

Louisiana Sea Grant Law & Policy Program

The Water is Coming – What to Do?
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Executive summary

Louisiana faces several coastal hazards, including inundation from coastal storms, extreme high tides, and sea level rise. While some areas have structural protection, or are trying to get funding for structural protection, many communities will be outside of these structures and will need to reduce their risk through the implementation of nonstructural measures.

Louisiana Sea Grant Law & Policy Program (SGLPP) was asked to write a white paper on options for and barriers to nonstructural flood protection along the Louisiana coast to be used internally by Oxfam America. In order to complete this on a condensed timeframe, SGLPP relied on existing knowledge, secondary sources, and conducted 14 interviews, including environmental and planning NGO's, community activists groups, government agencies, academic programs and marine cooperative extension agents.

The interviewees emphasized the financial, cultural, and political barriers that communities and residents face when implementing nonstructural measures. While the interviewees stated that, in their opinion, most people would want financial assistance with elevation, there are some areas that are still resistant to it. Residents would likely be much less receptive to relocation, and while this is a discussion that is much needed in some communities along the coast, most local governments and other organization are hesitant to talk about it.

The paper ends with a list of recommendations for Oxfam should they desire to do more work in the nonstructural realm, as well as a list of additional research resources that may benefit any potential projects.

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Introduction

The relatively low elevation of coastal Louisiana makes it particularly susceptible to inundation from coastal storms and extreme high tides. These conditions are worsening because Louisiana is experiencing some of the greatest relative sea level rise of any region in the U.S., as eustatic sea level continues to rise worldwide and the state's coastal wetlands continue to subside and erode. Numerous human communities occupy low-lying areas along Louisiana's coast and are at risk from flooding. The cost and other drawbacks structural flood protection in the form of levees and floodwalls makes it unlikely that such protection will be provided to many communities. Nonstructural flood protection measures - such as the elevation of houses and other structures or relocation to safer areas - are the only viable options to prevent flooding for many in coastal Louisiana. The number of people who have adopted nonstructural flood prevention compared to the number at risk has, to date, been a relatively low percentage of the at risk population. The reasons for the low rate of adoption of nonstructural flood protection are complex and varied. Elevation and relocation are both expensive, so much so that they are often beyond the means of the residents of communities closest to the Gulf of Mexico. These communities are the most prone to coastal flooding and are often low-income, rural areas. Elevation also is not an option for some homes that cannot structurally withstand the process of being elevated, while relocation is problematic for people who make their livings on the water and those who survive, at least in part by subsistence hunting and fishing, and depend on access to coastal ecosystems. Likewise, both elevation and relocation face some resistance due to cultural norms of the residents, who want to remain close to the ground where they have probably lived their entire lives.

For those who do want to elevate or relocate, there is little financial and technical assistance available. Some government programs exist to provide assistance to those interested in adopting nonstructural flood prevention measures. However, problems may exist in delivering information about the programs, such as how to qualify and what requirements must be met. The populations in question are often low income, poorly educated and somewhat insular, making traditional methods of information delivery ineffective in some cases. Even then, some of the most proactive parishes can only elevate five to ten homes a year and have a waiting list that is years long. Government programs are typically underfunded, leaving coastal residents with a larger financial responsibility for nonstructural adaptation than many can accommodate.

Of interest is an article published on October 12, 2014, on The Energy Collective website.¹ The article states that a recent report reveals that the State failed to use \$812 million in disaster assistance money from Katrina, Rita, Gustav,

¹ Rob Moore, *812 Million Ways Louisiana Could Have Made Itself More Resilient*, THE ENERGY COLLECTIVE (Oct. 12, 2014),

<http://theenergycollective.com/nrdswitchboard/1963841/812-million-ways-louisiana-could-have-made-itself-more-resilient>.

and Ike. These funds were intended to be used for elevation, relocation, restoration of coastal dunes, and other protective measures. According to the article, FEMA has granted several extensions, but “the state and local governments have failed to put together project applications and have repeatedly missed deadlines. Under the federal Stafford Act, which defines the nation’s disaster preparedness procedures, states have two years to spend FEMA assistance before it must be returned and made available to other states who are trying to avoid natural disaster damages.”² As the final deliverable date for this project was October 15, 2014, the article could not be further researched for validity, but the content of it is important when thinking about nonstructural flood protection measures in the state.

Oxfam International seeks to facilitate the adoption of nonstructural flood protection by assisting coastal residents and government entities. To that end, Oxfam is examining governmental, social and cultural barriers that hinder adoption of such measures and has asked the Louisiana Sea Grant Law & Policy Program (SGLPP) to conduct research into these issues. The SGLPP has worked extensively in the area of nonstructural flood protection measures specifically through the Community Rating System of the National Flood Insurance Program and the Community Rating Index developed by Gulf of Mexico Alliance. Additionally, Louisiana Sea Grant’s network of Marine Extension Agents provides a unique connection to the communities in need of assistance with nonstructural flood adaptation.

The time period specified by the contractor (approximately 6 weeks) precluded original research, making it necessary to use secondary sources and the accumulated experience of the SGLPP to provide information for this study. The secondary sources, some suggested by Oxfam, included environmental and planning NGO’s, community activists groups, government agencies, academic programs and marine cooperative extension agents. Interviews of these sources were conducted over a period of 5 weeks. The compiled results of the interviews form the basis of the following report. A list of additional potential interviewees is also included should Oxfam wish to discuss nonstructural measures with additional experts.

