

## **A SELECTION OF LOUISIANA SEA GRANT'S SIGNIFICANT IMPACTS AND ACCOMPLISHMENTS REPORTED IN 2013 (by Focus Area)**

### **Environmental Literacy and Workforce Development** LSG Impact Focus on Wetland and Marine Education

#### *2013 Reported Impact: Marsh Maneuvers Impacts the Lives of Louisiana Youth*

Louisiana Sea Grant partnered with the LSU AgCenter and Louisiana Department of Wildlife and Fisheries (LDWF) to provide 65 high school youth from across the state the opportunity to visit the coastal environment, learn about its natural resources, appreciate its cultural significance and realize how the coast affects their lives no matter where they live. This annual program has impacted the lives of participating youth for many years (impacts reported 2009-2013).

*Results:* The goal of the camp is to raise student awareness and appreciation for Louisiana's coastal environment. Pre- and post-camp test results show that students do accomplish this goal. Last summer, post test scores improved by 20-21 percent, overall. Students also acquired new skills including fishing, throwing a cast net, holding live crabs without getting pinched, and peeling, deveining and cooking shrimp. Also, during each week of camp the students planted 2,000 plugs of smooth cordgrass resulting in about three acres of re-vegetated marsh.

#### *2013 Reported Impact: Ocean Commotion*

Louisiana Sea Grant educated 1,750 K-8th grade students and 340 teachers and chaperones about stewardship of the ocean and coast through hands-on activities from more than 63 volunteer exhibitors and provides opportunities for 270 pre-college, college and graduate students to share their knowledge through peer teaching and service learning at interactive exhibits on ocean coastal sciences at Ocean Commotion 2013. This annual program has impacted the lives of participating youth and peer-teachers for many years (accomplishments and impacts reported 2009-2013).

*Results:* Students go back to the classroom with new experiences that they would not have had. For most students it is a day of discovery of things never heard of, seen or touched before. Students on the other side of the table also benefit through peer teaching, embracing stewardship and being role models to the younger students. In 2013, 101 college and graduate students "worked" their club or department's exhibit alongside the research scientists, and 169 5th-12th grade students from six schools developed 15 exhibits. Data from the post-event evaluations shows that exhibitors are enthusiastic about interacting with students, students are curious and very excited about OC, and teachers find the event consistent with K-8 curriculum science objectives and a worthwhile field trip. Teachers and adult chaperones are engaged with the exhibits as well. Pre and post

test results have shown that OC improves student knowledge about the ocean and improves their attitude towards the ocean and the environment.

2013 Reported Impact: Teacher Professional Development on Wetlands Issues

Louisiana's Sea Grant partnered with LDWF to conduct two workshops, WETSHOP and Quantifying Debris, on wetland issues and marine debris data collection for 38 teachers who subsequently brought 225 students to the coast to collect data on marine debris. This annual program has provided this unique professional development opportunity for participating teachers for many years (accomplishments and impacts reported 2009-2013).

*Results:* WETSHOP, a week-long field-based workshop, engaged 18 3rd-12th grade teachers (1,590 students) on a week-long workshop filled with instruction, field experiences and data collection in wetlands and barrier islands. Teachers then teach their peers in a workshop. Pre and post tests showed a 36 percent increase in the participating teachers' knowledge of wetlands. The Quantifying Debris training engaged 16 teachers from Louisiana and surrounding states in a three-day workshop focusing in watersheds and marine debris. Pre- and post-test results showed a 24.6 percent increase of teacher knowledge. Student field trips to collect marine debris data and participate in a beach cleanup on Louisiana's coast has been a new experience for 225 students and 12 chaperones. Many of these students and their chaperones have never been to a beach before. One participating teacher won this year's Louisiana Science Teacher's Essie Beck "Rising Star" Science Education Award for her work with students integrating wetlands and debris into her teaching.

*Anticipated future impacts* - 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 a Louisiana Sea Grant 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 scope and results.

### **Healthy Coastal Ecosystems**

LSG Impact Focus on Water Quality & Habitat Restoration/Debris Removal

2013 Reported Impact: Restoration of more than 2,500 Coastal Acres Benefits Fish, Shellfish and Residents

Through a community-based NOAA Restoration Center partnership with the four Sea Grant College Programs in the Gulf of Mexico, the Orleans Levee District received funding to remove a large concrete barrier in New Orleans, and the Northwest Florida Water Management District received funding to install 10 low-

water crossings, 15 culvert modifications and 24 ditch plugs in the Apalachicola-Chattahoochee-Flint River system.

