

Urban Raised Crawfish

Louisiana is the nation's No. 1 crawfish producing and consuming state. The vast majority of our marketable crustaceans are farmed and have a value of roughly \$112 million per year. As a recent demonstration project illustrates, some of that production might move as close as the back yard.

"It's the equivalent of a home vegetable garden – you're not going to get rich off of a home vegetable garden, but you can augment the fresh food coming into the house," explained Rusty Gaudé, marine Extension agent with Louisiana Sea Grant and the LSU AgCenter for Jefferson, Orleans, St. Charles and St. John parishes.

Gaudé was referring to a crawfish pond, covering roughly one-eighth of an acre in Violet, that he helped conceive and build for AgMagic Orleans earlier this year. The plot contains both a small rice crop and crawfish, and was constructed to demonstrate the detail and mechanics of polyculture to school children and their teachers. AgMagic has been held annually in Baton Rouge for 10 years as a way to show young people where their food comes from and to provide hands-on lessons about many types of agriculture. This year, the show went on the road to Docville Farms, which is operated by the Meraux Foundation on the Mississippi River in St. Bernard parish.

While rice and crawfish have been produced together commercially since the 1950s, Gaudé said home-grown crawfish could be a reality for area residents. Rice and crawfish have complementary harvest cycles. Rice is planted in March or April. As the plants mature in ponds filled with a few inches of water, they create cover for crawfish. When the weather heats up during the summer, crawfish dig and retreat to burrows. The ponds are drained in late July, and the rice crop is harvested while the crawfish are safe underground. Fields are re-flooded in late September when crawfish reproduce. Rice plant residue provides critical forage for the re-emergent crawfish, which grow to marketable size in about three months and are captured in pyramid-shaped traps. Then the cycle begins anew.

"The concept for this demonstration crawfish pond came from the AgMagic preliminary meetings when we were brainstorming on how to get these different components of Louisiana agriculture in place as an active, growing demonstration," Gaudé said. "In Plaquemines Parish in southeast Louisiana, the production of commercial-sized crawfish is a viable option. We've seen an increase in the number of crawfish operations here and in the number of acres that are devoted to crawfish. This is a small plot to show that this is perfectly doable here in St. Bernard Parish or Plaquemines Parish, or any of the southeast Louisiana parishes because we have the climate. We have the water, and we certainly have the market. The New Orleans area is the biggest crawfish market for the state of Louisiana."

While Gaudé believes there are opportunities to expand commercial crawfish production, he would also encourage homeowners to install small ponds like the one at Docville that require little space, can be filled with a garden hose, and are maintained with relative ease.

"There are many people who have land," said Gaudé, who served as an assistant professor and the director of the University of Louisiana at Lafayette Crawfish Research Center during the 1980s. "Once you set it up, the production is basically perpetual as long as you keep up the management of it. And it (the plant material) doesn't have to be rice. You can raise crawfish over volunteer weeds. Rice is good forage, however, and your production might be lower if you use something other than rice."

Gaudé planted the Docville pond with Catahoula rice, which he said is grown throughout Louisiana and in other states and is widely available at feed stores. He then introduced two sacks of crawfish from the LSU Ben Hur Aquaculture Station. Though there are more than 20 species of crawfish in Louisiana, Gaudé used the two that dominate the culinary trade – the red swamp (*Procambarus clarkii*) and white river (*Procambarus zonangulus*) varieties. Gaudé said the small demonstration pond should produce about 100 pounds of crawfish annually. While the rice is edible, hulling it requires machinery that makes home production impracticable.

"A family of four could basically get two or three good feedings of crawfish off this plot," he said. "The children could run the traps in the afternoon, and then the parents could boil the crawfish up for the family to eat," Gaudé said.

Twyla Herrington is an associate area marine Extension agent for Plaquemines and St. Bernard parishes with Louisiana Sea Grant and the LSU AgCenter who is also working with area crawfish farmers. "Urban crawfish farming is an opportunity to involve the whole family in a Louisiana tradition, literally in your backyard," she said.

Stella Plantation, the LSU Rice Station at Crowley and Maurice Wolcott with Louisiana Sea Grant and the LSU AgCenter also provided assistance with the project.

Urban crawfish farm in Violet, La.
Photo by Rusty Gaudé.