Louisiana Coastal Hazard Mitigation Guidebook

In 2008 the Louisiana Sea Grant Law & Policy Program published the Louisiana Coastal Hazard Mitigation Guidebook to assist local governments in implementing nonstructural flood mitigation measures.³ The Guidebook provided extensive information on environmental conditions and hazards in coastal Louisiana, storm surge modeling available to planners, existing legal regimes applicable to nonstructural flood mitigation, construction and landscape architecture techniques, land use planning methods and model ordinances and a

² *Id.*

³ Wilkins, J. G., Emmer, R. E., Hwang, D. J., Kemp, G. P., Kennedy, B., Hassan, M., Sharky; Louisiana Coastal Hazard Mitigation Guidebook; Louisiana Sea Grant College Program; 2008.

methodology for implementing nonstructural flood protection measures. This methodology assumes that much can be accomplished without enacting new laws and regulations through a continuum of methods, beginning with providing information and moving through encouraging voluntary adoption; using industry standards, existing laws and regulations; and finally, if necessary, formulating new laws and regulations. The assumption of the Guidebook is that communities are usually unsuccessful if they try to go straight from having nothing to adopting new regulations; it is better to take a slow approach and move from information to guidance to standards and finally to new regulations. These techniques have proven successful in other states, such as Hawaii where some counties have adopted nonstructural hazard mitigation requirements. The application of the Guidebook techniques for this study would be more appropriate for new construction than retrofitting existing structures but could be very helpful for planning in relocation areas and post-disaster recovery. The Guidebook is available in print from SGLPP and online at <http://dnr.louisiana.gov/assets/docs/coastal/interagencyaff/LaCoastalHazMitGuidebook.pdf>.

Louisiana's Comprehensive Master Plan for a Sustainable Coast

After Hurricanes Katrina and Rita, the Louisiana legislature passed legislation that required the state to develop a plan that coordinated protection and restoration efforts. This plan was to be updated every five years. The first plan, *Integrated Ecosystem Restoration and Hurricane Protection: Louisiana's Comprehensive Master Plan for a Sustainable Coast*, completed in 2007, was led by the state's Coastal Protection and Restoration Authority (CPRA).⁴ In 2012, the first update was completed by CPRA - *Louisiana's Comprehensive Master Plan for a Sustainable Coast (2012 Master Plan)*.⁵ Research for the 2017 update is already underway. The 2012 Master Plan focuses primarily on structural projects, including fresh-water diversions, sediment pipelines, marsh and wetland restoration projects, and barrier island restoration projects.

Nonstructural measures are also covered in the 2012 Master Plan; in fact, \$10.2 billion of the projected but not appropriated \$50 billion budget is for nonstructural measures.⁶ Implementation of the nonstructural program will require coordination between state and parish agencies. The key projects include elevating

⁴ Coastal Protection & Restoration Authority of Louisiana, *Integrated Ecosystem Restoration and Hurricane Protection: Louisiana's Comprehensive Master Plan for a Sustainable Coast (2007)*, available at <http://www.coastalmasterplan.louisiana.gov/2012-master-plan/final-master-plan/>.

⁵ Coastal Protection & Restoration Authority of Louisiana, *Louisiana's Comprehensive Master Plan for a Sustainable Coast (2012)*, available at <http://coastal.la.gov/resources/library/reports/>.

⁶ *Id.* at 34.

buildings, floodproofing, and voluntary relocation and acquisition.⁷ However, as the 2012 Master Plan points out, it really does not provide much information on which techniques people can expect will apply to their communities : “These options will be voluntary; the master plan makes no recommendations for relocation of specific communities. The plan acknowledges the need to support citizens facing change and to handle disruptions with sensitivity and fairness.”⁸ While CPRA may have some idea which communities are facing relocation (it would have to in order to provide the level of detail provided in Appendices A and F), it has not shared its findings with communities. This is unfortunate as some decision-makers and residents may not realize that relocation is a likely possibility for their communities.

Appendix F2: Nonstructural Implementation Strategy goes into more detail about how nonstructural flood protection measures will be utilized in conjunction with the other restoration and risk reduction projects.⁹ Under the Master Plan, nonstructural measures are separated into two sections, physical measures and programmatic measures. Physical measures focus on things that can be done to existing structures, such as elevation and floodproofing.¹⁰ Programmatic measures include “public education, implementing ordinances and building codes with higher risk reduction standards, and preparing land use plans that integrate floodplain management concepts.”^{11,12} Forty-two nonstructural projects were selected for inclusion in the 2012 Master Plan, but only physical measures are included.¹³ The Appendix again points out that nonstructural measures have to be voluntary in nature and implemented at the local level.

The Appendix lays out an implementation strategy that coordinates both physical and programmatic measures in order to be most effective.¹⁴ Several recommendations are provided for implementation, including:

- A single entity should be responsible for coordinating all hazard mitigation activities.¹⁵

⁷ *Id.* at 159.

⁸ *Id.*

⁹ Coastal Protection & Restoration Authority of Louisiana, Louisiana’s Comprehensive Master Plan for a Sustainable Coast (2012), Appendix F2: Nonstructural Implementation Strategy, available at <http://coastal.la.gov/resources/library/reports/>.

¹⁰ *Id.* at F2-2.

¹¹ *Id.*

¹² Later, the document mentions that “at a minimum, a nonstructural implementation strategy should address the following items: 1. Land use planning 2. Land ordinances 3. Hazard mitigation planning 4. Higher regulatory standards 5. Building codes 6. Flood insurance requirements 7. Public education.” F2-4

¹³ Per excel spreadsheet from Melanie – this includes 46,680 structures floodproofed, 34,660 structures elevated, and 250 structures acquired, for a total of 81,590 structures receiving some form of nonstructural activity for a total of \$10.2 billion. *Id.* at F2-4.

¹⁴ *Id.* at F2-5.

