

Lagniappe



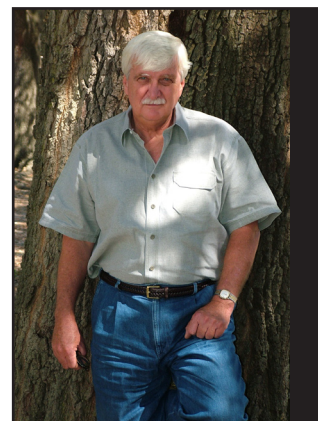
June 1, 2006

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MESSENGER OF CHANGE EXITS THE STAGE

Jerald Horst has more time for hunting and fishing now that he's retired, but the plight of the recreational and commercial fishermen he advised since 1976 continues to weigh heavily on his mind. In May, Horst left his post as professor of fisheries in the LSU School of Renewable Resources and Marine Extension specialist for Louisiana Sea Grant and the LSU Agricultural Center.

"Louisiana's commercial fishermen have suffered a lot over the years," Horst said grimly. "The future for consumptive users is also worrisome."



Jerald Horst

The damage Hurricanes Katrina and Rita inflicted on homes, boats, gear and certain fisheries has deepened Horst's concern for both his former constituents and the endangered culture of coastal Louisiana. The storms came on the heels of long-standing industry problems – domestic and foreign competition, high fuel prices and government regulations, which already had driven many seafood harvesters into other professions. The state's seafood processors have also felt the squeeze.

"They do what they can," Horst said. "There is a surprising stoicism among these people, but they don't have much choice. What else are they to do?"

Outspokenness on issues affecting both fisheries and fishermen was a Horst trademark in all three of his major missions as an agent – research, education and outreach.

"Jerald Horst has been a thought provoker on fisheries policy and management," said Ken Roberts, LSU AgCenter associate vice chancellor. "This takes a tough hide and someone committed to the review of change alternatives. So often, people do not understand that the role of an educator is to teach people to think *about* change – often, these folks conclude that the educator is actually *backing* the change. Jerald has consistently deflected this criticism. This man lived professionally what he educated his audiences about so effectively – change is normal, yet there are ways to influence change rather than letting it happen to you."

Despite the difficulties of communicating the inevitability of change to constituents, colleagues and policy makers who may be unwilling to accept it, Horst was unafraid of being the bearer of bad news or the herald of change.

“He has addressed, with assertiveness and courage, many topics people don’t want to talk about and embrace,” explained Paul Coreil, LSU AgCenter vice chancellor and Louisiana Cooperative Extension Service director. “Anyone who does this will be controversial, and Jerald has been controversial.”

“He challenged the conventional wisdom of the government, the university system and the fishermen. He reminded us that there are emerging issues we need to address like resources becoming limited and harvesting requirements. Jerald saw these things coming before we did. He brought to the table innovation and the spirit of looking beyond the current issues.”

Others in Extension, like Mike Liffmann, Louisiana Sea Grant associate executive director, admire Horst’s dedication to his constituents. “No matter where Jerald’s research took him, the needs of his constituents drove Jerald’s field activities since the early part of his career,” Liffmann said.

In addition to field work, Horst strived to balance the needs of the environment and the people who rely on it by lending his expertise to numerous public policy tasks forces and industry advisory boards.

Woody Crews, a recreational fisherman, served with Horst on the Jefferson Marine Fisheries Advisory Board for about a decade. “Jerald took special care as a facilitator and charter member to keep advisory board members active and interested,” Crews said. “Even today, he takes great delight in the accomplishments of those he helped mature into leaders. Few other facilitators held their leadership development duties in such high stature. Jerald cared for the fishermen he came to know deeply. I am a better and wiser man for having known Jerald Horst.”

His outreach activities touched scientists, students and journalists, as well as those who work and recreate in Louisiana’s fisheries. Horst’s research resulted in several handbooks to improve both the profitability and people’s understanding of aquatic resources.

Horst is a prolific author with nearly 80 fisheries-related publications to his name. He kept constituents up-to-date on the latest research and legislation with his monthly *Lagniappe* newsletter since 1977 and had written a weekly column, “Fisheries Newslines,” for The *Times-Picayune* since 1989. The general public has also benefited from the numerous facts sheets he has written.

