



## The Stars of Springtime: Red Swamp and Southern White River Crawfish

As the 2010 crawfish season gets into full swing, we take a look at the two local species that make all of those boils, etouffees and jambalayas possible. The two species of crawfish typically associated with commercial harvest are the red swamp crawfish (*Procambarus clarkii*) and the southern white river crawfish (*Procambarus zonangulus*). These species, along with all other crawfish species, are crustaceans in the order Decapoda (ten legs), the same as lobster, crabs and shrimp. Both red swamp and white river crawfish are in the family Cambaridae and genus *Procambarus*.



A red crawfish in the marsh.  
Photo credit: Christopher Bonvillain

Red swamp crawfish have a wide natural range extending from Mexico to Illinois and from Florida to Oklahoma. They also have been introduced worldwide. Southern white river crawfish are found in Louisiana, Alabama, Mississippi and Texas but have not been introduced globally. The two species can be differentiated by a few characteristics. The easiest way to distinguish red swamp crawfish from southern white river crawfish is a blue-gray pigmented line found on the underside of the tail. White river crawfish do not have this trait. In addition, red swamp crawfish have claws that are shorter and more flattened, darker walking legs, a closed areola and red pigment on adult bodies. White river crawfish have longer and more rounded claws, walking legs lighter in color, an open areola and no red pigment on adult bodies.

Wild crawfish are found in swamps, bayous, lakes and even ditches, and they are integral players in the food web. They help facilitate the breakdown of organic material by shredding plant matter into smaller pieces, which increases the decomposition rate by bacteria. Crawfish are omnivores, incorporating decomposing plant material, fish, insect larvae, snails and even small fish into their diets. In turn, crawfish are prey for fish, birds, snakes and turtles. Farm-raised crawfish, typically grown in 10 to 40-acre ponds, are involved in a similar food web. Although some farmers plant a standing crop of either rice or soybean as a forage base, farm-raised crawfish have similar diets to wild crawfish, and they still face similar predation risks.

During low water, crawfish are forced into their burrows to keep from drying out and to lay eggs and hatch young. Crawfish can be harvested once they emerge from their burrows, which occurs when



Boiled crawfish. Photo credit: Paula Ouder

the water level increases due to winter snowmelt and spring rains. The crawfish “season” for wild crawfish typically spans from February to May, depending on the water level. Farm-raised crawfish producers can artificially manipulate water levels in their ponds to coax crawfish from their burrows, an advantage that allows for earlier harvesting and helps keep up with demand.

As of 2007 there were 1,300 commercial crawfish harvesters in the state. Louisiana has boasted an average annual harvest of 82 million pounds of crawfish, averaging \$51.2 million yearly, from 1988-2007. The Atchafalaya

River Basin is the most productive area for wild crawfish, responsible for about 75 percent of the wild harvest. Louisiana’s wild fishery depends on the river stage and floodplain inundation, an unpredictable variable for harvesters. Thus, the wild crawfish fishery has averaged 29 percent of the total harvest from 1988-2007 (1988 was the first year that wild production and farm-raised production were separated).

**-William Sheftall IV**

**Sources:**

Crawfish Production Manual. 2007. LSU AgCenter Publication # 2637.

Huner, J. V., and J. E. Barr. 1991. Red Swamp Crawfish: Biology and Exploration. Louisiana Sea Grant College Program.

Louisiana Crawfish Harvest Statistics, 1978-2007. <http://www.eextension.com/NR/rdonlyres/4687F896-C5C5-47D6-A4F4-1F4455760816/46429/CrawfishHarvestStatistics7807.pdf>

**Calcasieu Oyster Initiative Reaps Success**

After several years of planning meetings, changes to regulations and support of the local oyster industry, an initiative to increase harvest and market value of the Calcasieu Lake oyster fishery is reaping benefits. Oyster harvesting from the area had fallen from more than 100,000 sacks in the early ‘80s to less than 20,000 sacks in the early years of this decade.

Normally, one would suspect a problem with the stock or other resource issues. However in this case, the problem was a marketing and availability issue. Over the years, frequent health closures made it difficult for dealers to hold on to markets. Intermittent supply caused wholesale customers to seek more reliable sources. All the while, oyster stock assessments showed the resource to be quite robust. In an effort to boost the local economy and stabilize the Calcasieu oyster industry, a local committee was formed to try and work through some of the problems. The Calcasieu Oyster Task Force was formed of local fishermen, buyers and businessmen. Also working with the task force was the Louisiana Department of Wildlife and Fisheries (LDWF), Louisiana Sea Grant, Louisiana Department of Health and Hospitals (LDHH) and Cameron Parish Police Jury.