- Nonstructural projects need to be coordinated with other plans (resilience, development, economic, emergency response, evacuation).¹⁶
- The State will need to find ways to support land use planning at the local level, as many parishes lack the staff and funds “to develop, implement, and maintain land use plans.”¹⁷
- It may be necessary for State oversight of planning efforts in order to ensure that they are consistent with the master plan.¹⁸
- It was also recommended that “future planning grants require that all land use plans contain a section specifically addressing flood risk reduction measures that are in keeping with the master plan.”¹⁹
- Communities should have an up-to-date hazard mitigation plan “prior to receiving funding for structural and/or nonstructural projects.”²⁰
- Communities should consider the benefits of participating in the Community Rating System and “be encouraged to adopt higher regulatory standards such as increased freeboard, additional level of protection for structures behind levees, or cumulative substantial damage tracking requirements.”²¹
- The State should consider building standards above and beyond what is required in the adopted building codes.²²
- Public education, specifically on flood insurance, is important.²³
- “Non-governmental organizations and educational institutions should continue to be supported in developing a variety of tools and documents related to proper floodplain management and flood risk reduction.”²⁴
- Development should be limited in areas of potential high risk behind structural protections.²⁵
- An extensive dialogue with affected communities facing relocation and acquisition projects, as well as an understanding of inheritance laws and local culture, should be conducted.²⁶

The Appendix also discusses a number of needs and obstacles that exist related to nonstructural flood protection measures.

- Needs:

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.* at F2-6.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.* at F2-7.

²¹ *Id.*

²² *Id.*

²³ *Id.* at F2-8.

²⁴ *Id.* at F2-9.

²⁵ *Id.* at F2-12.

²⁶ *Id.* at F2-13.

- Better understanding of existing funding resources
- New funding resources
- Technical assistance
- Other tools (“planning guides, model ordinances, accurate digital mapping, and access to computerized data sources”)²⁷
- Enforcement program to ensure building codes and local ordinances are met
- Obstacles:
 - Uniqueness of each local government, specifically if projects cross-jurisdictional boundaries
 - Increased development behind structural protection where residual risk still exists
 - Lack of coordination and communication between federal, state, and local programs

The Appendix also mentions that “as we move forward, a new community focus group will be formally established. This focus group will work with CPRA in identifying issues, providing insight, and moving implementation forward. It is vital that both planning and implementation efforts consider the needs and resources of everyone who lives and works on the coast.”²⁸ Per an email from Ashley Claro with CPRA, a community focus group was formed in July of 2012 and has met twice.²⁹ A third meeting is planned for December 2014. Some of the recommendations made by the group in April 2013 include:

- CPRA should look to HUD and CDBG for funds for mitigation projects.
- CRPA should create one viewer that combines data on elevation, flood maps, and severe repetitive loss areas.
- CPRA needs to consider community relocations.
- Regional community planning should be used due to the future movement of populations that have to relocate.
- People should be relocated to an ecosystem that is similar to the one where they live.
- There is a need for an assessment of the true costs of relocation, including education, housing, occupational training, and insurance.

Interviews

As part of the research process, SGLPP staff conducted 14 interviews (including in person, phone, and email exchanges) with representatives from several groups. Per requirements for interview research standards, we will not be

²⁷ *Id.* at F2-8.

²⁸ *Id.* at F2-3.

²⁹ E-mail from Ashley Claro, Coastal Resource Scientist, CPRA, to Melissa Daigle (Oct. 8, 2014, 11:05 AM CST)(on file with Melissa Daigle).

citing comments to particular interviewees; however, a master list of interviewees is available at the end of this document. Summaries of the interviews are provided throughout the paper. There were two ideas, however, that were echoed throughout all interviews. The first is that there is much uncertainty about what the term “nonstructural hazard mitigation” actually means. Some of the interviewees did not think it should include home elevation, as this is something done to the structure. Others thought it should include levees built around individual properties, as this was action taken by a local landowner and not the government. In fact, one interviewee mentioned that the term “nonstructural” is falling out of favor with many groups, including the Association of State Floodplain Managers. Instead, groups are moving toward the more general term “adaptation.” The second idea that came up often is that the primary barrier to the adoption of non-structural measures is financial; raising homes and relocation of communities is expensive, and it is not clear to communities what resources are available or who should be responsible for those costs.

One of the most valuable resources at Louisiana Sea Grant is our network of eight Marine Extension Agents who live and work in the coastal communities. These agents are a direct link to the communities they serve and have an understanding of local issues and concerns. For this project, we interviewed three extension agents: Alan Matherne, who works in Terrebonne and Lafourche Parishes; Kevin Savoie, who works in Cameron and Calcasieu Parishes; and Mark Shirley, who covers Jefferson Davis, Vermillion, Acadia, St. Landry, Evangeline, Cameron, Calcasieu, Lafayette, Beauregard, and Allen Parishes.

Much of the conversation during our interviews focused on barriers to nonstructural flood protection. According to everyone we interviewed, the largest barrier to the adoption of non-structural flood protection is the costs of such measures. It is the opinion of our agents that most coastal residents are not opposed to living off the ground, but cannot afford the high price associated with elevating existing structures.³⁰

There are some people, however, who are simply not interested in living in elevated homes and do not want to accept funds to raise their homes. One interviewee mentioned that several people in his parish have turned down funds for elevation and instead have built small levees around their property, paying for the costs of such systems out of their own pocket. The interviewee said that one reason someone would turn down elevation funds is that they just want to live as they have been living for years – on or close to the ground. Additionally, people in low-lying areas want to see the government come in and build a levee protection system. Some believe that if many in the community elevate their houses, that fact will be

³⁰ Because there are several elevation methods that can be used, it is difficult to say how much it would cost to elevate structures in a community without individualized estimates done on each property. It is also important to remember that there may be additional associated costs, such as alternative living expenses while the project is underway. The 2012 Master Plan average for the elevation of structures is approximately \$150,000 per structure.

used as a reason not to build a levee. These cultural barriers still exist in some places, but less so in others. One interviewee said that there was initially some resistance to elevation by people who flooded from Hurricane Rita, but when those individuals saw that the homes that elevated were protected from flooding from Hurricane Ike, more people wanted elevation. The homes that had been elevated were considered an example of “what you have to do to live along the coast, and if you can’t afford it, you have to relocate.” One interviewee pointed out that in Terrebonne and Lafourche parishes, there was huge resistance to home elevation after Hurricane Andrew in 1992. Now, there is a waiting list for elevation funds, and once on the list a person may have to wait five or more years.