Message from the Executive Director

in•te•gra•tion (in tr'grɛɪ jən)

1. an act or instance of incorporating or combining into a whole
2. behavior that is in harmony with the environment

Scientists make amazing discoveries every day. But often those findings remain trapped in an isolated discipline and the potential impact can become confined to the utility of very few select users, thus having limited value to society. This leads to university research being perceived as only relevant to academic interests. As problems in society become more complex, university research has a tendency to become more specialized. This isolation and limited impact of university research relative to solving society's problems has led to challenges to programs that are focused on how to build more effective university outreach capacity to solve real-world problems.

To break that mold, Louisiana Sea Grant encourages researchers to embrace the fundamentals of integration and to apply their knowledge to solving coastal problems. One advantage that Sea Grant offers researchers is to work with our program's Extension personnel to connect academic concepts with the community. The objective is to think about their discoveries from the perspective of how to integrate knowledge into the whole of the problem. The idea is not only to develop scholarship among the different disciplines needed to build knowledge necessary to tackle complex problems in society; but also to communicate that knowledge at its most basic level to fit the needs of policy and resource management.

This summer, Sea Grant took that concept one step further by, for the first time, pairing graduate students and post docs with Extension agent mentors. Along with enhanced communications training, these young scholars are learning how to weave their work into the real-life fabric of our coastal communities. They're embracing how to provide societal context to discoveries that are integrated across different disciplines – from physics, biology and chemistry to engineering, economics and landscape architecture.

Providing that societal context of university-based research is what Louisiana Sea Grant has done for 46 years through its Extension, Education, Law & Policy and Communications efforts. We offer our stakeholders – be they commercial fishermen working along the coast, small business leaders and homeowners, or policy makers in government – insights from university discoveries that bring diverse breakthroughs and technology to achieve their goals and ensure the future of our coast.

Sea Grant is often referred to as the “boots on the ground.” But I like to think of us as a linkage that brings our universities to the dock and the waterfront to campus. This integration to make complex research results real is one of the pillars of our mission.

Discovery • Integration • Application – Louisiana Sea Grant

Robert Twilley, Ph.D.

Executive Director
Louisiana Sea Grant
College Program



Student Oral History Project Drawing to a Close

Sea Grant's Coastal Change Oral History Project is coming to a close.

“Overall, the project was a success for Sea Grant, as we now have 19 interviews archived with the T. Harry Williams Center for Oral History at LSU, where they can be referenced and used by researchers for generations to come,” said Darcy Wilkins, the LSG research associate on the project.

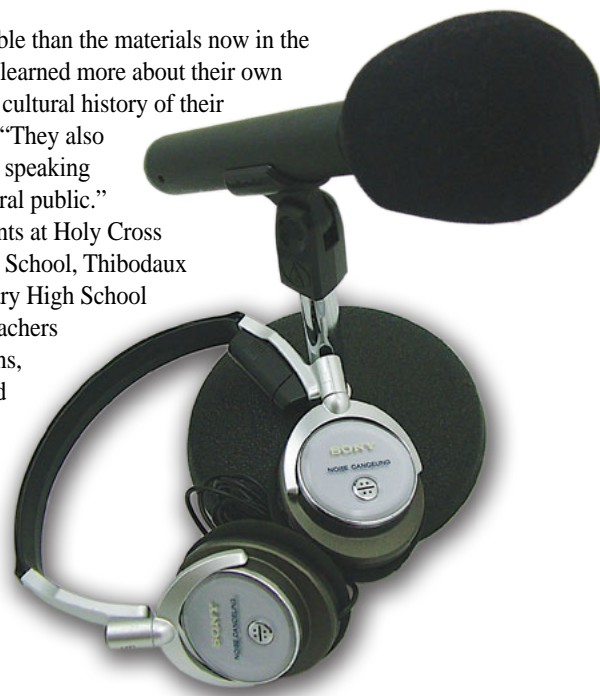
High school students from Orleans, LaFourche, St. Mary and Cameron parishes collected interviews, transcribed the recordings, and even created an art piece and original music composition as a result of the project. The objective was to gather oral histories from people living in at-risk parts of southern Louisiana while simultaneously involving students of those communities.

“Although it's less tangible than the materials now in the library, the students involved learned more about their own family heritage as well as the cultural history of their hometowns,” added Wilkins. “They also came away more confident in speaking with their elders and the general public.”