“Much of Jerald’s success can be attributed to his willingness and ability to communicate in writing,” Liffmann explained.

“*Lagniappe* captured the history of the fishing industry and will be valuable to policy makers and resource managers for years in the future as they address similar issues,” Coreil said. “Jerald documented conflicts, and he has almost created a library of policy issues. In his commitment to writing, documenting and informing the public, no one came close to Jerald.”

Horst is the president of the Louisiana Outdoor Writers Association, which he describes as one of his great passions and most rewarding professional pursuits. Other affiliations include membership in and past presidency of the Louisiana Association of Professional Biologists and membership in the American Fisheries Society: Louisiana Chapter. In 1997, he was named Louisiana Wildlife Federation Conservation Educator of the Year.

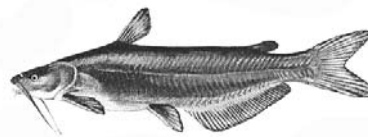
Colleagues agree that Horst has made his mark on Marine Extension.

“Anyone who has met him knows Jerald is a unique individual, to say the least,” said Mark Schexnayder, a Louisiana Sea Grant/LSU AgCenter coastal advisor who worked with Horst in Jefferson Parish for five years. “He is one of the most knowledgeable, experienced individuals on such a wide array of

topics that I have ever worked with. I could not have asked for a better mentor. His legacy will live on long after he exits the stage.”

BLUE CAT BIOLOGY

One of the fastest growing freshwater fisheries in the U.S. is the one for trophy blue catfish, *Ictalurus furcatus*. Native mainly to the Mississippi River drainage, blue catfish have been widely stocked throughout the U.S. Lake Texoma, which is on the Oklahoma-Texas border, is one such lake with a trophy blue cat fishery. The 87,968-acre lake was formed in 1944 when a dam was placed below the spot where the Red and the Washita Rivers meet. In January 2004, a rod and reel world record blue catfish was caught from the lake that weighed 121 pounds, 8 ounces.



Since the lake was built, it has become nationally famous for its striped bass fishery, which supports around 200 guides. In recent years, many of these guides have chartered more and more trips for large blue catfish, especially in winter, when the biggest fish are easier to catch.

The increasing fishing pressure has caught the attention of Oklahoma Department of Wildlife Conservation biologists, who felt that they needed to know more about the biology of the fish. Because of their concerns, they conducted a study on the species, collecting 328 fish by shocking machine from depths of 10-17 feet. Each fish was weighed and measured. Their ages were determined by counting in rings in cross-sections of their otoliths (ear bones).

As the table on the right indicates, a wide range of growth rates were found for individual fish of any single age. On average though, blue catfish from Lake Texoma did not reach 12 inches until age-3, 16 inches until age-5, and 20 inches until age-8 or 9. They did not reach “trophy size” of 30 inches and 10 pounds until age-12 or older. Only 10 fish over age 12 were collected; not enough to make growth estimates on. The oldest fish was age-16, was 42 inches long and weighed 45 pounds.

| Age | Size Range (inches) |
|-----|---------------------|
| 1 | 5.4 — 8.6 |
| 2 | 5.2 — 12.0 |
| 3 | 9.8 — 14.8 |
| 4 | 12.6 — 18.3 |
| 5 | 13.2 — 19.0 |
| 6 | 12.2 — 21.9 |
| 7 | 15.5 — 20.8 |
| 8 | 15.7 — 25.4 |
| 9 | 17.2 — 28.0 |
| 10 | 19.2 — 28.2 |
| 11 | 18.1 — 32.6 |
| 12 | 18.8 — 39.2 |

The biologists concluded that the Lake Texoma blue catfish population was stable, but since fishing pressure was expected to continue to increase, they may in the future need more harvest regulations to preserve what they call a “world class” fishery. Current management includes a daily limit of 15 blue cats, with no minimum or maximum sizes.