While our interviewees did mention a number of positive stories related to nonstructural flood protection (such as a home that was flooded for Rita, elevated, and did not flood during Ike even though neighboring properties did), we also heard of some of the struggles faced by property owners. For example, one of our extension agents told us that a family flooded by Rita took the \$30,000 available for home elevation. Once it was finished, FEMA changed the required base flood elevation and said the house wasn’t high enough. The family was told they would either need to repay the money or lift the home again to make it 6 inches higher. According to the extension agent, it took local government intervention to allow the family to stay at their current elevation without having to repay the funds. In another example from the central part of the state, one family raised their home to the required base flood elevation. When they did, their insurance company said they could not provide homeowners insurance as the house was now too high and faced too much risk from wind damage. It is definitely a serious hurdle when there are competing requirements for flood and wind insurance. The marine extension agents all mentioned that after Katrina and Rita, some homeowners rushed to elevate before the new FEMA flood maps were adopted, in order to keep the elevation of the home as low as possible. Unfortunately for some of these individuals, the rebuilt home flooded again during a subsequent storm. On the flip side, of course, is that some people are making the most of elevation and are voluntarily going above and beyond the base flood elevation requirements. This can help reduce the cost of flood insurance, which for some people exceeds the cost of the mortgage. Additionally, the additional cost to add a foot or two of elevation to a home that is already being elevated usually is not that much.

Our interviewees confirmed what we had already observed in our work, that it is very difficult to discuss relocation with coastal residents because it is a highly charged emotional issue. Many of the interviewees said that people are moving to higher ground individually, and most often after each disaster event. One example of this is Pecan Island, located on the western side of the state. Several hundreds of people used to live there, but now only a handful of people live there full time. In one area, the interviewee said if people were offered a buyout, some would take it and move 25 miles north. To increase the chances of retaining of our unique cultures, it would be better to have a plan in advance of a disaster that would allow communities to move in groups.

Another interesting viewpoint that came up during the interviews is that many people are turning to alternative housing options other than relocation and

elevation. On the western side of the state, people are choosing to live in trailers that they can easily unhook from utilities and drive away in the event of a storm.³¹ Some areas are seeing an increase in houseboats, and even barges used for recreational vehicles that can be driven off the barge and away from the area as a storm approaches. These can all be cost-effective options to replacing a home that is severely damaged by a storm event or not suitable for elevation.

Land Use Planning

Across the board, our interviewees pointed out that in many areas of the state, land use planning is not an option that residents will entertain. In fact, one interviewee said that “there is no way in hell [land use planning] would fly.” In Cameron, there has been some talk about it, but little forward movement; this may change in the near future, however, due to the large investment in LNG facilities that the area is expecting. In the western part of the state, the most the local government can do is enforce the base flood elevation required for the National Flood Insurance Program, but they are not interested in stopping construction in any area.³² Many of the interviewees said there is not a parish planner on staff, and in some parishes there is not even a coastal zone manager; our experience has shown that when these positions are staffed (more likely understaffed), that the person is usually required to wear many hats. When asked what would assist people engage in nonstructural flood protection measures, one interviewee said that parishes need assistance with long-term planning; additionally, the parish could do so much more if they had expanded capacity.

In 2007, Louisiana Sea Grant published a paper on land use planning along the coast. Although some of this information has been revised since publication, it is still a good resource. The document provides a summary of natural hazards that impact the Louisiana coastal zone and different approaches to mitigate those hazards. It also provides an overview of the status of planning in the state as of 2006. For this white paper, we have updated the section on the status of planning, which can be found in Appendix A.

Community Rating System

In 2012, communities faced the potential for drastic flood insurance premium increases under the Biggert-Waters Act, which phased out grandfathering and insurance subsidies. Many people who rushed to rebuild after hurricanes Katrina and Rita, before the flood insurance rate maps were adopted, regretted the decision when the new rate system was introduced. While the 2014 Homeowner Flood Insurance Affordability Act has provided at least a temporary reprieve from these increased rates, it is very likely that increases will happen sometime in the future.

The Community Rating System (CRS) is a way for communities to reduce flood insurance rates for property owners by taking action that is above and beyond the requirements of the National Flood Insurance Program (NFIP).³³ Different actions are allotted different numbers of points, and the community is placed into a class based on the number of points it has, which sets the percentage by which premiums are reduced (see chart, below). Many of the activities that earn points are nonstructural flood protection measures, such as requiring additional freeboard on top of the NFIP elevation requirements and acquiring repetitive flood loss property that is set aside as green space.

Points	Class	Reduction in SFHA	Reduction in Non-SFHA
4,500+	1	45%	10%
4,000 – 4,499	2	40%	10%
3,500 – 3,999	3	35%	10%
3,000 – 3,499	4	30%	10%
2,500 – 2,999	5	25%	10%
2,000 – 2,499	6	20%	10%
1,500 – 1,999	7	15%	5%
1,000 – 1,499	8	10%	5%
500 – 999	9	5%	5%
0 – 499	10	0	0

With maximum discounts of 45%, one would think that all communities in the NFIP program would also participate in the CRS program but that is not the case. There is a detailed application process, and once accepted into the program, the community must maintain detailed documentation of CRS-related activities; participation requires continued local government staff commitment. It also means that governments will likely have to enact regulations that are stricter than the basic NFIP requirements. Local governments, especially those that do not understand the benefits of the program, are generally resistant to enacting more restrictive regulations.

We interviewed Pamela Lightfoot, the state NFIP Coordinator, to find out how the program could be used to encourage more nonstructural flood protection measures and participation in the program. The impression we got from her, and from other people we interviewed, is that the state-level staff (four people) are generally overworked and have other job duties that take away from the time they can spend working on CRS-related issues. Additionally, they have to cover the entire state, not just the coastal zone. More support at the state level for the CRS program could go a long way in getting more communities involved.

³³ For more information, see <http://www.fema.gov/national-flood-insurance-program-community-rating-system>. The chart is pulled from this website.

