

## **LOUISIANA SEA GRANT'S RAPID RESPONSE: ACCELERATED RECOVERY IN A POST-DISASTER ENVIRONMENT**

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**Abstract:** In 2005, Hurricanes Katrina and Rita devastated the north-central Gulf of Mexico. The Louisiana Sea Grant College Program was able to quickly adapt, make programming changes, and assist the devastated communities. Notable was the work of the Louisiana Sea Grant Extension (LSGE) agents. These individuals are primarily trained in natural resource management fields and experienced in conducting outreach projects for an array of audiences, primarily fishermen and local governments. Disaster response and recovery was something new for them. And as they entered this unknown arena, they successfully adopted new programs and worked on non-traditional projects in order to adequately respond to the immediate needs of their constituents. LSGE became a main source of information; served as intermediaries between hurricane victims and federal/state agencies; communicators of FEMA program information; negotiators among parish, state, federal agencies and the private sector; and facilitators who could help expedite the recovery process.

## **INTRODUCTION**

Who in Louisiana, Mississippi, Alabama, or Texas will forget late August and September 2005? Not one, but two Category 3 tropical cyclones, Hurricanes Katrina and Rita, devastated the Louisiana coastal zone and neighboring states. While churning in the Gulf of Mexico, both storms had Category 5 winds. NOAA's National Weather Service rates hurricane intensity by the Saffir-Simpson Hurricane Scale. The scale has 1-5 ratings and serves as a predictor of potential property damage and flooding expected along a coast when a hurricane makes landfall. After Katrina (the worst natural disaster in modern U.S. history) struck southeast Louisiana and the Mississippi coast on August 29, one could almost feel and hear the sigh of relief from southwest Louisiana: "We dodged the 'Big One'...again." But less than four weeks later, on September 24, Hurricane Rita crossed the Louisiana/Texas shoreline near Sabine Pass. Hurricane Rita's storm surge extended approximately 100 miles to the east and 35 miles inland. Regions of southeast Louisiana still reeling from Katrina were dealt a second flood experience by Rita. Storm surge and winds turned the landscape of the Louisiana coastal zone upside down.

Government, business, industry, and residents alike emerged from the multi-billion dollar devastation with the realization that things would not return to "normal." Hopes of rapid recovery and rebuilding were dashed by the magnitude of the disasters and the public sector's inability to adequately respond. "Normal" would not reappear any time soon. A "new normal," which required significant near and medium-term adjustments to the way business in Louisiana is conducted, took hold. And the Louisiana Sea Grant (LSG) program was no exception.

Prior to the events of 2005, the areas of natural hazards and community resilience were relatively low LSG research and outreach priorities. Quick to adapt and respond to immediate needs, LSG (we need to be consistent with our acronyms) directed considerable effort and funding to this once overlooked field. It was relatively simple at that juncture to revisit priorities and conclude that the state, most coastal parishes, and devastated and at-risk communities needed to rebound from the disasters and become safer places to live and work. LSG was able to meet this challenge because of its ability to alter priorities, flexibility in programming, and access to university and private sector expertise. Personnel and funds were shifted to help create state and local recovery plans. Veteran and new personnel participated in task forces and working groups; relevant information from other states and countries was shared through meetings and workshops; and new, non-traditional university programs were recruited to assist and expand the scope of services and products Sea Grant provides. In some instances, LSG management postponed or cancelled activities when it became necessary to focus on recovery and building more disaster-resistant communities.

## **LOUISIANA SEA GRANT PROGRAM ADJUSTS TO THE CHALLENGES**

Hurricanes Katrina and Rita pushed many professionals into a range of activities for which they were not prepared or trained. Louisiana Sea Grant Extension (LSGE) faculty and staff were no exception. Traditionally, the Extension component is best known for its excellent wildlife and fisheries specialists, economists, and legal staff.

Many LSG personnel found themselves operating in two worlds (Table 1) following the 2005 hurricane season.