Approximately 40 students at Holy Cross School, South Cameron High School, Thibodaux High School and West St. Mary High School participated in the project. Teachers involved were Sue Ellen Lyons, Tina Savoie, David Sneed and Vanessa West.

Wilkins is in the process of producing a short video documenting the project.

To access the collection, visit www.lib.lsu.edu/special/williams/collections/lasg.html.





LaDIA Fellows Move Forward

Louisiana Sea Grant is creating stronger connections between researchers and community members in coastal Louisiana through LaDIA (Discovery-Integration-Application) fellowships.

Activities focus heavily on science communication, and fellows receive communication training while also being paired with an LSG Extension agent as an outreach mentor. At the end of the nine-month program, fellows submit a portfolio of communication products that should clearly and easily explain their research's scope and results.

The first class of LaDIA fellows are Katrina Durbak, who is working with Extension agent Carol Franze; Patrick Michaels, who is working with Rusty Gaudé; Jacob Mitchell and Leanna Heffner, who are working with Twyla Herrington; and Emily Powell, who is working with Alan Matherne. Science communication advisors are Bill Dennison, Bill Nuttle and Amy Clipp. A LaDIA kickoff meeting was held in July, and a number of workshops are scheduled through March 2015.

Louisiana Sea Grant Director Robert Twilley (standing) addresses LaDIA fellows and outreach mentors.



An oyster nursery on Grand Isle.

Building a Turn-Key Oyster Nursery System

Do-it-yourselfers with an itch to build an oyster nursery can now find all the instructional resources they need on Louisiana Sea Grant's YouTube channel.

A year ago, John Supan, oyster specialist with Louisiana Sea Grant and the LSU AgCenter and director of the Sea Grant Oyster Lab on Grand Isle, hosted a video demonstrating how to build an oyster nursery silo from a 55-gallon plastic drum. A companion video released this summer shows how to assemble several silos into a full-fledged nursery, and provides tips on how to run and maintain the operation.

"I was amazed at the popularity of the first video," said Supan. "There have been more than 1,200 views, and I think that shows the importance of video as an outreach tool."

"Traditionally, we would put together a fact sheet or brochure on how to build an oyster nursery with a limited amount of illustrations. With the video, I can walk the viewer through the process step-by-step, and they can see first-hand all the intricacies," he added.

Most of Louisiana's oysters are farmed on reefs. This includes oyster farms that are dependent on a source of wild seed oysters, usually transplanted from public oyster grounds that historically have cyclical production. Building and operating an oyster nursery allows an oyster farmer to be less dependent on the state for oyster seed. Nurseries also can produce single oysters for the half-shell market using off-bottom culture methods.

Build a Drum Oyster Nursery Silo

www.youtube.com/watch?v=wcd6m6c51Gg

Operating a Drum Oyster Nursery Silo

www.youtube.com/watch?v=xUm3KakDk_E

NFIP Increases Scaled Back

In July 2012, the Biggert-Waters Act was signed into law, and implementation began in January 2013. The legislation sought to make the National Flood Insurance Program (NFIP) solvent by aligning flood insurance premiums with actual risk. The Act eliminated many subsidies, and some home and business owners saw their rates skyrocket beyond what they could afford. Premium increases were to be phased in at a rate of 25 percent per year until the actuarial rates were achieved.

"The NFIP is about \$20 billion in debt," explained Melissa Trosclair Daigle, a research associate and resiliency specialist with the Louisiana Sea Grant Law and Policy Program. "A lot of NFIP is still in flux. It's changing fast."

The changes continued when the Homeowner Flood Insurance Affordability Act of 2014 was signed into law in March to reform Biggert-Waters. It went into effect in June and grandfathered in some properties, mandates refunds for certain full-risk rated policyholders and repeals parts of Biggert-Waters as a way to lower premiums. The Federal Emergency Management Agency (FEMA) is now required to improve coordination with communities before and during floodplain mapping, to designate a flood insurance advocate to promote the fair treatment of NFIP policy holders, and to consider the effects of non-structural flood control features (such as wetland restoration) when mapping special flood hazard areas. FEMA also has greater responsibility to report to members of Congress for each state and congressional district affected by preliminary maps.