*Results:* Two restoration projects restored natural flow or sheet flow, as well as more than 4 miles of passage and 2,560 coastal acres. The projects directly benefited 13 freshwater and 20 saltwater fish species. In addition, the projects provided enhanced recreational opportunities, such as fishing for additional fish species and accessing more waterways via kayak and canoe.

#### 2013 Reported Impact: Helping to Clean Up Louisiana's Marine and Coastal Debris

Louisiana Sea Grant organized and participated in efforts to clean up coastal habitat that resulted in the removal of derelict crab traps and trash from coastal wetlands and beaches by volunteers. These successful annual efforts and events have been reported as impacts in 2009, 2011, 2012, and 2013.

*Results:* In 2013, during the three Crab Trap Rodeo days, 188 volunteers removed and recycled 903 derelict crab traps from parishes impacted earlier that year by Hurricane Isaac. There were more than 60 4-H youth members and 30 4-H adult volunteers giving more than 360 hours of their time to participate in the beach sweep in lower Cameron Parish (an estimated value of \$8,000). As a result, there were 2,415 pounds of trash removed from four miles of beach in Cameron Parish for this event.

#### 2013 Reported Impact: Helping to Reduce Water Pollution and Promoting Water Quality Improvements

Louisiana Sea Grant's partnerships and education efforts resulted in improved water quality and coastal waterway habitats for rivers discharging into the Pontchartrain Estuary and the Gulf of Mexico (GOM). These programs help educate farmers/ranchers/landowners and encourages adoption of site specific, cost effective Best Management Practices to mitigate runoff from various land uses, and demonstrations of techniques to safely control un-wanted vegetation, improve or maintain water quality, and manage aquatic animals. Impacts relating to water quality improvements resulting from these programs have been reported in 2009, 2010, 2012, and 2013.

*Results:* In 2013, the program had 1,125 participants in the coastal zone representing 23 parishes; these individuals control or manage more than 500,000 acres of land adjacent to inland rivers and streams that drain into the GOM or are in close geographical proximity to the GOM. In 2013, the Louisiana Department of Environmental Quality (LDEQ) indicated some monitoring of coast and near-coastal waterways showed decreased loading trends and downward movement of nutrients, bacteria, and sediments from previous years. Also in 2013, two retention/detention sites have been replanted with more than 500 wetland plants in an effort to reduce excess nutrients in storm water.

## **Sustainable Fisheries and Aquaculture**

LSG Impact Focus on Direct Seafood Marketing and Aquaculture Technology and Research Development

### 2013 Reported Impact: Community-Supported Fisheries Expands

Louisiana Sea Grant has helped develop community-supported fisheries programs that bring locally harvested, quality seafood to consumers while at the same time improving the financial outlook for commercial fishers and seafood processors. Those efforts include Louisiana Direct Seafood, an online direct sales marketing effort; supporting the Market Umbrella Organization/Crescent City Farmers Market; aiding in development and branding of Vermillion Bay Sweet shrimp, a top-shelf, locally-caught, frozen micro-processor label; promoting and developing training materials for the Louisiana Wild Seafood Certification Program, a geographic branding endeavor; and developing a tool commercial fishers can use to determine whether or not direct marketing is a viable option for him or her. These programs have grown in participation and economic impact over the past several years (reported impacts 2009, 2010, 2011, 2012, and 2013).

*Results:* Fishers and processors engaging in these community-supported fisheries efforts have been able to improve their bottom line, while consumers have gained access to high-quality local seafood at prices typically below normal retail. The estimated economic impact for 2013 is \$200 million.

### 2013 Reported Impact: Developing a Regional Approach to Oyster Production in the Northern Gulf of Mexico

Louisiana Sea Grant has sponsored applied research for advanced oyster hatchery technologies to provide sustainable sources of oyster larvae for commercial oyster production. This applied research investment has had direct impacts to Louisiana's oyster production industry (reported in 2010, 2012, and 2013).

*Results:* The Louisiana Sea Grant Oyster Hatchery Lab, along with the National Oceanic and Atmospheric Administration (NOAA) and the Louisiana Board of Regents funding, has developed tetraploid broodstock oysters in concert with 4Cs Breeding Technologies Inc. for regional production of triploid oysters to improve summertime meat yields. Additionally, Louisiana Sea Grant produced an 18-minute instructional video (viewed more than 1,600 times) – *Build a Drum Oyster Nursery Silo* – on how to assemble a commercial-scale, shore-based oyster nursery system from plastic 55-gallon drums.

