

A Declining Delicacy

Soft-shell blue crabs, on average, sell for seven times more than their hard-shell counterparts. Yet, soft-shell production in Louisiana has dropped from a high of 2.37 million pounds in 1945 to a meager 9,522 pounds in 2015. Why?

That's a mystery that researchers at Louisiana Sea Grant (LSG), the University of Maryland and the Virginia Institute of Marine Science are trying to solve.

"The last look at Louisiana's industry took place in 1991 through surveys conducted by Sea Grant," said Julie Lively, LSG and LSU AgCenter fisheries specialist. "At that time, there were about 300 soft-shell producers – most being small, family-owned operations. Today, we think there may be fewer than 50 soft-shell producers."

In order to have market-ready soft-shells, crabbers put peelers – crabs that are close to shedding – into holding tanks. The peelers are held in the tanks until they swell and split their hard-shell in the back, through which they squeeze. The freshly molted crab must then be removed from the water quickly, before its new exoskeleton hardens. Consequently, the crabs need to be monitored closely.

Could producers simply be exiting the industry because it is too labor intensive? Or is over-regulation, pollution, competition from other states, mortality caused by disease or other factors why Louisiana's soft-shell production is a shadow of its former self?

"A lack of communication between the soft-shell industry and the scientific community has left a lot of unanswered questions about the continued decline of such a high-value product," said Lively. "One possible source of the decline may be a high mortality rate in shedding systems due to diseases such as Reo-Like Virus (RLV)."

Along the Atlantic Coast, RLV has been found in the majority of crabs that die in soft-shell systems. It may be present in 10 percent or more of Louisiana crabs. RLV is transmissible through sharing the same water with infected peelers or through cannibalism – which is common among blue crabs.

"One of our research objectives is to understand why high mortality rates exist in shedding systems with the goal of helping shedders remain in business," said Lively.

A first step in the study will be to survey current Louisiana soft-shell producers and find out what they are experiencing. Producers interested in helping provide some answers can contact Lively at janderson@agcenter.lsu.edu or at (225) 578-0771.

"The ultimate goal is to provide fishermen with information on which to base decisions to preserve the blue crab resource and increase their profits," said Lively.





Ocean Commotion Marks 19th Year

Louisiana Sea Grant hosted the 19th annual Ocean Commotion on Oct. 27 at LSU's Pete Maravich Assembly Center (PMAC). More than 2,100 kindergarten through eighth graders attended, along with 121 teachers and 139 chaperones. Schools participating were from East Baton Rouge, Iberville, Jefferson, East Feliciana and Assumption parishes.

Ocean Commotion offers students an opportunity to learn about a host of issues that range far beyond ocean-exclusive themes in a lively, hands-on learning environment. Topics covered include coastal marshes and wetlands, invasive species, local ecosystems, boating safety and Louisiana geology and wildlife. Seventy presenters from private business, universities, government agencies, museums, and public, non-profit and private educational organizations participate as exhibitors.

For more on the web, visit www.youtube.com/watch?v=wssPVsxhFU8

Coastal Connections Cultivates Science Communicators

In October, Louisiana Sea Grant (LSG) held its annual Coastal Connections Competition on the Louisiana State University-Baton Rouge campus. It drew its largest applicant pool of 25 students representing eight different departments. After whittling the field down, 12 students presented their work and its implications to a public audience.

Coastal Connections encourages graduate students to think about their research in a different way. Typically, the results of their work are presented at conferences to audiences of similar disciplines. This competition, however, is geared toward the general public so students have to adapt their discussion, remove jargon and present to a group of non-specialists.

Students are also restricted on time and content. Coastal Connections forces students to distill their research into a clear, compelling oration of no more than three minutes with the use of only two slides.

This year's diversity of applicant's areas of study was reflected in the awardees. The top three finalists each received \$500 of research travel award money.