<b><u>Table 1. Two Worlds Collide</u></b>	
<b><u>Sea Grant Agents</u></b>	<b><u>Floodplain Administrators</u></b>
-Physical/Biological Systems	-Social/Economic Systems
-Natural Resources	-People/Business
-Habitats	-Homes
-Mitigation: Wetlands	-Mitigation: Flood Damage Deduction
-Protection, Creation, Restoration	-Elevation, Relocation, Floodproofing
-Programs: NRCS, USFWS, NMFS	-Programs: NFIP, Disaster Declaration
-19 Coastal Zone Parishes	- 19 Coastal Parishes & NFIP
-Specialists	-On-the-Job Training

LSGE agents and staff had to learn about land use, federal and state housing and flood control programs, and accompanying guidelines and regulations. This also required understanding new jargon, acronyms, and terminology and explaining these new ideas to traditional constituents (fishermen, local government officials, and seafood and other water-dependent businesses).

All LSGE agents and specialists have since increased their commitment to post-disaster response and recovery. Redirected funds allowed for hiring new researchers and specialists to assist with rebuilding coastal communities and provide education concerning hazards vulnerability. LSG’s expanded role in hazard recovery and mitigation falls into five tasks:

- Improved communications and coordination with the Federal Emergency Management Agency (FEMA);
- Closer coordination with other Sea Grant programs and public agencies;
- Better coordination with local interests;
- Working with the private sector; and
- Education and outreach as part of recovery.

**Coordination with FEMA - Federal and State Cooperation**

In lower Plaquemines Parish, the towns of Venice, Buras, and Empire were destroyed. Fishing vessels sank in marinas and access channels, or were marooned in the marsh. For all intents and purposes, the commercial and recreational fishing industries ceased operations in southeastern and southwestern Louisiana. Rusty Gaude’, Louisiana Sea Grant/LSU AgCenter Extension agent, coordinated with Wayne and Nancy Weikel, FEMA community relations personnel, to help restore local commercial fishing. This required returning to the basics: 1) providing reliable and timely information to the affected communities concerning assistance opportunities, and listening to and acting on needs; 2) helping displaced residents wade through the challenges associated with housing and utilities; 3) working with

utilities, parish governments, and businesses to restore services; and 4) attending and speaking at public meetings on needs and possible solutions.

### **Coordination with other Sea Grant Programs and Agencies**

Hurricanes Katrina and Rita sank boats, deposited them across the marsh, in backyards, on highways, and in parking lots. Individuals, federal and state agencies, and local governments retrieved many of the salvageable commercial fishing boats and brought them in for repairs at the few remaining boatyards, such as the one in Empire. However, damaged infrastructure and lost equipment slowed the recovery process. The prospect of waiting endless months to get commercial boats back in the water and operating was not acceptable. LSG, with the assistance of its extensive national network, helped expedite the return of the fishing fleet to this part of the state.

Gaude', several of his Sea Grant colleagues, and the aforementioned FEMA contractors, worked in conjunction with the Washington and Alaska Sea Grant programs, the Pacific Coast Congress of Harbormasters, and the Port of Valdez, Alaska on a creative solution. They secured the donation of a surplus 60-ton marine Travelift from the City of Valdez, Alaska in order to move fishing boats into and out of the water. In addition to the main players cited above, the Travelift's move from Valdez to Empire involved many others from the public and private sectors eager to lend a hand to fellow Americans in need. Services for disassembling and reassembling the lift were donated by the Marine Travelift Corp. of Sturgeon Bay, Wisconsin. The cross-country transport was made possible by Carlile Transportation Systems of Alaska and Packard Truck Lines of Plaquemines Parish. Additional financial support was provided by the Louisiana Department of Wildlife and Fisheries, the Louisiana Seafood Promotion and Marketing Board, and the Alaska Fishing Industry Relief Mission.

### **Coordination with Local Interests**

Houses, trees, industrial tanks, boats, and telephone poles are just a few examples of the debris found in the waterways post-Katrina and Rita. Not only is such debris unsightly, it also can be hazardous to the environment and boat traffic. LSG ports specialist Justin Farrell and publications editor Paula Ouder, along with LSGE agent Kevin Savoie, helped address such problems in Calcasieu Lake in southwestern Louisiana. Organizing a team of public and private partners, they marked debris with orange buoys and PVC pipe and recorded GPS coordinates for future reference and ultimate removal. The program was a genuine community effort with support ranging from the National Oceanic and Atmospheric Administration (NOAA) to local volunteers, Sempra Energy, the Lake Charles Pilots (ship pilots specifically trained for safely navigating large vessels through the Calcasieu Ship Channel), the Lake Charles Chapter of the Coastal Conservation Association, the Louisiana Department of Wildlife and Fisheries, Lake Charles Power Squadron, LSU AgCenter, Calcasieu Parish Sheriff's Office, the U.S. Coast Guard, Capt. Sammie Faulk of Gotta-Go Charters, Sharon Faulk of Ship to Shore Co., and the Stine Lumber Co.

