Sea Grant Welcomes New Employees

Louisiana Sea Grant has two new faces in its administration offices. Katie Lea is assistant to the executive director, and Kelly Robertson is the program's business manager.

"Katie and Kelly bring strong skill sets to Sea Grant and will aid in the program's evolution," LSG Executive Director

Charles Wilson. "In the short time they have been here, each has tackled some significant projects. They're a pleasure to work with, and I'm sure our researchers and constituents

will enjoy working with them, as well." Robertson is responsible for the program's day-to-day business operations and supervising the accounting office. She comes to Sea Grant from the LSU Office of Research and Economic Development, where she was a grant/contract specialist. She earned a master of arts

degree in education and a master of public of administration degree, both from LSU Lea's responsibilities include

36

preparation of Sea Grant's two-year

Lindstedt joins GOMA

Dianne Lindstedt has been selected to serve as a Louisiana representative on the Environmental Education Priority Issue Team of The Gulf of Mexico Alliance (GOMA). Lindstedt is Louisiana Sea Grant's education coordinator, a post she has held

since September 2003

GOMA is a partnership among Alabama, Florida, Louisiana, Mississippi and Texas that collaborates at the local, state and federal levels to enhance the ecological and economic health of the Gulf of Mexico. It was initiated in 2004 with the objective of addressing Gulf issues and management on a more holistic, regional scale rather than state by state. Environmental education is one of the group's six priority areas, which also include water quality for healthy beaches and shellfish beds, wetland and coastal conservation and restoration, identification and characterization of Gulf habitats, reducing

nutrient inputs to coastal ecosystems, and coastal community resiliency.

"GOMA is a good opportunity for Sea Grant to increase its collaboration in marine education issues," Lindstedt said. "Its primary goal is to increase awareness of the importance of Gulf of Mexico resources. I'm looking forward to working with this great group of people who are focused on educating and engaging our citizens and our youth in Gulf issues." •

Dianne Lindstedt

On the Web: LSG's Louisiana Marine Education Resources, http://www.lamer.lsu.edu/ Gulf of Mexico Alliance, http://www.ulfofmexicoalliance.org/

Presidents' Forum Draws Regional Insurance Officials

Insurance officials from across the region, as well as state and local policy makers, gathered to discuss potential solutions to the growing insurance crisis looming over coastal communities during the Fourth Presidents' Forum on Meeting Coastal Challenges.

the most critical issues facing Louisiana and many other states along the coast - the availability and affordability of property insurance. It's no secret that the 2005 hurricane season had a dramatic impact on our insurance markets and caused rates delegation – Rep. William Jefferson (D-New across the coastal region to rise," said Louisiana Department of Insurance Commissioner Jim Donelon, who co-hosted the Forum.

"The bottom line is this – insurance affordability and availability and the sustainability of our coast are key to the long-term recovery and future growth of our region," added Mississippi Insurance Department Commissioner Mike Chaney, who was one of several out-of-state "The Forum brings a regional focus to one of insurance officials attending. Other departments of insurance represented at the Forum included Florida, West Virginia, Alabama and Puerto Rico.

The conference also featured three members of the Louisiana congressional Orleans), Rep. Charles Melancon (D-Napoleonville) and Sen. David Vitter (R-La.).

The day's programming included presentations on the variety of flood insurance options available to businesses and individuals, background on the federal flood insurance program, private insurance, reinsurance and a variety of ways state and local governments can address hazard mitigation. Those unable to attend the Forum can find copies of the day's presentations, as well as a video of the meeting, at www.laseagrant.org/forum/june08.htm.

Other co-hosts of the Forum were Louisiana Sea Grant, the LSU AgCenter and America's Wetland.



responding to inquiries from researchers and the public, and planning special events such as the Presidents' Forum on Meeting Coastal Challenges. Prior to joining Sea Grant, she was manager and interim grant manager for LSU's Center for Computation and Technology. She earned a

bachelor of arts degree in business from Michigan State University.