They also said that their definition of trophy size at 30 inches may be too small. A survey of catfish anglers and biologists in the Mississippi River basin showed that 72 percent of them consider a trophy catfish to be at least 33 inches long. In South Carolina, which has a trophy catfish fishery in Santee-Cooper Reservoirs, only 1 percent of the fishermen consider 10 pounds to be a trophy-sized fish.

Blue catfish are also an important freshwater fish here in Louisiana. A significant commercial fishery targeting fish 5 pounds and smaller exists, and blue catfish of all sizes are popular with recreational fishermen.

Source: *Abundance, Growth, and Mortality of the Lake Texoma Blue Catfish Population: Implications for Management.* Paul Mauck and Jeff Boxrucker. Proceedings of the Fifty-eight Annual Conference of the Southeastern Association of Fish and Wildlife Agencies, 57-65. 2004.

FACT SHEETS HELP NAVIGATE FEMA PROGRAMS, REGULATIONS

The Sea Grant Legal Program has developed a series of information sheets to help people affected by Hurricanes Katrina and Rita navigate FEMA programs and related legal issues during the continuing rebuilding process. The information sheets are available online in PDF format at <http://www.lsu.edu/sglegal>. Click on the box at the top of the home page to access the fact sheets.

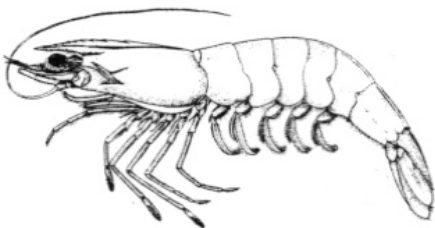
“This project came about after our extension program partners in the LSU AgCenter identified a need for a plainer explanation of FEMA reconstruction guidelines,” said LSGLP Director Jim Wilkins. “In many instances, specialized federal programs and documents are not only difficult for the general population to understand but also for many local authorities who’ve never extensively dealt with a particular program before.”

The information sheets answer questions about the National Flood Insurance Program, flood elevations, rebuilding after a flood and other reconstruction matters.

“These documents will play a critical role in helping people make rebuilding decisions,” said Dr. Rod Emmer, Executive Director of the Louisiana Floodplain Management Association, who is working with the LSGLP on the project. “Homeowners must understand the basics of these programs and then they will be better prepared to determine if they qualify for them. The increased cost of compliance is one such program that offers a way to better protect lives and property.”

BROWN SHRIMP ON THE EDGE

The most productive habitats in nature occur where one type of habitat meets another such as where clearings meet forests or where wetlands meets dry land. Such areas are called “edge.” Most fisheries scientists are convinced that the edge produced where open water meets marsh grass are critically important to shrimp populations in Louisiana’s coastal marsh. The theory is that the marsh grasses provide protection for tiny shrimp from predators and are sources of food for the shrimp as well.



Brown shrimp, *Farfantepenaeus aztecus*, are spawned offshore. After the eggs hatch, the half-inch-long postlarvae enter inland marsh areas, where they feed and grow before leaving the estuaries for the Gulf at about 3 inches in length. Louisiana’s estuarine marshes are breaking up and eroding at a rapid pace. As a result, the vast areas of solid marsh grass have become chopped up into small pieces and laced with shallow waterways, producing a lot of edge. If the concept that edge increases shrimp survival by providing food sources and shelter is correct, then the breaking up of the marshes should result in more brown shrimp.

To test the idea that increased marsh/water edge results in higher brown shrimp survival, scientists created a model of shrimp in an estuarine habitat. Biological models are complex mathematical formulas that attempt to convert natural systems into numbers. In theory, models are useful because they take up less field time than observing and measuring every event in an ecosystem and because they can be used to predict what will happen if something in the system changes.

In this model, the scientists tried to plug into the system as much as is known about brown shrimp movement, mortality and growth, as well as what is known about marsh habitats. In any model, a certain number of assumptions (acceptable best estimates) are made. If assumptions are incorrect, they can introduce error into the results gotten from the model.

As a result, some biologists have little faith in models, although others professionally live by them. Whether one likes or dislikes models, the results from this one were interesting. Essentially, the model compared what happened to shrimp which spent their time in open water to what happened to shrimp that spent their time in vegetation (marsh grass).