As of May 2014, 17 parishes and 29 towns in Louisiana were a part of the CRS program.³⁴ The classes were: (4) Class 10, (9) Class 9, (22) Class 8, (8) Class 7, (3) Class 6. The three class six communities are East Baton Rouge Parish, Jefferson Parish, and Terrebonne Parish.³⁵

Relocation Issues

Legal and social issues related to relocation will be very important for some areas where both structural and nonstructural measures cannot provide enough risk reduction from flooding. The Tulane Institute on Water Resources Law & Policy has completed a white paper on relocation issues, and we will not repeat what has been said there. In general, relocation of individuals and communities and individuals is hindered by lack of resources and cultural resistance. However, we were specifically asked to look into what agency is responsible for relocations and what funds were available to do so (outside of the Uniform Relocation Act (URA), Gulf of Mexico Energy Security Act (GOMESA), and Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economics of the Gulf Coast States Act (RESTORE Act), discussed in more detail below). There is no single state or federal agency that is responsible for all relocation activities. In certain situations, a specific agency may take the lead, depending on the source of funds (see list, below).

There are several sources of federal funds that could potentially be used for relocation, though not all are directly related to relocation due to damage or threat of flooding. The following is a broad list of some potential funding sources for relocation (this list is not intended to be exclusive, and some of these funds can also be used for elevation, but that information is not included here due to research limitations):

- Office of Refugee Settlement – resettlement services for those seeking asylum or who are refugees in the U.S. Services include medical assistance, education assistance, mental health services, and social services.
- HUD – Community Development Block Grant Disaster Recovery Program – used for Presidentially declared disasters. Can be used to purchase damaged properties in the flood plain and relocating those residents to safer areas and can provide relocation payments for people and businesses displaced by disaster.
- HUD – Community Block Grant Entitlement Program – provides grants to cities and counties/parishes to develop urban areas. Program targets low-

³⁴ Community Rating System report, *available at* http://www.fema.gov/media-library-data/1398878892102-5cbcaa727a635327277d834491210fec/CRS_Communities_May_1_2014.pdf.

³⁵ As a side note, there is only one Class 1 community in the program as of May 2014 - City of Roseville, California. *Id.*

and moderate-income residents, and can be used for the acquisition of real property for relocation or demolition.

- FEMA – Hazard Mitigation Grant Program – provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Funds can be used for property acquisition and demolition, as well as relocation.
- FEMA – Flood Mitigation Assistance – provides pre-disaster funds for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program. Funds can be used for property acquisition, demolition, and relocation.
- FEMA – Pre-Disaster Mitigation Program – provides funds for hazard mitigation planning and projects on an annual basis. Funds can be used for property acquisition and relocation.
- HUD-HOME Investment Partnership Program – provides formula grants to states and localities that communities can use to fund building, buying, and/or rehabilitating affordable housing for rent or ownership or providing direct rental assistance to low-income individuals. Funds can be used for site acquisition and improvement, in terms of demolition of dilapidated housing to make way for HOME-assisted development. It can also be used to cover some relocation expenses.
- HUD – Housing Opportunities for Persons with AIDS (HOPWA) – established to provide housing assistance and related supportive services for low-income persons living with HIV/AIDS and their families. Funds can be used for acquisition, rehabilitation, or new construction of housing units.

In the past, the U.S. Army Corps of Engineers (Corps) has typically not been involved in nonstructural project. Judging from the West Shore Lake Pontchartrain Hurricane and Storm Damage Risk Reduction project the Corps appears to be increasing its involvement in the facilitation of nonstructural flood protection measures.³⁶ The preferred alternative of the project's Environmental Impact Statement is a combination of structural and nonstructural flood protection measures including elevation and buyouts of existing structures. The projected \$300,000,000 cost of elevations and buyouts for the project would be cost shared on a 65% federal and 35% non federal sponsor (state of Louisiana CPRA) basis. We assume the federal funding would come from the Water Resources Development Act or special appropriations for Corps projects. As mentioned elsewhere in this report, the state budget for elevations and buyouts is at this time dependent on uncertain funding streams but the Corps' apparent embrace of nonstructural flood protection measures as a legitimate project cost could be significant. It would be prudent to

³⁶<http://www.mvn.usace.army.mil/About/Projects/WestShoreLakePontchartrain.aspx>

follow the development of this project to see how successfully it executes the nonstructural component. It is interesting that the EIS discusses as project impacts of nonstructural measures, loss of population and tax base and loss of community cohesion because these are concerns we heard expressed by others in our interviews.

In addition to the Tulane research, it might provide useful insight to look at the communities that were relocated after a disaster (Valmeyer, IL, for example) and examine the mental health and “happiness” level of the community after they were relocated. Does moving a community as a whole really make them happier and make the community more resilient, at least in the mental health sense?

Uniform Relocation Act

The URA was codified in 1971 to ensure fair treatment of people displaced by federally funded programs, federally assisted programs or state/local agencies receiving federal funds. It calls for “the unique circumstances” of displaced persons in “essentially similar situations” to be considered uniformly so they can be afforded similar treatment under the benefits of the law. The program’s benefits include replacement value - rather than fair market value - of the displaced person’s property, compensation for moving expenses, closing costs, security deposits, and interim living expenses.³⁷

Congress delegated administration of the URA to the Federal Highway Administration (“FHA”), which promulgated the operative implementing regulations for the program. URA benefits apply to “a direct Federal program or project” and “Programs and projects receiving Federal financial assistance.”³⁸ Benefits under Subpart B of the URA regulations include a right to “expeditious acquisition of the property, advance notice of the agency’s intent to acquire property, offers of “just compensation,” and certain litigation expenses.³⁹ The regulations also state that persons must be displaced as a “*direct* result of the acquisition, rehabilitation, or demolition of real property.⁴⁰ Judging from the Road Home program the URA applies to relocation funded by federal disaster assistance and seeks to provide fair and evenhanded treatment of persons subject to governmental relocation plans or mandates. Questions arise as to necessary triggering events for the application of the URA and to which agencies it applies. Those questions will require further research. Discussion of these issues is contained in Appendix B.