. Louisiana State Universit

Louisiana Sea Grant College Program Sea Grant Building • Baton Rouge, LA 70803-7507



Rod Emmer Jan. 1, 1944 – August 3, 2008 COASTAL CLIPS





Louisiana Sea Grant College Program Louisiana State Universit Sea Grant Building Baton Rouge, LA 70803-7507 Charles A. Wilson,

Executive Director

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Publications from Louisiana Sea Grant

Guidebook

Development strategies outlined in the guidebook will reduce the risks from coastal natural hazards such as storm surge, other flooding, subsidence and sea level rise. Techniques discussed in the guidebook can be implemented by local governments as well as individuals. Copies of the guidebook are free. However, there is a \$5 postage charge.

Marsh Mission Classroom CD

Explore Louisiana's coastal marshlands with naturalist and photographer CC Lockwood and acclaimed landscape painter Rhea Gary and learn why Louisiana's wetland crisis affects all of the United States. Along with their presentations, this free computer CD contains The Rise and Disappearance of Southeast Louisiana by Dan Swenson, coastal stewardship messages from Peyton and Eli Manning, and other educational resources.



Rod Emmer, Ph.D

On Aug. 3, 2008,

Dr. Rodney Edwin

Emmer, Louisiana

Sea Grant research

professor, passed

away, the victim of

multiple myeloma, a

type of blood cancer.

friends and coworkers

A memorial where

have shared their

remembrances of

www.laseagrant.org/

Rod is online at

memory.htm. •

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COASTAL CLIPS



From the River to the Sea and Back Again

Sara Conn Jodi Caskey (another o Bauer students) Ray Baue Nick Rome and Tyler Oliver



he longest journey starts with a single step. And if you're a threeinch-long river shrimp, there are many steps and swim strokes before you reach the sea to reproduce.

River shrimp (Macrobrachium ohione) were common throughout the central United States in M. ohione larvae need to be exposed to saline the early 20th century with a range extending up the Mississippi River and its tributaries from the Gulf of Mexico north to central Missouri and far up the Ohio River. Today, they are abundant only in the Atchafalaya and lower Mississippi rivers in Louisiana.

Served in restaurants through the early 1970s, M. ohione is still important to Louisiana's bait fishery and as prey for many freshwater fishes. Understanding the species' migration from fresh water to coastal bays and back again is critical to maintaining the shrimp's ecological, as well as commercial, importance. M. ohione grows to about four inches in length, in contrast to its much larger freshwater cousin the Malaysian prawn (*M. rosenbergii*), more commonly found in seafood markets.

"Brackish water is crucial to river shrimp larvae's first molt and initial survival," said Ray Bauer, professor of biology at the University of Louisiana at Lafayette. "So our first question was: Do the females release embryos into the river soon after mating and let the current carry them to coastal waters, or do the females carry their embryos to the sea?"

Either way, the journey could be hundreds of river miles. With Louisiana Sea Grant funding Bauer, Lafayette naturalist Jim Delahoussaye, and ULL students Sara Conner, Tyler Oliver and Nick Rome began searching for answers. What they found from work in the lab and the field is that female river shrimp carry their embryos as

close to salt water as they can before releasing them. Sampling by the Louisiana Department of Wildlife and Fisheries in the Atchafalaya Delta Wildlife Management Area (ADWMA) has been critical to the research effort.

In lab experiments, Bauer's team found that waters in their first five days of life in order to molt and have the highest chance of survival. *M. ohione* larvae simply don't molt in fresh water. The researchers also discovered the shrimp had higher molting success and were better able to fight off fungal infections in higher salinity water.

When the team sampled the Atchafalava River, they discovered females with more

developed embryos closer to the Atchafalava Delta and those with less developed embryos upriver. The team also discovered an abundance of larvae moving down-stream, about three drifting days from the ADWMA and Atchafalaya Bay, giving them a good chance of reaching brackish waters and molting.