In the model, shrimp that survived to 2 - to - 3 inches grew faster, moved less and spent more time in vegetation than shrimp that died. Growth rates and time spent in vegetation were nearly twice as high for survivors than for non-survivors. Movement was half as much for survivors than non-survivors.

Brown shrimp survival in the model was 30 percent in high-edge habitats compared to 23 percent in low-edge habitats. A 5 to 10 percent difference in survival for juvenile shrimp seems small, but if extended out over the whole 2 million acres in Louisiana considered to be shrimp habitat, the result would be 36 million pounds more of shrimp that would survive to catchable sizes.

The model also points out the peril in Louisiana's disintegrating marshes. If erosion continues, in time, the broken marsh will turn almost completely into open water. The habitat will turn from high-edge habitat to low-edge habitat and numbers of marsh creatures (like shrimp) that thrive on edge will likely decline.

Source: *Brown Shrimp or the Edge: Linking Habitat to Survival Using an Individual-based Simulation Model.* Heather L. Haas, Kenneth A. Rose, Brian Fry, Thomas J. Minello and Lawrence P. Rozas. *Ecological Applications* 14 (4), pp 1,232-1,247. 2004

GOVERNOR BLANCO DENIES LNG APPLICATION

On May 5, Gov. Kathleen Blanco announced her decision to deny the Freeport McMoran application for new liquefied natural gas facilities off the coast of Louisiana. The governor's office issued a statement that while Louisiana stands ready to encourage the development of this growing industry, there are doubts whether there is "sound scientific evidence to show that these emerging technologies will not seriously harm our already fragile Gulf ecosystem or the fisheries that are so crucial to our fishing industry."

The governor stated: "After considerable consultation with biologists, conservationists, business developers, and Gov. Bob Riley of Alabama and Gov. Haley Barbour of Mississippi, I have come to the conclusion that insufficient evidence exists at this time to approve this application for an open rack vaporizer (ORV) system. The Freeport McMoran application is only one of many pending LNG projects. We must avoid the harm presented by the cumulative impact of multiple offshore LNG facilities."

Blanco is requiring that two conditions be met in order to move forward with LNG expansion:

1. That only closed-loop systems be used, unless sufficient data is produced that show negligible impacts to marine life from ORV systems, and
2. That Louisiana receive a share of the revenues gained from LNG projects.

RECENT CHANGES IN REGULATIONS FOR VERMILION SNAPPER

Offshore anglers should be sure to note the changes in snapper regulations. Both state and federal laws now specify that the minimum size for vermilion snapper (“beeliners”) for both recreational and commercial harvesters will be increased from 10 to 11 inches.

Additionally, commercial fishermen will have an annual closed season from April 22 through May 31 of each year.

The National Marine Fisheries Service has declared vermilion snapper to be over-fished, and the federal reef fish management plan includes measures to end over-fishing of vermilion snapper and rebuild the spawning stock in 10 years.

Vermilion snapper are still part of a 20 fish per person aggregate bag limit for vermilion, lane, gray triggerfish, almaco jack, goldface tilefish, tilefish, blackline tilefish, anchor tilefish and blueline tilefish. However, not more than 10 vermilion snapper per person may be included in that bag limit.

MULLETS: MOBILE MUNCHIES

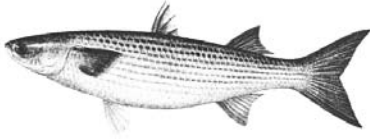
It is a relatively well-known principle that the clearer that water is, the less fish and other water life that is produced from it. Estuaries, where waters are typically green and murky, produce huge amounts of fish per acre when compared to cobalt-blue, crystalline offshore waters.

This is because the basis of aquatic and marine life is the microscopic one-celled algae (phytoplankton) at the beginning of the food chain. Many more of them exist in fertile inshore and nearshore waters. The more phytoplankton, the more phytoplankton-eating fish and the more of these exist, the more predator fish there are.