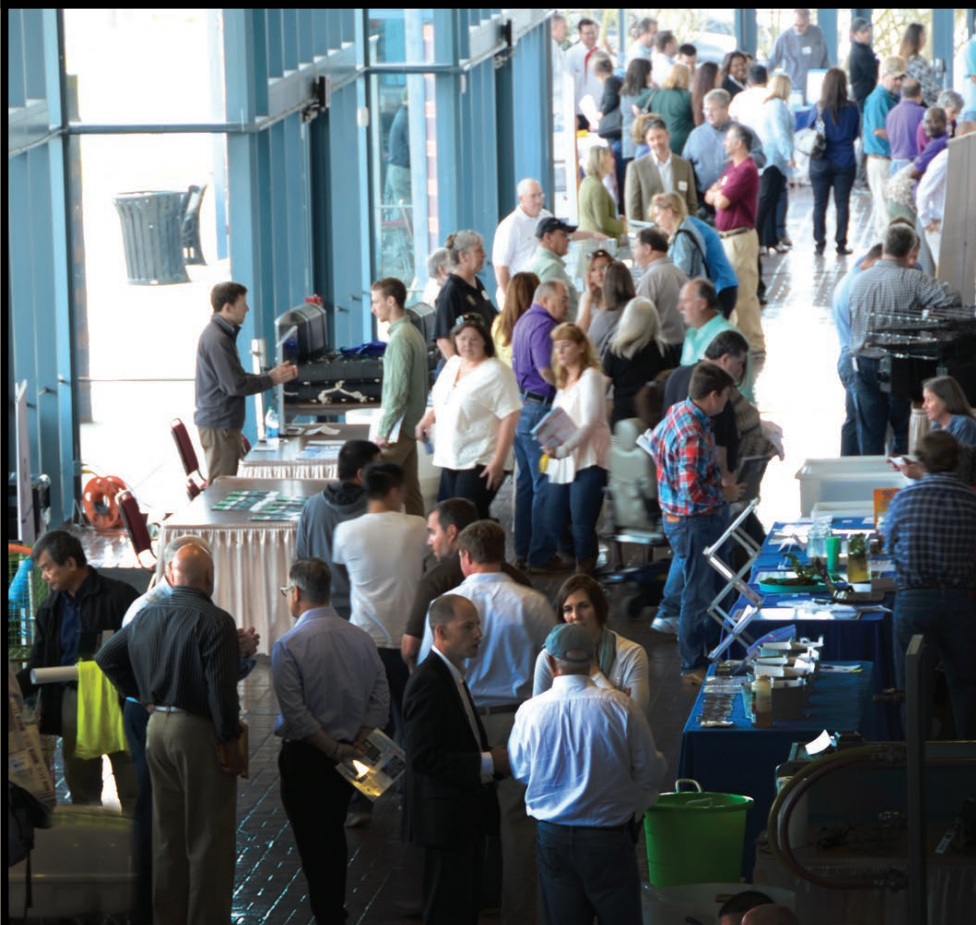
To view the presentations, visit <http://tinyurl.com/goo3ee8>.

LSG will next be taking the Coastal Connections Competition on the road for the spring. It will host a competition at the University of Louisiana at Lafayette on March 30 and another competition on April 3 at Nicholls State University.



Winners of the Coastal Connections Competition – held in late October – were Louisiana State University graduate students (front row, left) Yasser Bigdeli, Devika Bhalerao and Kate Abbott. Judges were (back row, left) Becky Carmichael, LSU Communication Across the Curriculum science coordinator; (back row, third from left) Amy Clipp, who helped write both of the state's Coastal Master Plans; and Jay Grymes, chief meteorologist for WAFB-TV. Also pictured is Robert Twilley, Louisiana Sea Grant executive director.

Fisheries Forward Plans for the Next Three Years



New Louisiana Fisheries Forward (LFF) videos and fact sheets are available online, and the program is looking to expand over the next three years.

A collaboration of the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Sea Grant College Program (LSG), LFF was established to improve the economic success and environmental sustainability of the state's commercial fishing industry.

"The world of seafood is rapidly evolving, and it can be overwhelming to stay up to date with changes while you're trying to run a business," said Thomas Hymel, LFF program director and marine Extension agent with LSG and the LSU AgCenter. "Our online materials make it easy for fishermen, dealers and processors to access relevant information on their own timeline."

To date, LFF has produced eight half-hour videos - covering subjects from best practices for commercial fishermen to fisheries management and regulatory processes - along with 19 topic-specific fact sheets. LFF also conducted numerous hands-on workshops for commercial fishermen and seafood processors.

Videos and print materials are available online at www.lafisheriesforward.org - the program's easy-to-navigate website.

During the next three years, Hymel and his team plan to produce two additional training videos, expand into the commercial freshwater sector, start a charter fishermen outreach initiative, while continuing dockside training and workshops for the industry.

"Louisiana Fisheries Forward is the realization of a vision to create a world-class educational and professionalism program for those in the seafood industry," said Hymel. "Huge strides have been made in the past three years to raise the bar on quality and sustainability of Louisiana seafood. Our team has created a catalog of accessible and understandable information. We're excited to add to that catalog over the coming years."

Photo: More than 300 commercial fishermen, dealers and processors participated in the Louisiana Fisheries Forward Summit held in Kenner during the spring.