After larval development and then settlement to their juvenile benthic stage in the saline waters, the small shrimp then begin their migration upstream. Using photography and infrared videography, Bauer's team discovered that juvenile river shrimp swim upriver only at night. They also keep near the river bank and swim near or just below the water surface. Researchers aren't sure if the shrimp crawl along the water bottom or if they become dormant

during daylight hours, but these are questions they hope to answer.

"The next step we're taking in our research is to determine the duration of their nocturnal swimming, top swimming speeds and how far and fast juvenile M. ohione can migrate upstream," said Bauer. Using video, motion analysis software and expertise provided by ULL collaborator Brad Moon, the researchers have clocked the juvenile shrimp swimming anywhere from .5 mph to about 1 mph. Swimming speed appears to depend on the water's speed, and the researchers haven't yet determined the shrimp's maximum speed. Stable isotope analysis of juvenile shrimp conducted in collaboration with LSU researcher Brian Fry will help test the hypothesis that coastal estuaries are the starting point of the juvenile upriver migration.

At such slow speeds, how could *M. ohione* have migrated from the Gulf of Mexico up the Mississippi and Ohio rivers to their former habitats in central Missouri and up the Ohio River? And once upriver, juvenile shrimp have to mature and mate before females travel back to the Gulf to hatch embryos. At best, M. ohione has a life expectancy of two years and the round trip can

> be thousands of miles. One hypothesis is that brine springs and surface salt deposits along the upper Ohio and Mississippi rivers provided saline larval nurseries. Another is that the shrimp upstream have a different development process

What is certain is the shrimp's range has diminished significantly

during the past 80 years, most likely due to water-control structures like dams and wing dikes, and possibly water quality. Reestablishing river shrimp upstream, as well as maintaining healthy populations in Louisiana, could have positive implications for river fish that feed on the crustaceans, the commercial freshwater fishery and the bait fish industry.

For more information on Bauer's research. visit www.ucs.louisiana.edu/~rtb6933/. He can be reached at rtbauer@louisiana.edu.

Louisiana Coastal Hazard Mitigation

Functions and Values of Wetlands in Louisiana This free, 16-page booklet discusses the role of wetlands in providing wildlife habitat, buffering storms, controlling erosion and mitigating floods. It also describes the commercial, recreational and cultural values of wetlands, as well as conservation efforts. Functions and Values of Wetlands in Louisiana nicely compliments the Marsh Mission Classroom CD.

A Fisherman's Guide to Common Coastal Fishes of Louisiana

This illustrated guide to popular species of marine fish sought by recreational fishermen is printed on water-resistant paper, so it is boat-safe. The book includes color photos and descriptions of each fish. Cost: \$18, plus \$2 postage.

For information on any of these publications, contact Jessica Schexnayder at (225) 578-6448 or jsche15@lsu.edu.



Incubating river shrimp larvae



Wetland Express Rolls

The Audubon Nature Institute's latest feature doesn't star Tom Hanks, but the Wetland Express does boast an interesting cast of characters.

Snakes, turtles, insects, frogs and birds that live in Louisiana's wetlands are loaded into the van six days a week to visit schools, churches, daycare centers, camps, retirement centers and more. "The Wetland Express offers valuable environmental education about southern Louisiana's most important



Brenda Walkenhorst, Erica Olson and Wetland Express volunteer Sarah Bienes

resource - our wetlands," said Brenda Walkenhorst, director of education and volunteers for the Audubon Zoo.

"By engaging students and the public, and fostering an awareness of and concern for wetland preservation, the Wetland Express can make a direct impact on the future of coastal Louisiana," Walkenhorst added. "Those reached by our efforts are encouraged to

work collectively and individually toward solutions to wetland loss and to prevent future destruction." The Express is partially funded by ouisiana Sea Grant.

Each Wetland Express visit is geared toward the age of the udience, and programs run from 35 to 50 minutes. "The shorter programs are for younger children who have shorter attention spans," said Erica Olson, Wetland Express pordinator

Olson, Walkenhorst and other Audubon staff and volunteers share wetland facts through hands-on

Vetland Express

activities that involve live wetland creatures, plants, pelts and bones. "No animals were hurt for the exhibit," noted Olson. "The bones and furs came from animals that were done with their bodies.'