Among the most important phytoplankton-eating fish are mullets. Nine species of mullets are found off the coast of North and Central America: striped mullet, white mullet, mountain mullet, fantail mullet, liza, dwarf mullet, hospe mullet, parassi mullet, and bobo mullet. Striped, white and mountain mullet are found in the Gulf of Mexico.

Besides being important in the ecosystem because they convert algae into fish flesh, they transport that fish flesh from nutrient-rich inshore waters to low-productivity offshore waters when they spawn. All three Gulf of Mexico mullet species spawn in offshore waters 30-90 miles out from shore. During their mass migrations offshore, blue water predator fish gorge themselves on the fatty egg-laden fish. Also, the eggs and larvae they produce provide an important food source for the young of other offshore species.

Research published in the late 1990s shows how the spawning habits of the different species of mullets provide food sources for other fish over the majority of the year. In the study, the biologists pulled tiny-mesh plankton nets from vessels at many different locations throughout the Gulf at all seasons. The fish larvae were separated and counted.



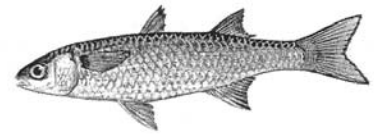
Striped mullet (*Mugil cephalus*), larvae were more abundant than white or mountain mullet larvae. As adults, this species is common Gulf-wide in estuaries and shallow offshore waters. They can even be found many miles up freshwater rivers. Striped mullet are silvery-green on their back and silver on their sides and belly. Fish six inches long and longer have many prominent black stripes running from head to tail.

Striped mullet larvae were found from October through March, with peak spawning during November and December. Their larvae were found near the surface in waters from 24 to 9,400 feet, although the average water depth where they were found was 1,370 feet. Water temperatures when spawning began were 79°F, declining to 68°F by December. Other research has shown that striped mullet eggs do not survive temperatures much above 77°F. The most striped mullet larvae were found in the western half of the Gulf. This is surprising because adult striped mullet are very common in Florida waters.

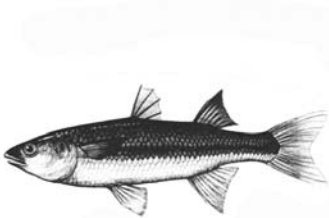
Young striped mullet were found to leave offshore waters by April and move shoreward, first appearing on beaches at about one inch long. Their movement into bays and estuaries begins in November and peaks during January-February. Once they grow up in a bay system they seem loyal to it, returning after each spawn, although their young scatter randomly offshore with water currents.

White mullet, *Mugil curema*, at first glance, look like a smaller version of striped mullet, but without the stripes. When less than six inches long the only sure way to tell the two apart is by counting their anal (belly) fin rays. The striped mullet has eight rays and the white mullet has nine.

Based on collection of their larvae, white mullet were found to begin spawning in March, peaking in April-May, with some spawning as late as mid-September. About one-fourth as many larval white mullet as striped mullet were found during the study. Adult white mullet are more common in Florida waters than in the rest of the Gulf, but their larvae were more common in the western Gulf. Adult white mullet are less tolerant of very low-salinity waters than are striped mullet.



White mullet larvae were found in surface waters over depths of 36 to 10,200 feet deep, with an average depth of 1,815 feet. White mullet did not begin spawning until water temperatures rose to 75°F in the spring. Spawning occurred at temperatures up to 91°F.



Mountain mullet, *Agonostomus monticola*, is a peculiar fish and not very common in the central and northern Gulf. Looking much like an overgrown freshwater shiner, it is the only mullet with a distinctly yellowish tail. They are very common in freshwater streams and rivers in Puerto Rico, the West Indies, Mexico, and Central and South America. Some stragglers will occur at different places in the Gulf. They penetrate fast-flowing freshwater streams even, into mountainous areas. Like the other two species of mullets, it eats algae, but the mountain mullet and consumes many insects and some fish and even fruit.

Mountain mullet return to the sea to spawn. Numbers of their larvae were much less common than for striped and white mullet. From the larvae collected, their spawning season was determined to be from June to October. Larvae were found in surface waters over depths of 135 to 2,350 feet and at temperatures of 83-85°F.