Several changes have come about over the years through the efforts of all parties involved. In December 2005, after extensive sampling by LDHH, an additional area was opened on the Lower Calcasieu portion of the harvest area. In 2006, legislation was passed allowing dredging in Calcasieu for the first time in many years. That same year the sack limit increased to 15 per day. The benefit

of dredging oyster reefs goes far beyond saving the backs of fishermen. Dredges in Calcasieu are limited to 36 inches wide. These lightweight dredges only remove the top layer of oysters. Dredging breaks up clusters and reduces the amount of hooked mussels which set on oysters and reduce quality and hamper growth. Dredging also increases reef area, by slowly spreading shell and oysters out during the dredging process. This allows more area for spat set during subsequent spawns.

Also, when fishermen stop and cull through the undersized oysters (3-inch minimum) and shell, these are returned to the lake to become part of the reef bottom. Dredging oysters also improves quality over time by reducing hooked mussels. An oyster's natural defense to being rolled around by dredges or rough water is to deepen its shell. This is known in the industry as cupping. Cupped shells produce thick, meaty oysters of high quality.

During the 2009-2010 seasons more than 100 fishermen worked Calcasieu Lake's reefs. Some of the increased harvest was due to many people being out of work during the economic downturn. But, some of the increase was due to the high demand for quality oysters, which fetched record prices for Calcasieu Lake oysters of \$20 to \$32 per sack. Hopefully, with continued monitoring and good management, this resource will continue to grow and support local fishermen and improve the reef areas of Calcasieu Lake, which are also known by recreational fishermen as excellent fishing spots.

**-Kevin A. Savoie**

### **Northshore High School Students Help Restore the Fritchie Marsh**

Northshore High School (NHS) students have been busy the past several months helping restore Fritchie Marsh in St. Tammany Parish. Through an Earth Day Network Grant awarded to NHS environmental science teacher Evelyn Bosworth, Northshore students in four classes learned about wetlands, land loss issues and restoration efforts in the fall of 2009. In December, students began growing plants that were later transplanted in Fritchie Marsh during the first week of April.

"Mrs. Bosworth's and William Mount's classes grew *Vallisneria americana* plants in coco matting submerged in large tanks housed on NHS campus," said Carol Franze, with Louisiana Sea Grant and the LSU AgCenter. Franze, along with JoAnn Burke of the Lake Pontchartrain Basin Foundation (LPBF), taught students last fall about the functions and value of wetlands.



Northshore High School students tour hurricane damaged marsh hurricane damage with the U.S. Fish and Wildlife Service. Photo credit: Mindy McCallum

## **Lagniappe Fisheries Newsletter**

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“During the deployment of the plants they cultivated, the high school students sampled for benthic invertebrates and took soil and water quality measurements, with additional help from Christine Fox from the LPBF,” said Mindy McCallum, LSU AgCenter 4-H Youth Wetlands agent who coordinated the transplant effort. “Most of these students had never been to a marsh before this trip, although the high school is only a few miles away,” she added.

To better understand how fragile the marsh system is since recent hurricane damage, Daniel Breaux, the U.S. Fish and Wildlife Service Refuge Manager, took the students on an air boat ride to witness it firsthand. Harold Cullen, local landowner adjacent to Fritchie Marsh, allowed students to access the marsh from his property. Cullen said he has seen the damage from hurricanes first hand and was happy to help out with restoration efforts by the NSH. The restoration site will be monitored to measure plant growth and expansion.

### **Shrimp Season in Portion of Louisiana Offshore Territorial Waters Reopened**

That portion of Louisiana offshore territorial waters south of the Inside/Outside Shrimp Line as described in R.S.56:495, from the eastern shore of the Atchafalaya River Ship Channel at Eugene Island as delineated by the channel red buoy line to the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude, reopened to shrimping on April 21 at 6:00 a.m.

According to the most recent trawl samples taken by Office of Fisheries biologists, small white shrimp which have occupied portions of state outside waters from December through mid April are no longer present in the area to be opened. Significant numbers of small white shrimp still remain in state outside waters west of the Atchafalaya River Ship Channel to the western shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude, and this area will remain closed until further notice.

The opening dates for the 2010 spring inshore shrimp season will be considered by the Louisiana Wildlife and Fisheries Commission at the May 6 meeting to be held at LDWF headquarters.