## **Resilient Communities and Economies**

LSG Impact Focus on Community Hazards Preparation, Small Business Development, and Fisher Diversification, Training, and Transitioning

### 2013 Reported Impact: Community Hazard Preparation and Resiliency

Louisiana Sea Grant's Law & Policy Program outreach efforts help communities and individuals better prepare and mitigate for natural hazards. This outreach effort has a history of related impacts reported going back to 2010 and 2011.

*Results:* Communities distributing within their boundaries the *Louisiana Homeowners Handbook to Prepare for Natural Hazards* are awarded points in the Community Rating System (CRS) that are applied toward reducing the cost of flood insurance. One Coastal Resiliency Index reassessment revealed a lack of communication and understanding with the banking industry as to how disaster recovery would be handled by financial institutions. Another community created a CRS user group that includes several surrounding communities. Finally, workshops on changes to the National Flood Insurance Program (NFIP) are influencing some participants concerning property purchases, as well as strengthened lines of communications between Louisiana Sea Grant and local communities.

*Anticipated future impacts* – In 2014, Louisiana Sea Grant provided facilitation support for CRS User Groups in Southeast Louisiana and in the Baton Rouge area that have already saved their participating communities nearly \$35 million in insurance premiums while reducing their flood risk significantly. With help from Louisiana Sea Grant, communities in Western Louisiana are currently trying to establish a CRS User Group. The potential impact in flood risk reduction and insurance premium savings for these communities could be significant as well.

### 2013 Reported Impact: Promoting Small Business Development through Seafood Processing Technology Transfer

Louisiana Sea Grant's education, outreach, and technical transfer activities have helped Louisiana seafood businesses stay competitive and expand despite overall industry decline. The impacts and accomplishments that this on-going effort has had to Louisiana's small businesses has been reported in each of the last several years (2009-2013).

*Results:* One of these small businesses, in Dulac, is in the process of renovating a building to accommodate new equipment – recommended by Louisiana Sea Grant – purchased in 2013 so it can begin cooking and peeling crabs. Also in 2013, this company was able to obtain proper permits and pass inspections using information received from Louisiana Sea Grant. Another seafood processing business, in Chauvin, expanded in 2013 by purchasing a second location with dockside processing capacity. Education and outreach materials, along with training, business owners have received over the years from Louisiana Sea Grant has helped

build successful companies and prepare those firms for expansion. Two other processing businesses began construction in 2013 as a result of the development of Louisiana's menhaden bait industry that Louisiana Sea Grant worked to promote.

*Anticipated future impacts* - The Louisiana Fisheries Forward (LFF) program has been initiated as a three-year effort with development of a series of educational training videos, industry outreach efforts and demonstration projects. The three-year project launched in 2013 with year one currently funded at \$1.1 million. LFF is a formal partnership between Louisiana Sea Grant and the Louisiana Department of Wildlife and Fisheries (LDWF). The mission of LFF is to create a world-class seafood industry training and economic development program. The project was initiated January 2014.

#### 2013 Reported Accomplishment: Training Commercial Fishers

Louisiana Sea Grant workshops and fisheries outreach efforts allow commercial fishers and others in the seafood business gain a broader understanding of the industry and make changes needed to take advantage of opportunities to ensure economic sustainability and provide top-quality seafood to the market. This on-going outreach effort has a history of related accomplishments and impacts reported going back many years to include 2009-2013.

*Results:* More than 1,500 fishermen and other seafood industry personnel attended workshops and other outreach activities in Delcambre, Dulac, Venice, Cameron, and Lacombe. Cell phone mass texting, radio call-in and interview shows, fact sheets, dedicated dockside information boards, as well as real-time marine VHF updates to vessels at sea (Vietnamese/English) provide timely and relevant information on important issues related to resource management, regulatory developments, BMPs and fisheries openings and closures.

*Anticipated future impacts* - Louisiana Sea Grant is helping to promote sustainable coastal communities by providing assistance to Louisiana's fishers and landowners in eco-tourism diversification opportunities. In 2013 and 2014, fishermen and existing eco-tour operators/outfitters benefitted from eco-tourism diversification workshops and other meetings organized by Louisiana Sea Grant. Through these workshops, additional sources of income were identified to help keep fishermen in the industry. For example, one shrimper who participated in the program has purchased a shrimp trawler, and is in the process of outfitting a second trawler to use as a charter vessel for shrimping tours. Also, a kayak group out of New Orleans has connected with a local dock/crabber to provide a crab boil to participants following a bayou kayak tour.