The message shared through the Wetland Express is clear and concise: Wetlands not only benefit the creatures that live in them, they also benefit people. They contribute to the economy by producing natural resources and goods. They are a place for recreation. They aid in water quality management, erosion control and flood control. And wetlands buffer coastal communities against storm surge.

Teachers and groups interested in an appointment with the Wetlands Express can visit the Audubon Institute Web page (www.auduboninstitute.org). Walkenhorst can be reached at *bwalken*@ auduboninstitute.org. •



The Louisiana Marine Fisheries Museum in the town of Jean Lafitte in Jefferson Parish will have a new home next year.

Currently housed in an old wooden school building, the museum will occupy about 1,200 square feet of a large, \$4.6 million, multipurpose facility under construction at the end of City Park Drive. Located across from town hall, the new complex will include a 70-seat "wetlands theater" and a one-mile swamp board walk and nature trail.

According to long-time Lafitte Mayor Tim Kerner, the original museum was started by the Jefferson Parish Fisheries Advisory Board in the early 1990s and opened in 2003. Though undamaged by Katrina and Rita, the museum has struggled since the 2005 storm season because the town itself was severely affected. That's when the decision was made to affiliate the museum with the new community complex and to shift its management to the Louisiana Secretary of State's Office.

"Our museum educates people on how the commercial fishing industry operates, how it operated in the past and how recreational fisherman catch fish and enjoy themselves," Kerner explained.

Louisiana Sea Grant and LSU AgCenter Marine Extension agents were among the many groups and individuals who had a hand in making the first museum a reality. Jerald Horst helped local shrimpers and community activists get the idea off the ground.

> Rusty Gaudé and past agents and specialists Sandy Corkern, Paul Thibodaux and Rex Caffey were also nvolved.

When Horst moved into the state fisheries specialist position in 2000, agent Mark Schexnayde stepped in and helped secure grants and artifacts, as well as assemble oral

Brix Appointed Laborde Endowed Chair

Hans Brix has been named the Laborde Endowed Chair for Sea Grant Research and Technology Transfer by the Louisiana Sea Grant College

Program. He will begin his six-month visiting professorship in the fall of 2008.

Brix is a professor and head of the plant biology section at Aarhus

University,



Denmark. His program's focus is aquatic and wetland systems, and his group has worked on coastal salt marshes, freshwater wetlands and seagrass habitats throughout the world.

"Dr. Brix has researched various wetland processes in Southeast Asia, throughout Europe, Australia, New Zealand and the United States," said Charles Wilson, Louisiana Sea Grant executive director. "Some of his more recent research has focused on

large-scale coastal restoration in Denmark and the Florida Everglades. He's an excellent choice for the Laborde Chair, and he will be an asset to LSU, our students and the state."

Brix earned both his master's and doctorate degrees in biology from Aarhus University. He conducted research at LSU with the Wetlands Biogeochemistry Institute in 1996.

"I am pleased and eager to accept the prestigious Laborde Chair visiting professor appointment," said Brix. "This is a great opportunity for me to work in the coastal wetlands of Louisiana. One of my goals is to study the differences between native and invasive-exotic common reed (Phragmites australis)."

Phragmites is found on every continent, except Antarctica. Its decline has been recorded in Europe during the past 50 years. However, in North America, it has expanded aggressively and out-competed other plant species. It is considered a noxious plant in the United States because of its limited food value to wildlife.

The Laborde Endowed Chair for Sea Grant Research and Technology Transfer enables Louisiana Sea Grant to bring highly qualified scientists to LSU to focus on marine and coastal issues critical to the state. To date, five internationally recognized researchers have been appointed to share their expertise on topics such as microbial life in extreme environments, coastal wetland restoration, seafood sanitation, waste stream processing/utilization, mercury contamination in coastal waters, and the mechanics of debris exposed to hurricaneforce winds.

For application guidelines, visit *http://* www.laseagrant.org/laborde/index.html.