With their staggered spawning seasons, the three species of mullet provide adults and larvae for offshore fish to feast on almost year around. With their spawning migrations, they also provided a most efficient way of transporting the nutrient riches of the estuaries to the relatively barren open sea.

Source: *Spatial and Temporal Distribution of Larval Striped Mullet (Mugil cephalus) and White Mullet (M. curema, Family: Mugilidae) in the Northern Gulf of Mexico, with Notes on Mountain Mullet, Agonostomus monticola.* James G. Ditty and Richard F. Shaw . Bulletin of Marine Science 59 (2) 271-288. 1996.

Underwater Obstruction Locations

In accordance with the provisions of R.S. 56:700.1 et. seq., notice is given that 4 claims in the amount of \$15,146.28 were received for payment during the period March 1, 2006 - March 31, 2006. There were 4 claims paid and 0 claims denied.

Loran Sites

28020 46826 TERREBONNE
28737 46857 PLAQUEMINES

Latitude/Longitude Sites

29 12.600/ 89 03.340 LAFOURCHE
29 13.480/ 91 16.850 TERREBONNE

In accordance with the provisions of R.S. 56:700.1 et. seq., notice is given that 19 claims in the amount of \$55,087.03 were received for payment during the period April 1, 2006 - April 30, 2006. There were 15 claims paid and 4 claims denied.

Loran Sites

27369 46942 IBERIA
27856 46840 VERMILION
28668 46870 PLAQUEMINES
28823 46830 PLAQUEMINES

Latitude/Longitude Sites

29 04.430/ 90 15.428 LAFOURCHE
29 08.179/ 89 26.096 PLAQUEMINES
29 08.477/ 90 56.482 TERREBONNE
29 14.998/ 89 58.964 JEFFERSON
29 15.474/ 84 54.185 JEFFERSON
29 17.232/ 89 49.676 JEFFERSON
29 17.698/ 89 6.967 JEFFERSON
29 21.258/ 89 59.084 JEFFERSON
29 21.697/ 90 43.603 TERREBONNE
29 25.861/ 89 51.420 JEFFERSON
29 27.850/ 89 29.240 PLAQUEMINES
29 39.256/ 89 47.242 PLAQUEMINES
29 40.285/ 90 06.651 JEFFERSON
29 43.272/ 91 53.335 IBERIA
29 59.521/ 89 51.161 ST BERNARD

THE GUMBO POT

Stuffed Crabs

This recipe is a family favorite of the Pellerins of Franklin. Angelle Pellerin won the area 4-H Seafood Division contest last year with this recipe.

Ingredients:

| | |
|---------------------------------|---------------------------------|
| 3 cups of margarine | 4 ounces small shrimp pieces |
| 2 cups of chopped celery | 2 cups whipping cream |
| 5 medium sliced fresh mushrooms | 1 egg white |
| 3 medium green onions | 2 tablespoons pimentos |
| 3 cups chopped bell pepper | 6 clean crab shells |
| 3 tablespoons flour | 3 cups bread crumbs |
| 2 teaspoons salt | 2 tablespoons Parmesan cheese |
| 3 teaspoons pepper | 1 teaspoon chopped Pimentos |
| 1 pound crab meat | 1 teaspoon chopped bell peppers |
| 2 teaspoons margarine pats | |

Instructions:

1. Sauté margarine, celery, mushrooms, green onions, and peppers in a 10" x 10" Pyrex dish in the microwave 5 to 8 minutes or until vegetables are limp. Stir in flour, salt, pepper, crab meat, and shrimp pieces.
2. Sauté 5 to 8 minutes or until crab and shrimp are cooked. Stir in cream, egg, and pimentos. Cook for an additional 2 minutes.
3. Spoon mixture into 6 clean crab shells. Sprinkle with bread crumbs and Parmesan cheese. Top with Pimentos and Bell Peppers. Pat with margarine in several places on top of mixture.
4. Bake for 6 to 10 minutes at 325 degrees or until golden.
5. Garnish as desired.

Serves 6

For more information, contact your local extension agent:

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