Learning from the Front Lines of Oil Spill Response

Oil spills are unpleasant and their unpredictability further compounds the problem. Thankfully, a continuing partnership between Michigan State University (MSU) and Louisiana Sea Grant (LSG) is working to share best practices from their respective experiences with spills and remediation efforts.

This unique collaboration has resulted in tangible and intangible benefits. MSU has developed hydrocyclone filters to aid in oil spill clean-up. And LSG has led the extension effort by bringing together voices from the response and recovery efforts.

In late July of 2010, an estimated 1 million gallons of tar sand oil was released into Michigan's Kalamazoo River, resulting in the largest inland spill in North America. By this time, the Deepwater Horizon had already been spilling oil for two months. It would ultimately become one of the largest oil spills in history, with over 200 million gallons of sweet light crude released.

Separated by 1,000 miles and occurring in different aquatic ecosystems, the response and clean-up efforts were equally complex and continued for years. And responders in both states agreed on the need for accurate, timely information.

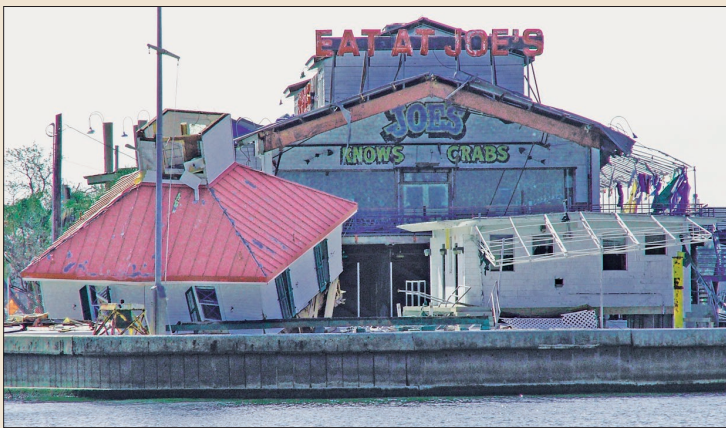
However, sometimes distributing that information was just as difficult as obtaining it. LSG and LSU AgCenter marine Extension agent, Rusty Gaude recalls, "We had information that we knew was the latest information, it was the best information. When you have to go against some people as big as the EPA and tell them that they're incorrect, you need to have the latest, greatest information."

Due to the legal implications of the spills, many agencies were not allowed to talk to the press. That is where Sea Grant, with its non-advocacy status, became important.

Julie Falgout, LSG Seafood Industry Liaison, became the first Sea Grant representative to be imbedded in a Joint Incident Command. She recounted several challenges encountered while trying to discuss seafood safety in the Gulf. "Nobody could talk to the media, but me and Rusty. There was a gag order on all the agencies."

The ongoing LSG/MSU partnership represents the ultimate work of late Extension agent Alan Matherne. "Alan was very keen on making sure that the partnership was established. His contributions were essential for getting it off the ground," said Vlad Tarabara, professor of environmental engineering at MSU. "This was a commitment that we all made to Alan. He was the engine and the heart of the meeting."

To see the workshop hosted by MSU and LSG, visit www.lsuagcenter.com/oilspillseminar



Hurricane Katrina damage in New Orleans

Program Builds Stronger Community Resilience

Louisiana is no stranger to storms and floods. Residents are well versed in protecting property during storm events. But when planning and preparing at a larger scale for a town or a whole parish, there are more variables to consider. A recent Sea Grant initiative is helping address this through use of the Coastal Resilience Index (CRI).

The index is a free tool to assess a community's ability to respond to natural hazards. Spearheaded by Louisiana and Mississippi-Alabama Sea Grants, facilitated CRI meetings are an important step for communities to determine their strengths and weaknesses. Results are confidential, allowing departments and agencies to have an honest conversation about their ability to respond.

One reason that the CRI is so helpful is that it brings together different groups that otherwise only meet during emergency response. In addition to administrators, planners, pump station operators and other governmental personnel, the room may also have members of the local EMS, police and fire departments.

"The discussions are the real strength. Departments that hadn't talked to each other, now do," said Louisiana Sea Grant (LSG) Resiliency Specialist, Melissa Daigle. "Across the board, the communities said it was a great experience. It's a really useful tool."

The program began out of work done by the late Rod Emmer of LSG. Emmer had a long history of working with officials on hazard mitigation, especially in response to the 2005 storms. Instead of responding to issues, Emmer encouraged people to be proactive.

Emmer's concept gained interest and momentum. Shortly after his passing in 2008, pilots of the CRI began, with full programming inaugurated in 2011. Since then, facilitators have been traversing the Gulf as they work with communities to assess their risk. The program has since expanded to include area ports, fishing industries and tourism boards.