³⁷ David V. Simunovich, *The Quiet of Dissolution: Post-Disaster Redevelopment and Status-Preserving Compensation*, 38 Seton Hall L. Rev. 331, 340-41 (2008)

³⁸ 49 C.F.R. §24.101(a), (b)

³⁹ *Id.*, §24.102(a); §24.102(b); §24.102(d)-(g); §24.107

⁴⁰ 49 C.F.R. §24.2(g)(1)

GOMESA and RESTORE

GOMESA and RESTORE offer two possible sources of future funding for nonstructural flood protection measures. GOMESA allows for revenue sharing of outer continental shelf oil and gas leasing activities with Alabama, Louisiana, Mississippi, and Texas.⁴¹ RESTORE establishes a fund and sets out the distribution plan for eighty percent of the civil penalties levied in the case of the Deepwater Horizon Oil Spill.⁴² Under the Restore Act, thirty percent of the amount made available to Louisiana must go directly to coastal zone parishes, with the amount assigned based on a formula that takes into consideration the miles of shoreline oiled, the population, and the land mass of the parish. There are some conditions to this requirement, though. Specifically, “as a condition of receiving amounts allocated under [RESTORE], the chief executive of the eligible parish shall certify to the Governor of the State that the parish has completed a comprehensive land use plan.”⁴³ One interviewee mentioned that the parish where he lived had submitted a plan for approval to CPRA, but no one really knows what that plan is supposed to contain. That particular parish decided to focus on issues raised in the 2012 Master Plan, including projects such as bank stabilization and marsh creation. They also used vague terminology about proposed levees that would hopefully eventually tie into the neighboring parish’s proposed levees. While it is our opinion that parishes would benefit greatly from taking this requirement seriously and receiving direction on what exactly should be included in the plan, it seems that many parishes are looking to make do with what is already in place, which in many places is the bare minimum.

Both RESTORE and GOMESA allow for funding to be used for flood protection projects, but neither have a set amount that must be used for nonstructural or even mention nonstructural measures. The following requirements are set out for projects funded under RESTORE:

(1) State allocation and expenditures.

(A) In general. Of the total amounts made available in any fiscal year from the Trust Fund, 35 percent shall be available, in accordance with the requirements of this section, to the Gulf Coast States in equal shares for expenditure for ecological and economic restoration of the Gulf Coast region in accordance with this subsection.

(B) Use of funds.

(i) Eligible activities in the Gulf Coast region. Subject to clause (iii), amounts provided to the Gulf Coast States under this subsection may only be used to carry out 1 or more of the following activities in the Gulf Coast region:

⁴¹ Gulf of Mexico Energy Security Act (GOMESA), Pub. L. 109-432 (2006).

⁴² Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economics of the Gulf Coast States Act (RESTORE Act), Subtitle F of Pub. L. 112-141 (2012).

⁴³ *Id.*

- (I) Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region.
- (II) Mitigation of damage to fish, wildlife, and natural resources.
- (III) Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.
- (IV) Workforce development and job creation.
- (V) Improvements to or on State parks located in coastal areas affected by the Deepwater Horizon oil spill.
- (VI) Infrastructure projects benefitting the economy or ecological resources, including port infrastructure.
- (VII) Coastal flood protection and related infrastructure.**
- (VIII) Planning assistance.
- (IX) Administrative costs of complying with this subsection.⁴⁴

Under GOMESA, the following authorized uses are provided:

(1) In general. Subject to paragraph (2), each Gulf producing State and coastal political subdivision shall use all amounts received under subsection (b) in accordance with all applicable Federal and State laws, only for 1 or more of the following purposes:

- (A) Projects and activities for the purposes of coastal protection, including conservation, coastal restoration, **hurricane protection, and infrastructure** directly affected by coastal wetland losses.
- (B) Mitigation of damage to fish, wildlife, or natural resources.
- (C) Implementation of a federally-approved marine, coastal, or comprehensive conservation management plan.
- (D) Mitigation of the impact of outer Continental Shelf activities through the funding of onshore infrastructure projects.
- (E) Planning assistance and the administrative costs of complying with this section.

(2) Limitation. Not more than 3 percent of amounts received by a Gulf producing State or coastal political subdivision under subsection (b) may be used for the purposes described in paragraph (1)(E).⁴⁵

It appears that the provisions of both GOMESA AND RESTORE reference to “coastal flood protection and related infrastructure” and hurricane protection and infrastructure” could be interpreted to allow the use of those funding streams for non-structural flood protection measures.

⁴⁴ *Id.* Emphasis added.

⁴⁵ *Supra*, note 62. Emphasis added

Recommendations to Oxfam

1. Any work done should be coordinated with the 2012 Master Plan, as the ideas in this plan are expected to be included in the 2017 Master Plan.
 - a. Forty-two projects were selected for inclusion in the 2012 Master Plan, and while none have received funding, it is expected that they will be updated and expanded upon in the 2017 Master Plan.⁴⁶ According to Melanie Saucier with CPRA, “The 2017 Master Plan will emphasize the development of a comprehensive nonstructural flood risk reduction program... providing a specific, coordinated strategy for implementing nonstructural projects in communities and to expand the information, outreach, and tools that can guide decisions on coastal community resiliency measures.”⁴⁷
2. The projects in the 2012 Master Plan are voluntary.⁴⁸ Policies making these actions mandatory for certain properties could have a big impact on long-term resiliency.
 - a. It is important to remember that many local governments would like to enact stricter standards, such as freeboard, or engage in land use planning, but there is little political support for such actions. However, a state-level mandate would remove political issues as the local governments could say their hands are tied by the state requirements.
3. There is no single state agency that oversees nonstructural protection measures across the board. We asked Mrs. Saucier with CPRA if funds for nonstructural implementation became available, who would administer those funds. She stated that it would depend on the funding source and the decision would be made in conjunction with the CPRA Board and the Governor’s office.⁴⁹ There is also no state agency that deals primarily with relocation. It would be beneficial for someone (or several people) at the state level to be tasked with overseeing elevation and relocation work.
4. One idea presented by an interviewee was that there should be a policy in place where every structural project done along the coast should have a percentage of funds set aside to use for nonstructural measures in the surrounding area. This would both provide dedicated funding for nonstructural work and would allow structural and nonstructural projects to

⁴⁶ E-mail from Melanie Saucier, Coastal Resources Scientist Supervisor, CPRA, to Melissa Daigle (Aug. 26, 2014, 11:09 AM CST) (on file with Melissa Daigle).