LSGE agents such as David Bourgeois assisted FEMA personnel with maps, directions and most importantly, computer access so they could complete their mission. Sea Grant outreach helped coordinate the distribution of more than 2,000 blue tarps for the Blue Roof Program, and assisted with the delivery of Red Cross aid and donations from faith-based organizations. The lower sections of Lafourche and Terrebonne parishes were entirely flooded after Rita, and it was several weeks before fuel, ice, and supplies were available and commercial fishing docks were operational. One of the largest problems that fishermen confronted was the lack of nearby markets to sell their catch. Several boats were tied up with full loads and the docks couldn't move the catch. Several calls to LSGE colleagues resulted in offers to buy the catch and donate it to people displaced or left homeless by the storms.

### **Working with the Private Sector**

Even if commercial fishing boats could fish, they needed ice to preserve their catch. As a result of Hurricanes Katrina and Rita, all of the ice plants in the Louisiana coastal zone were destroyed. Desperate times required desperate actions, and six-hour road trips inland or out-of-state for ice were common. Fortunately, big businesses with a community conscience stepped in and helped.

Shell Oil Co., a significant oil and gas producer in Louisiana and throughout the Gulf of Mexico, donated \$500,000 for the purchase, delivery, and installation of three industrial ice machines that could each produce 20 tons of ice daily. The machines were strategically placed to meet the needs of as many fishermen as possible, one in Cameron Parish and two in St. Bernard Parish. LSGE agents Gaude', Savoie, Mark Schexnayder worked diligently with Shell Oil, the Louisiana Seafood Promotion and Marketing Board, and the Louisiana Department of Wildlife and Fisheries to find locations and operators for the machines.

### **Education and Outreach as part of Recovery**

If you are going to rebuild, do it correctly. Access to the coast encompasses having a place to live that is sanitary, comfortable, and safe from the destructive forces of future hurricanes.

LSG initiated three projects to help with this aspect of recovery. LSGE agent Thomas Hymel used satellite images and GIS data to develop storm surge maps for St. Mary, Iberia, and Vermilion parishes that highlighted hurricane vulnerability. Parish maps identified local landmarks, such as a Wal-Mart or library, and computer animation helped residents visualize how much damage could have occurred if the storm surge had been one, two, three, or even eight-feet higher than that experienced during Hurricane Rita and what damage could occur from future storms. Because the talks and exhibits were made and placed in parish libraries within 10 months of Hurricane Rita, they had an immediate impact on many people who thought they were safe. At least one business moved its files inland to another branch office because of the presentations. Once the interactive exhibits (users can locate a building and determine the degree of flooding possible) ended their library stay, they were relocated to the local sheriff's office to help with assessing future flooding problems.

The second education and outreach project involved the Sea Grant Law and Policy Program (SGLPP). This initiative developed a series of information sheets and accompanying narrated PowerPoint presentations. Table 2 shows the basic approach to building the messages for the public.

**Table 2. Building the Sea Grant Message**

**The Message:**

1. Accurate: Latest information & peer reviewed
2. Only The Basics
3. Concise: 1-3 pages for information sheets
4. PowerPoints: 1.5 to 6.5 minutes. Optional narration
5. Louisiana Oriented
6. Non-Technical Terms and Verbiage
7. Question/Response Format
8. Non-confrontational Format
9. Designed by Sea Grant Communication Section

LSG was not trying to make LSCE agents instant floodplain managers. The objective was to introduce them to the basic concepts and the most common issues they would be asked to address. LSG also wanted them to know when to say, “I don’t know. Ask your community floodplain administrator or the state floodplain administrator.”

Materials related to rebuilding process legal issues were created in a form and format more readily understood by residents. The materials, which give a plainer explanation of FEMA programs, guidelines, and requirements (Tables 3 and 4), are available on the SGLPP’s Web site and were distributed to coastal parishes. Basic questions that are addressed include where and how to rebuild, Louisiana building codes, the National Flood Insurance Program, and similar topics. The first set appeared in April 2006, only seven months after Hurricane Katrina. Updates have been made and will continue to be made to the Web products as new topics rise in importance.