"It makes a community stronger," said Carol Franze, LSG and LSU AgCenter marine Extension agent. "Different entities come together with their government to discuss what each can bring to the table in the event of a disaster. They recognize their own strengths and weaknesses, allowing them to connect deeper into the community."

An added bonus lies in what can be done following a CRI assessment. Beyond knowledge gained, there is the potential for favorable grant consideration. After completing their CRI, Terrebonne Parish received a Gulf of Mexico Alliance grant to develop outreach materials promoting levee integrity.

"The faster a community can rebound, and return to some semblance of normalcy, the better," said Franze. "Families need to live in their own homes, people need to return to their jobs and children need to attend their schools for a community to succeed. This allows them to do so."

If you are interested in having a CRI assessment in your community, contact Melissa Daigle at mtrosc2@lsu.edu. Facilitations are free and the information discussed is confidential.

Message from the Executive Director

Louisiana Sea Grant spends half of its NOAA funding on university research projects to solve issues in our coastal communities. To improve our effectiveness in generating impacts from these research investments, we will be supporting a new type of project. "Integrated Research and Engagement" (IR&E) projects will promote interdisciplinary approaches to solving some of the "wicked issues" we face.

Our traditional tactic was to individually address issues in Sea Grant's focus areas. But to have more substantial research impacts, a paradigm shift is needed. Research groups need to approach topics – such as how wetlands may reduce storm surge and improve coastal resilience; how adaptation strategies in fisheries might be linked to seafood processing, habitat evaluation and market analysis can develop underutilized species; and how engineering techniques across all major industry sectors of the coast should consider a changing climate – from a different direction. These are all wicked issues that require groups of scientists working together as research teams to connect science, engineering, economics and design for creative solutions that communities can consider through effective outreach.

The engagement part of these proposals is critical when determining funding of IR&E projects. They must include proven techniques that allow findings to be shared with decision makers, industry and coastal residents.

Traditional Core Research (CR) projects will also be considered in our solicitation for research proposals. These will involve one or two researchers on issues that are concentrated in three of our four focus areas: Resilient Communities and Economies, Healthy Coastal Ecosystems, and Sustainable Fisheries and Aquaculture. CR proposals also must clearly define outreach strategies to share findings.

Our hope is that this change will result in new, cross-disciplinary collaborations from which creative solutions positively impact our coastal communities. Louisiana faces unique coastal challenges and an innovative approach is necessary to address them – along with strong engagement and outreach efforts.

In the upcoming weeks, we will seek Statements of Interest (SOI). That announcement will be posted on our website – www.laseagrant.org – and distributed to our listservs. To ensure you received the SOI announcement, contact our research director Matt Bethel at mbethe3@lsu.edu.

Funded projects will begin Feb. 1, 2018.

Sea Grant
50
YEARS



Robert Twilley, Ph.D.

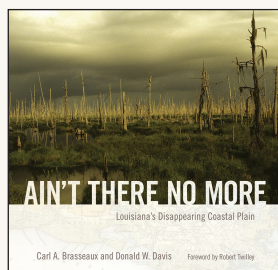
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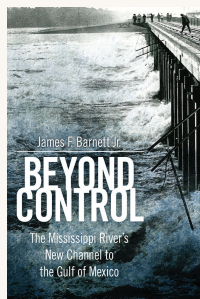
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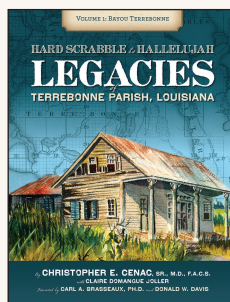
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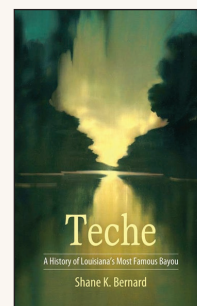
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Sea Grant Director Address Chinese Researchers, Officials



Louisiana Sea Grant Executive Director Robert Twilley was an invited speaker at the Yangtze River Forum held Nov. 17-19 in Wuhan, China. He was a guest of the Bureau of International Cooperation, Science and Technology of the Changjiang Water Resources Commission. The conference was attended by regional and national authorities involved in the restoration of the Yangtze River Basin. Twilley also presented his research on the restoration of the Mississippi River Delta, as part of his Coastal SEES project funded by National Science Foundation, at a workshop on tidal wetland restoration sponsored by the International Association of Hydro-environmental Engineering and Research (IAHR) in Beijing. Twilley's research on coastal deltaic floodplains is part of large study associated with Wax Lake Delta in coastal Louisiana.