⁴⁷ *Id.*

⁴⁸ *Id.* The measures selected for the 2012 Master Plan are voluntary are would not be mandated. “CPRA would work with local parishes and GOSHEP to encourage adoption **if** projects were to move from the conceptual phase to the planning and construction phases.” (Emphasis added)

⁴⁹ E-mail from Melanie Saucier, Coastal Resources Scientist Supervisor, CPRA, to Melissa Daigle (Sept. 15, 2014, 10:40 AM CST) (on file with Melissa Daigle).

- work together to provide the highest level of risk reduction possible to an area.
5. Create educational materials that explain what the difference is between nonstructural and structural hazard mitigation, what nonstructural hazard mitigation options are available, and ways that those options can be funded.
 6. Interviewees emphasized that many people living on the coast have experienced flooding and understand storm surge, especially in the areas hit by Rita and Ike. What people need the most education on is the best techniques, methods, and materials they can use when retrofitting, rebuilding, or building new construction that can make their home as hazard resilient as possible.
 7. Research and education needs on the financial benefits of nonstructural options
 - a. At the individual property owner level, research and explain the long-term financial benefits of different non-structural options:
 - i. Example: Elevating a home may cost you this amount, but you can save this much in flood insurance premiums over the course of a 30-year mortgage. Additionally, if you sell the property in the next # of years, it (increases the property value this much) or (makes the home sell this much faster than non-elevated properties).
 - b. At the local government level, engage decision makers about the benefits of participating in the CRS program, in terms of how much money residents will save as a result of the increased work to the local government staff.
 - i. Because funding and staff availability is often the reason that communities do not participate, any assistance on either how to fund a full time CRS position, or how to more easily (and time-efficiently) navigate the CRS program would be extremely beneficial to the local governments.
 - ii. Additional support at the state level could help communities become more active in the CRS program.
 8. Currently, both GOMESA and RESTORE are written in such a way as to allow funding for nonstructural flood mitigation measures. However, there is no condition that a certain percentage be used for nonstructural measures. Policies that would require some money spent under GOMESA and RESTORE to be used on nonstructural flood protection measures would go a long way in establishing funding for such work.
 9. After Katrina and Rita, one aspect of the culture of coastal Louisiana, lack of documentation of clear title to property, made it difficult for some people to get elevation funds: clear title. Many times, when a family member dies, the property is passed on to relatives, but the succession is never formally opened. This can happen repeatedly over several generations, making the issue of clear title almost impossible to determine. Ownership of the property may be split between several heirs, or one person may claim ownership of the land while another claims ownership of the building. For

much of the funding that was available after the 2005 hurricane season, a person was required to show ownership of both the building and land to qualify; many people could not meet this requirement. While some work has been done to try to ease this burden, more could be done. Specifically, policies and procedures to assist people with 1) understanding what title is, 2) understanding why it is important to have, and 3) getting clear title before another disaster occurs would be extremely beneficial. Clear title should be something that is included in every person's hurricane preparedness kit. Louisiana Sea Grant has begun research on steps to providing clear title that might be beneficial if Oxfam decides to work in this area.

10. One message we heard from several interviewees is the need to work with Native American communities. For many nonprofit organizations that work with local governments, the Native American communities are left out, and are often left out of planning processes on the state level. At the same time, they are one of the groups in most need of assistance; the lack of federal recognition of our coastal Native American tribes greatly reduces the resources available to protecting their culture, and they are often living on land that is most vulnerable to erosion and flooding. We strongly encourage Oxfam to reach out to these communities and examine what nonstructural options, such as relocation, are available to them.
11. People knowledgeable about the home elevation business have said that the main expense of elevation is getting the equipment and materials in place. Communities should look into creating policies that funnel elevation funds to do streets or even subdivisions at one time. This could allow the elevation money to go further, resulting in more homes being elevated. Additionally, studies have shown that communities where only one or two homes are elevated are not as resilient as ones where all homes in a given area are elevated. The reason for this is because if all of the homes are elevated, they are much more likely to be occupied, resulting in more people returning to a community (and to the jobs they had in that community).
12. Dr. Hal Needham at the Southern Climate Impacts Planning Program has developed an online tool that allows users to see historic storm surge impacts across the Louisiana coast. Dr. Needham created this database by combining the data recorded for more recent storms with first-hand accounts in newspapers and other print materials of conditions caused by historic storms, some dating back to the late 1800s. The information can be accessed in several formats through the online tool. This information could be invaluable for decision makers when deciding issues related to what potential flood risks a community faces. Information provided by members of the community even in an historical context often carries greater weight with local populations than information and data presented by "experts" from outside the community. This seems to be a phenomenon common to many cultures where traditional local knowledge and information is more highly valued and believed than information derived from other sources. Dr. Needham, however, could use assistance in getting the tool out to the public and finding ways to inform local governments of the tool's potential.