The Laborde Chair was established at LSU in 1994 with a gift of \$600,000 from Tidewater Inc. and a match of \$400,000 from the Louisiana Board of Regents. John P. Laborde served as Tidewater Inc.'s chief executive officer for nearly 40 years and is currently chairman emeritus. He was the founder and first chairman of what is now the Offshore Marine Service Association and has played a major role in the worldwide development of the offshore service industry. •

Louisiana Sea Grant Receives Fisheries Assessment Grant

Louisiana Sea Grant has been awarded a \$648.512 grant from the National Oceanic and Atmospheric Administration's (NOAA) Fisheries Service to conduct a socioeconomic assessment of the northern Gulf of Mexico's fisheries. Rex Caffey, Louisiana Sea Grant coastal specialist and professor and director of the LSU Center for Natural Resource Economics & Policy (CNREP), will coordinate the project with CNREP co-investigators Walter Keithly and Richard Kazmierczak.

The research will include three studies developed in conjunction with staff economists of the NOAA Southeast Fisheries Science Center. They include: 1) a survey and

characterization of the recreational-for-hire charter fishing industry in the northern Gulf of Mexico; 2) an economic review of the recently implemented individual fish quota management system for red snapper, and 3) development of a demand forecasting model for U.S. consumption of domestic seafood. Essentially, these studies will examine how increased regulatory actions and downward market factors have affected recreational charter boat operators, commercial red snapper fishermen and domestic seafood processors, and what adjustments can be made at the public and private levels to address those forces. The three-year project also will establish



Hans Brix

histories and exhibits, the largest of which is an old fishing boat.

"We have accumulated an incredible collection of both recreational and commercial fishing gear," Schexnayder said. "We've got some really unique cypress vessels, some of the first handcrafted scuba gear made from fire extinguishers and a good photographic archive we

Grand Isle Tarpon Rodeo

Art Cormier (above), one of the first scuba divers in Louisiana, was an ardent supporter of the fisheries museum. Marine Extension agent Mark Schexnayder said, "Art passed away last year but left tons of artifacts as well as a lot of his heart and soul with the museum." Included in the museum's collections (below, left) are model boats, real boats and several types of fishing gear.

are looking forward to making public."

Cliff Deal, museums coordinator with the Louisiana Secretary of State's office, said famed pirate hero Jean Lafitte will be a central character at the new museum. Other areas of interest are boatbuilding, especially the area's signature vessel - the Lafitte skiff. Exhibits showcasing area fisheries like shrimping are planned as well. Louisiana Sea Grant has committed to donating a kiosk featuring coastal commercial fishing and culture.

"Once the museum moves into the main part of the city – near the schools with the wetland walkway and the library – it will have a lot of interesting connections and hopefully be used a lot more," Schexnayder said. "It's a natural extension of the Jean Lafitte National Park."

As tourist destinations, Kerner expects the revamped museum and new community complex to become vital to the area economy as it shifts from about an 85 percent reliance on commercial fishing to an evershrinking 60 percent. The town of about 10,000 residents is looking to tourism, charter fishing, swamp tours and restaurants to fill the gap.

"If you come to Lafitte, you're coming to Lafitte. There's one road in and one road out," Kerner said. "That's why we need a couple of things to grab you and make you come here. We have good recreational fishing for the whole state. The museum shows how hard commercial fishermen work and that they can use a little help." •

> two new Sea Grant-sponsored postdoctoral positions and two additional graduate assistantships for CNREP researchers in the LSU Department of Agricultural Economics.

> "Each of these studies will provide baseline data that is needed for state and federal fisheries management purposes," said Caffey. "Periodic snapshot studies, such as these, are useful in describing the short- and long-term implications of policy changes and market forces. Armed with objective, science-based information, state and federal managers can make policy adjustments to assure that the nation's fisheries are managed in an economically and environmentally sound manner." •

Marine Debris Project and Web Site Expanded

The National Oceanic and Atmospheric Administration (NOAA) has enhanced its Gulf of Mexico Marine Debris Project Web site (http://gulfofmexico.marinedebris. *noaa.gov/*). The changes in the site reflect changes in the program and emphasize NOAA's collaboration with the U.S. Coast Guard (USCG) and the State of Louisiana's inshore debris program coordinated by the Louisiana Department of Natural Resources and the Governor's Office of Homeland Security and Emergency Preparedness.