Despite the amendments to the law, non-primary residences, businesses and properties that have suffered severe repetitive losses are still subject to the original increases. The new law also imposes a mandatory annual surcharge beginning in 2015 of \$25 on policies for primary residences and \$250 on all other policies to help close the financial gap in the program. The surcharges are not considered premiums and are not subject to new premium increase caps.

In response, members of the LSG Law and Policy Program are talking with local governments about the changes and are working to create a Web page with FEMA-approved information.

"Participating in the NFIP's Community Rating System (CRS) is the best way to respond," said Daigle. The CRS is a voluntary incentive program through FEMA that reduces flood insurance premiums for parishes and municipalities that implement floodplain management practices that exceed federal minimum requirements. Communities earn points for completion of 19 creditable activities in four categories: public information, mapping and regulations, flood damage reduction, and warning and response.

Louisiana Sea Grant and the Mississippi-Alabama Sea Grant Consortium recently received a two-year grant from the EPA to work on a pilot program with user groups to maximize the CRS points earned in their respective states. User groups generally meet monthly with guest speakers to discuss ways to improve the community's flood rating. Daigle and her counterpart in Mississippi-Alabama, Niki Pace, intend to focus on community planning and public education campaigns.

FEMA strongly encourages policy holders to maintain their flood insurance, noting that lapses in coverage leave properties vulnerable to uncompensated losses and may cause policyholders to lose important discounts.

"Currently, people are either elevating their properties or relocating if they can't afford to elevate. On the ground, this is what the reality is," Daigle said.

On the Web:

Flood Insurance Reform Act

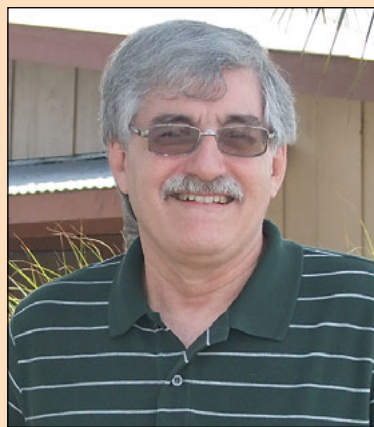
<http://www.fema.gov/flood-insurance-reform-law>

Community Rating System

www.crsresources.org

Above: A homestead in the Morganza Spillway flooded in 2011.
Below: Homes in New Orleans destroyed during Hurricane Katrina in 2005.





Carl Brasseaux

Sea Grant Honored

Carl Brasseaux, a long-time Louisiana Sea Grant collaborator and current Sea Grant Scholar, received the 2014 Cultural Preservation Award from the Foundation for Historical Louisiana (FHL). This prestigious award is given to those who exemplify the mission of FHL – to preserve Louisiana’s cultural and architectural heritage through education, advocacy and stewardship – according to the organization.

Louisiana Sea Grant 2015 Knauss Finalist Named

Emily Smith has been named a finalist for the 2015 John A. Knauss Marine Policy Fellowship. Louisiana Sea Grant nominated her.

Smith is a native of Thibodaux and earned her doctorate from LSU’s Department of Oceanography and Coastal Sciences. Her research focuses on harmful algal blooms in Louisiana’s estuaries. Before attending LSU, she earned her Bachelor of Science degrees in marine biology and biology education from the University of Southern Mississippi and a master’s degree from the University of Tennessee-Chattanooga, where she concentrated on secondary education with a focus on science and environmental studies.

“I have always been interested in the ocean and environment,” Smith said. “I attribute that to my dad, who took me out on a sailing boat all the time when I was growing up. He was a high school science teacher and would always tell my brother and me about the plants, birds and fish we would see on our trips.”

The Knauss Fellowship is sponsored by the National Sea Grant College Program. It allows graduate students interested in pursuing environmental careers the opportunity to gain experience working with policymakers in the legislative and executive branches of the federal government for a year. The finalists will attend an intensive week-long period of interviews in Washington, D.C., in November. Following the interviews, the finalists will be paired with an agency or congressional office for the duration of their internship.

Smith says she hopes to stay in Washington, D.C., following the fellowship to work for the National Oceanic and Atmospheric Administration (NOAA).



Emily Smith

Oil Spill Specialist Joins Louisiana Sea Grant

Emily Maung-Douglass is Louisiana Sea Grant’s (LSG) new oil spill outreach Extension specialist.