### **Commercial Fishery for Golden Tilefish Closed**

The commercial fishery for golden tilefish in the South Atlantic federal waters is closed, effective 12:01 a.m. April 12 through December 31, 2010. NOAA Fisheries Service has determined the 2010 commercial quota of 295,000 pounds of golden tilefish will be reached by this date.

During the closure, all harvest or possession of golden tilefish in or from South Atlantic federal waters is restricted to the bag and possession limits and the sale or purchase of such fish is prohibited. In addition, a person on board a vessel for which a federal commercial or charter vessel/headboat permit for the South Atlantic Snapper-Grouper Fishery has been issued, is restricted to the bag and possession limits, and sale or purchase of such fish is prohibited during the closure for golden tilefish. This would apply regardless of whether the fish are harvested in state or federal waters.

Closure of the commercial fishery for golden tilefish in the South Atlantic complies with regulations implementing the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic

Region and is necessary to protect the snapper-grouper resource. The prohibition on sale or purchase does not apply to sale or purchase of golden tilefish that were harvested, landed ashore, and sold prior to 12:01 a.m., local time, April 12, and were held in cold storage by a dealer or processor.

This bulletin provides only a summary of the information regarding the existing regulations. Any discrepancies between this bulletin and the regulations as published in the *Federal Register* will be resolved in favor of the *Federal Register*.

### **Recreational Grouper Season Reopened April 1**

The Gulf of Mexico Fishery Management Council reminds anglers that the recreational season for Gulf grouper in the federal waters of the Gulf of Mexico reopened April 1. The recreational shallow-water grouper fishery (gag, black, red, yellowfin, scamp, yellowmouth, rock hind and red hind) is closed annually from February 1 through March 31, to help reduce overfishing of gag and rebuild its populations.

### **LDWF Extends Deadline for Research Survey Program**

The Louisiana Department of Wildlife and Fisheries (LDWF) has extended by an additional 90 days the deadline for eligible commercial fisherman and wholesale/retail seafood dealers to complete and submit cooperative research surveys under its \$15 million Cooperative Research Survey Program.

The original deadline for applicants to submit completed surveys was March 31. The deadline has now been extended to June 30. The Cooperative Research Survey Program was designed to compensate eligible fisherman and certain businesses in exchange for providing key information on the recovery status of the state's commercial fisheries and fishing industries from the impacts of hurricanes Katrina, Rita, Gustav and Ike.

Application materials on salmon-colored paper were mailed to eligible resident fisherman and seafood dealers in April 2009. LDWF sent out nearly 3,500 surveys and approximately 500 are still outstanding.

Eligible resident commercial fisherman and wholesale/retail seafood dealers who have not yet submitted their surveys should complete and return them to South Central Planning and Development Commission (SCPDC) at P.O. Box 1240, Gray, LA 70359-9902. For additional information on eligibility or to request any other information, contact SCPDC at 1-800-630-3791 or 985-655-1051. You may also visit their website at [www.scpdc.org/fisheriesassistance](http://www.scpdc.org/fisheriesassistance).

### **LDWF Biologist Honored by U.S. Fish and Wildlife Service**

The U.S. Fish and Wildlife Service (USFWS) has honored Louisiana Department of Wildlife and Fisheries (LDWF) biologist Bobby Reed with a Regional Director's Conservation Award.

For nearly 59 years, the USFWS has recognized exceptional conservation work through its annual achievement awards, representing one of the most prestigious awards among the nation's conservation community. The Regional Director's Conservation Awards are presented annually and highlight regional partner agencies, individuals and organizations for their significant contributions to the preservation, conservation and protection of plant and animal habitat and ecosystems. There are 10 states, including Louisiana, in the southeast region.

This year, Reed received an award for his contributions to Louisiana's freshwater fisheries. He has represented the state and the department in national and international fisheries conservation efforts concerning threatened and endangered species and aquatic habitat preservation.

"I am humbled at the thought of receiving such an honor," said Reed. "I have always enjoyed working with the USFWS personnel in southwest Louisiana to provide the best possible outdoor experience for freshwater anglers visiting our regional refuges."

Reed has worked with LDWF for 29 years, with 23 years as an Inland Fisheries District supervisor in Lake Charles, Louisiana. He is recognized by his peers throughout the southeast as one of the country's leading experts on paddlefish and pallid sturgeon.

### **Online Fishery Survey**

Thank you to everyone that completed the Louisiana Sea Grant fisheries survey. We will make those results available in a future issue of *Lagniappe* or online once it is complete.