The project was begun in 2006 to advance economic recovery in Alabama, Mississippi and Louisiana following Hurricane Katrina. The initial goal was to reopen the hard-hit commercial Gulf fisheries in these states. Fishing boats

that survived the storm could not operate in waters filled with hurricane debris. NOAA's offshore survey was extended in 2007 to cover an expansive amount of Louisiana coast. including areas struck by Hurricane Rita. The Gulf of Mexico Marine Debris Project has three main objectives: 1) improve maritime safety and commerce 2) update the state's nautical charts, and 3) provide information on sunken debris to agencies that can remove it.

Led by NOAA's Office of Response and Restoration and Office of Coast Survey, the program employs boats equipped with three different types of sonar to scan offshore waterbottoms. Once an object or "target" is found, the item's location, clearance and GPS coordinates are recorded and mapped. These data are then reported at the Web site where they easily can be accessed, free of charge, by boaters and the general public.



Robert Travis with the U.S. Coast Guard describes some of the vessels and other marine debris deposited by Hurricane Katrina in the Tchefuncte River in Madisonville

The updated site still reports results of NOAA's ongoing work, but has been expanded to include information on inshore



A sunken boat is seen from the deck of Resolve Marine Group's retrieval barge (above). Armed with cranes and other heavy equipment, Resolve's workers are among the contractors busy clearing Louisiana waterways (below right).

debris surveys and removal efforts conducted by other agencies.

"A user can click on a surveyed offshore area and download maps displaying these sonar targets," said Project Manager Nir Barnea of NOAA. "Likewise, a user may click on the name of a parish, then click on a specific waterway and view maps and photos provided by the U.S. Coast Guard to become informed about potential boating hazards.'

Robert Travis serves as the deputy incident commander for the last remaining USCG mission assignment in support of Hurricane Katrina debris removal at the USCG command post in Mandeville. Travis said the Coast Guard's original post-storm mission was to open "commercially navigable waterways." In Louisiana, that mission last year expanded to include debris removal in any "usually traveled" waterway in 27

> Louisiana parishes from Texas to the Mississippi border. In addition to conducting their own surveys of inshore waterways and coordinating removal of items that qualify under strict Federal Emergency Management Agency guidelines, the Coast Guard is evaluating NOAA's offshore targets o see which ones can be removed using FEMA funds.

Louisiana Sea Grant (LSG) s continuing local outreach for he survey and Web site. LSG and LSU AgCenter Marine Extension agent Thu Bui is making sure

hazard information is accessible to the state's Vietnamese fishermen. She is working through language barriers and reaching constituents who

> may not have computers or may not regularly use the Internet. Help for these fishermen, as well as anyone else without Web access, is only a phone call away, as Sea Grant will provide debris maps and coordinates by mail upon request.

"Since 2006, nearly 50,000 people have visited the project Web site," said Paula Ouder, editor with the LSG Communications office who is coordinating the Louisiana outreach campaign. "It's wonderful that we now have a clearinghouse of marine debris information not only for NOAA's offshore mission, but for the state and Coast Guard programs working to clean up inshore waters." NOAA's offshore survey work is

expected to continue through the end of 2008. Boaters or residents who have found debris in inshore waters should contact the Louisiana Department of Natural Resources to report it.



More information:

• Gulf of Mexico Marine Debris Project, http://gulfofmexico.marinedebris.noaa.gov/ • Thu Bui, LSG/LSU AgCenter Marine Extension: (337) 828-4100 or TBui@agcenter. lsu.edu

• Paula Ouder, LSG Communications: (225) 578-6451 or pouder@lsu.edu

 Louisiana Department of Natural Resources, 1 (866) 579-4-DNR or www. LouisianaMarineDebris.com •