Maung-Douglass is one of four recent hires by the Gulf of Mexico Sea Grant programs. The outreach positions are funded by the Gulf of Mexico Research Initiative (GoMRI). Her duties, which she began in September, will focus on sharing newly discovered oil spill research results with target

audiences throughout the Gulf of Mexico and beyond.

Maung-Douglass is an interdisciplinary marine scientist with expertise at the interface of ecology, chemistry and toxicology. She aims to use her experiences in these areas to gain a holistic understanding of Deepwater Horizon oil spill issues and to incorporate that understanding into her role with Sea Grant.

Prior to coming to work for LSG, she completed a visiting scientist fellowship in a marine molecular toxicology lab at Xiamen University (Fujian, P.R. China), where her research focused on understanding how simultaneous exposure to synthetic estrogen and low oxygen conditions affect estuarine medaka (Japanese rice fish) development.

She earned her B.S. degree in biological sciences from Old Dominion University in Norfolk, Va.; her M.S. in biological oceanography from the University of Connecticut; and her doctorate in marine biosciences from the University of Delaware.



Emily Maung-Douglass

Louisiana Sea Grant Launches Redesigned Website

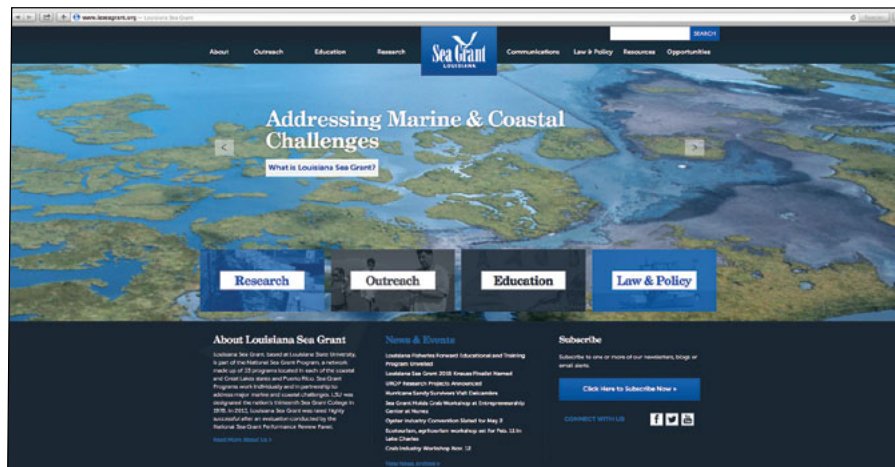
Louisiana Sea Grant (LSG) has launched a redesign of its website – www.laseagrant.org.

“One objective for the redesign was to make our website serve as a virtual Extension agent,” said Robert Twilley, LSG executive director. “We want visitors to find the information they’re looking for in a quick and intuitive way, just as if they were working with an Extension agent, and I think we’ve accomplished the first step in that process.”

Louisiana Sea Grant has operated a family of websites since the program first went online about 15 years ago. Along with the programmatic umbrella site (www.laseagrant.org), there also are separate Education, Fisheries and Law & Policy websites.

With this redesign, the Law & Policy site is incorporated into

www.laseagrant.org, and that department’s website has been decommissioned. Education and Fisheries websites will be incorporated into the new site over the coming months, with all Louisiana Sea Grant online content being exclusively available at www.laseagrant.org in the near future.





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Coastal Clips

Sea Grant Publications for the Holidays

The holidays are coming. Give someone on your shopping list one of these fun and educational publications from Louisiana Sea Grant.

Oh No! Hannah's Swamp is Changing was created for children in grades 3-5 and features 30 full-color illustrations. The storybook emphasizes the importance of the swamp ecosystem, the food chain, and the need to control invasive species as seen through the eyes of a heron named Hannah. Price - \$10, plus \$2 P&H

The 80-page *Louisiana Breeding Bird Atlas* shows the breeding distribution of every species that nests in the state. The book includes a collection of 163 maps, as well as color photographs of each bird and a description of its habitat. Price - \$15, plus \$2 P&H

A Fisherman's Guide to Common Coastal Fishes of Louisiana and Adjacent Offshore Waters is an

illustrated guide to popular recreational marine species. The 60-page book – printed on water-resistant paper – includes color photographs and descriptions of each fish. Price \$18, plus \$2 P&H

To order, contact Jessica Schexnayder at jsche15@lsu.edu, (225) 578-6448 or

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