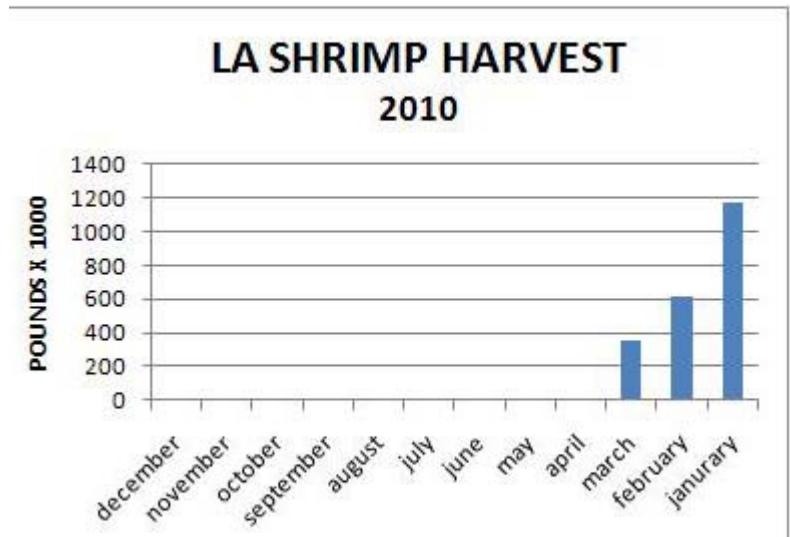
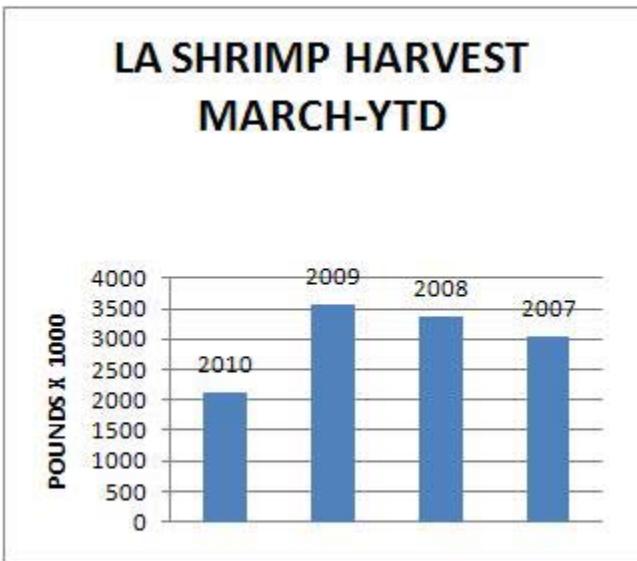
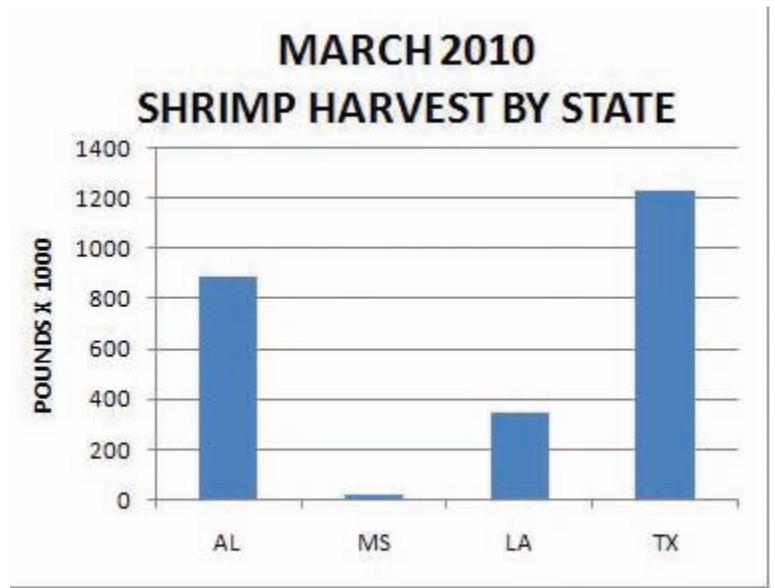
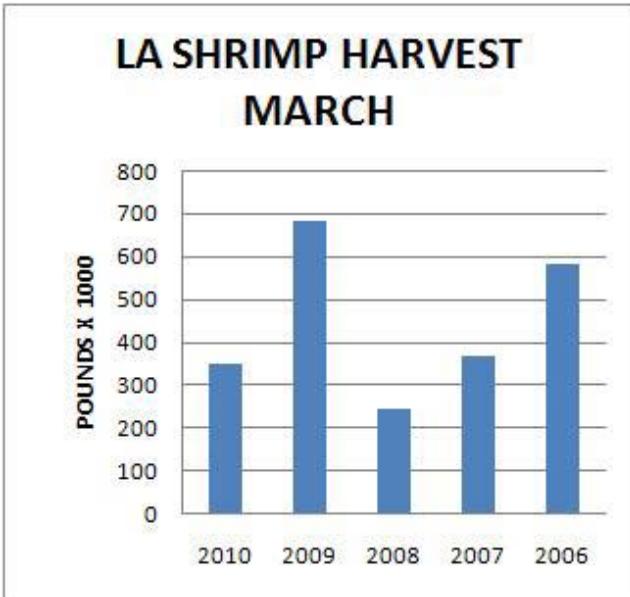
### **Underwater Obstructions**