**Table 3. Nine Information Sheets**

\*Seven were initially prepared and Nos. 4 and 9 were additions

1. Advisory Base Flood Elevations During Rebuilding (144KB PDF. 3 p.)
2. Building After a Flood and Flood Insurance Q & A (166KB PDF. 3 p.)
3. Glossary of Frequently Used FEMA/NFIP Acronyms (179KB PDF. 3 p.)
4. How to Help Your Community Keeps Its National Flood Insurance Program And Disaster Assistance (137KB PDF. 1 p.)
5. Increased Cost of Compliance Program - The Basics (158KB PDF. 2 p.)
6. Pre-Disaster Mitigation Program - Private Non-Profit Organizations (158KB PDF. 1 p.)
7. Travel Trailers in the A-Zone or V-Zone - The Basics (153KB PDF. 2 p.)
8. Quick Reference Guide (205KB PDF. 3 p.)
9. When Your Home or Business Was Completely Destroyed or Substantially Damaged (210KB PDF. 2 p.)

Available at <http://www.lsu.edu/sglegal/pubs/other.htm>

**Table 4. PowerPoint Presentations**

1. Advisory Base Flood Elevations and Rebuilding  
(23.8MB PowerPoint presentation) 10 slides, 6.25 minutes
2. Building After a Flood and Flood Insurance  
(1.05MB PowerPoint presentation) 3 slides, 1.5 minutes
3. FEMA Terms  
(10.7MB PowerPoint presentation) 12 slides, 5.75 minutes
4. Increased Cost of Compliance: Your ICC Program - The Basics  
(11.3MB PowerPoint presentation) 11 slides, 5 minutes
5. Travel Trailers in the A-Zone and V-Zone  
(2.4MB PowerPoint presentation) 5 slides, 2.75 minutes

Available at <http://www.lsu.edu/sglegal/pubs/other.htm>

The third education and outreach project also involves the SGLPP and resulted from comments and discussion at the Louisiana universities Presidents' Forum on Meeting Coastal Challenges ([www.laseagrant.org/forum/index.html](http://www.laseagrant.org/forum/index.html)). Through SGLPP's review of land use planning activity in coastal Louisiana, the program will make recommendations for protecting access as a long-term need. The study also will

characterize the current status of land use planning at the state and local levels and recommend appropriate change. Land use planning can be an effective tool to protect future coastal access as well as guard against future storm damage.

### **LESSONS LEARNED**

Sea Grant programs throughout the country should be aware that similar assistance will be expected from them following a hurricane or other disaster along their coasts. More specifically, the Louisiana Sea Grant Program learned:

- It takes time to cope with disasters and recovery. Patience and sensitivity to victims and their needs and desires are vital. Fortunately, a concern for the coastal community and its well-being is a common characteristic among Sea Grant personnel.
- Even though recovery demands immediate attention, a Sea Grant program cannot forget its traditional audiences. Somehow, time and energy must be directed to on-going projects and activities; these people are as important as the disaster victims.
- As we rush to help those who have suffered significant losses, we must practice due diligence in building new partnerships and strengthening old ones.
- Sea Grant Extension agents and specialists must learn new ways to communicate.

### **SUMMARY**

The LSG program had the ability to adjust its personnel and activities and add staff that could respond to the needs of its constituents. Agents quickly learned new programs, regulations, and agency contacts. They became effective ambassadors for fishermen, crabbers, shrimpers, and business owners who live in the coastal zone and rely on renewable resources. Because of the trust between the community and the LSGE agent, projects could be implemented and expedited, such as the donation of the Travelift from Alaska. Agents helped interpret federal and state regulations to many in their areas, including recent immigrants such as the Vietnamese in Orleans, St. Bernard, and Plaquemines parishes. With grants from large corporations, equipment could be purchased, sites located for ice houses, and operators identified. Outreach projects allowed for assisting communities, such as Delcambre, redevelop. Although it's been a difficult two-plus years, the LSG program demonstrated its commitment to the people of the state and its ability to rapidly adjust to changing needs.

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