than males, and therefore grow more rapidly. The increases in size of the body cavity are small each time, but occur in step increases and will add up over time.

Source: *A Functional Explanation for Sexually Dimorphic Growth in Fish*. Richard Condrey, Nicole Smith and Bobby Reed. Silver Anniversary Meeting of the Louisiana Chapter of the American Fisheries Society. February 2004.

\*\*\*\*\*

## THE GUMBO POT

### Oysters in a Pan

This month's recipe is one of those must-try recipes. It has four-star taste. Madisonville outdoor writer Jeff Bruhl sent it to me, claiming that he got it from a friend in Kentucky, the land of burgoo. I don't know where his friend got the recipe, but it has New Orleans Creole written all over it. It reminds me very much of Oysters Jaubert, a dish served over 20 years ago by Guertin's Restaurant, a creative, but short-lived Creole restaurant in New Orleans. I served it over toasted homemade potato bread provided by my co-worker, Pat J. McKillip. The marriage was perfect because the bread had the character to stand up to the rich sauce. The recipe cautions that the chicken stock must be warm, because using cold liquid when thickening the roux will ruin the bond between the flour and the water.

1	cup chopped onions	1	quart raw oysters
½	cup chopped bell pepper	1	tbsp Creole seasoning
1	tbsp chopped garlic	2	tbsp Worcestershire sauce
1	cup chopped green onions	1	tbsp hot sauce
¼	cup chopped celery	¼	cup all purpose flour
1	stick butter	1	cup warm chicken stock

Melt butter in a large cast iron pan. Sauté the vegetables until tender. Add oysters. Cook several minutes on med-high heat. Add seasoning, Worcestershire, and hot sauce. Add flour slowly, stirring to mix while adding. Stir until thickened. Slowly add chicken stock until gravy is formed. Continue until desired thickness is reached. Serve over toasted bread. Serves 4

Sincerely,

Jerald Horst  
Professor, Fisheries