In accordance with the provisions of R.S. 56:700.1 et. seq., notice is given that 11 claims in the amount of \$46,586.01 were received for payment during the period March 1 - March 30, 2010. There were 11 claims paid and 0 claims denied.

Latitude/Longitude Coordinates of reported underwater obstructions are:

29 01.952	90 24.826	LAFOURCHE
29 07.532	90 59.678	TERREBONNE
29 12.168	90 01.202	JEFFERSON
29 21.376	89 46.750	PLAQUEMINES
29 23.639	90 01.359	JEFFERSON
29 29.066	91 52.203	IBERIA
29 31.113	91 59.450	IBERIA
29 38.452	89 45.464	PLAQUEMINES
29 49.891	89 32.044	ST. BERNARD
29 52.493	89 40.078	ST. BERNARD
30 05.195	90 06.947	JEFFERSON

A list of claimants and amounts paid can be obtained from Gwendolyn Thomas, administrator, Fishermen's Gear Compensation Fund, P.O. Box 44277, Baton Rouge, LA 70804, or call 225-342-0122.



#### Louisiana Shrimp Watch

Louisiana-specific data portrayed in the graphics are selected from preliminary data posted by NOAA on its Website. All data portrayed are subject to final revision and approval by NOAA. Shrimp landings are ex-vessel prices, inclusive of all species harvested. Missing, inadequate or withheld reports are portrayed as “zero” in these graphics. Price graphics reflect central Gulf states only (Texas and Florida are reported independently). For more information, visit: [www.st.nmfs.noaa.gov/st1/market\\_news/index.html](http://www.st.nmfs.noaa.gov/st1/market_news/index.html)

- Rusty Gaudé

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## THE GUMBO POT

If you have a favorite seafood recipe that you would like to share, please send it to Julie Anderson, [janderson@agcenter.lsu.edu](mailto:janderson@agcenter.lsu.edu) for inclusion in future issues.

Thank you to Tom Fitzmorris who provided this month's recipe:

### Sea Bream in an Envelope

"Sea bream" is the new officially recognized name for sheepshead, which needed a new name. It's really a great fish. This recipe is very light - nothing like the *en papillote* dishes we often do around here. You bake the fish in a tight envelope of foil.

#### Ingredients:

1/2 stick butter, softened

12 large white grapes

4 sprigs Italian flat-leaf parsley

1/2 rib celery, cut into matchsticks

8 sea bream (sheeps head) fillets (trout or flounder would also work), about 4 oz. each

1/3 cup tomato puree

1/4 cup dry white wine

Salt and pepper

Preheat the oven to 400 degrees.

1. Tear off four sheets of aluminum foil, 12 inches wide by 18 inches long. Rub the softened butter in the center half of each sheet.
2. Peel the grapes and slice them into small coins.
3. Place a sprig of parsley and a fourth of the celery on one side of the foil sheet. Place two fish fillets, head ends together, on top of the parsley and celery. Spoon the tomato puree lightly over the fish, and top with the grape coins. Sprinkle a little white wine over the fish, and season with salt and pepper.
4. Fold the foil over. Fold the edges and crimp to make a tightly sealed envelope. Repeat the process for the remaining fish.
5. Place the envelopes on a baking sheet and bake in a 400-degree oven for about 12 minutes. The envelopes should puff up somewhat.
6. Serve the fish in the envelope on the plate. Each guest will open his or her envelope, and the aromas will waft up right into their nostrils.

Serves four.

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We would like to hear from you! Please contact us regarding fishery questions, comments, or concerns you would like to see covered in the Lagniappe. Anyone interested in submitting information, such as articles, editorials, or photographs pertaining to fishing or fisheries management is encouraged to do so.

**Please contact Lagniappe editor Julie Anderson at [janderson@agcenter.lsu.edu](mailto:janderson@agcenter.lsu.edu)**

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