- Additionally, Dr. Needham's tool could be linked with other tools, such as the AgCenters Flood Portal and/or Maurice Wolcott's work on potential future flood risks, to provide the most information possible in one location to residents and decisions makers. By combining historic flood depths with FEMA flood maps and potential future flood risks, residents and other decision makers would have a more complete view of the information needed to make the best decisions possible in terms of what, if any, nonstructural flood protection measures should be taken.
13. Several interviewees mentioned the importance of not only the message, but the messenger. People are more likely to believe a message if they trust the person who is delivering the information. Because of this, Oxfam would likely benefit from involving trusted local residents, non-profits, and other outreach groups from the beginning in any planned projects.
 14. Dr. Rex Caffey recommended that before policy recommendations are made, a cost-benefit analysis should be completed. Such an analysis could provide information to help direct Oxfam's policy work, allowing Oxfam to focus on measures that would be the most realistic from an economic standpoint.
 - a. The first step would be to see what the costs of elevation would be for a given area or two, then extrapolate this across the coast, in order to see if the costs of elevating remaining structures along the coast was worth the benefit to the residents. One or two small sample areas should be selected. Inside that area, a count of how many structures need to be elevated could be completed, as well as how many structures have already been elevated. An average cost of elevation for the area would be needed, taking into consideration the type of construction (pier/slab on grade). Additional costs may want to be considered (housing for the period of elevation, deck and elevator costs).
 - b. A second economic study should include looking at rebate programs and how a rebate program would work for elevation. While offering rebates after the work is completed is only one option of transferring the funds, it helps guarantee that the work will actually be completed (as opposed to providing the money upfront). A good model to compare potential success to, according to Rex, is the rebate incentives offered for energy star purchases. The researcher could then work backwards from the economic side and compare the costs and benefits.
 - c. A third economic study that would provide information necessary to make sure that policy work in this realm is warranted would be to look at the cost of preemptive work (elevation/buyout) and the expected flood policy claims in the event of a disaster, as compared to the expected flood policy claims under the same disaster where no preemptive work was done.

Interview List

Jeannette Dubinin	jdubinin@cpex.org	Center for Planning Excellence (CPEX)	8/27/14	
Nicole Love	nlove@tnc.org	The Nature Conservancy	8/28/14	Tool Available - TNC viewer
Mark Shirley	mshirley@agctr.lsu.edu	Louisiana Sea Grant Marine Extension Agent	9/2/14	
Kevin Savoie	KSavoie@agcenter.lsu.edu	Louisiana Sea Grant Marine Extension Agent	9/3/14	
Alan Matherne	amatherne@agcenter.lsu.edu	Louisiana Sea Grant Marine Extension Agent	9/5/14	
Hal Needham	hneedh1@lsu.edu	Southern Climate Impacts Planning Program (SCIPP)	9/19/14	Tool Available - historic storm surge viewer
Pam Lightfoot	Pam.Miller@la.gov	National Flood Insurance Program Coordinator	9/24/14	
Mary Biegler	bayougrace@bayougrace.org	Bayou Grace	9/24/14	
Sharon Gauthe, Patty Whitney, David Gauthe, Maryal Mewherther, Donald Bogen, Jr.	mybisco@yahoo.com	Bayou Interfaith Shared Community Organizing (BISCO)	9/29/14	
Rob Gorman	rgorman@htdiocese.org	Catholic Charities	10/2/14	

Peg Case	pegcase@trac4la.com	Terrebonne Readiness and Assistance Center (TRAC)	10/2/14	
Pat Skinner	pskinner@agcenter.lsu.edu	LSU AgCenter	10/6/14	Tool Available- AgCenter Flood Map Portal
Rex Caffey	RCaffey@agcenter.lsu.edu	Director of Marine Extension, Director of the Center for Natural Resource Economics and Policy (CNREP)	10/6/14	
Melanie Saucier	melanie.saucier@la.gov	Coastal Protection and Restoration Agency (CPRA)	(email exchange)	Tool Available – 2012 Master Plan viewer to be rolled out in 2015

Additional recommended interviews –

- Dr. Elizabeth English, Associate Professor, Department of Architecture, University of Waterloo
 - Dr. English has done research on the potential for floating house options for Louisiana as an alternative to traditional elevation.
 - (indirect contact information) architecture@uwaterloo.ca
- Dr. Shirley Laska, Professor Emerita, Department of Sociology, University of New Orleans
 - Dr. Laska has worked closely with communities facing coastal hazards and the potential for relocation, especially those in the New Orleans area.
 - slaska@uno.edu
 - 504-280-1254
- Dr. Carol Friedland, Assistant Professor, Department of Construction Management, Louisiana State University

- Dr. Friedland has done extensive research on wind and flood construction techniques and would be a valuable resource for potential elevation options available to residents.
- friedland@lsu.edu
- 225-578-1155
- Dr. Monica Farris, Director, UNO-CHART
 - Dr. Farris has worked with communities on a number of nonstructural issues, including the CRS program.
 - [Mateets@uno.edu](mailto:mateets@uno.edu)
- Dr. JoAnne DeRouen, Professor of Sociology, University of Louisiana at Lafayette
 - Dr. DeRouen has worked extensively with the community of Pecan Island through small research grants and student class work. She has an amazing perception of what it takes to work with a close-knit, small community and how to best achieve research and outreach goals, while trying to make a real difference in those communities.
 - derouen@louisiana.edu
 - 337-482-6067
- Roderick Scott, Flood Hazard Mitigation Specialist, L&R Resources
 - Mr. Scott has performed outreach on elevation costs, types, and benefits to a number of communities across the country. He would be a great resource on why types of elevation would work best for different communities/construction techniques.
 - Rockerick.scott75@aol.com
 - 985-273-9590

Appendix A: Status of Parish-Level Planning

Assumption Parish:

Assumption Parish began creating a Comprehensive Master Plan in 2006 and adopted the final version in 2008. The plan was modeled after the Louisiana Speaks Regional Plan from 2007 with a “broad general structure” containing plans for land use, economic development, natural hazards, housing, transportation, urban design, critical and sensitive areas and infrastructure.⁵⁰ While the plan states the parish does not anticipate any substantial population growth in the coming decades, the plan does have a land use component that used focus groups to voice concerns for the future. The plan states that the groups stressed “bunk house” temporary housing for immigrant workers and protection for existing land uses in the parish. The plan has a two-part structure, the first identifying existing land uses and the second defining future land uses and putting forth a general conception of appropriate location.⁵¹ The plan promotes some mixed-use development in already developed areas of the parish. However, this was included within a general priority to “protect existing residential land uses.” While the land use plan does acknowledge the physical development limitations of the parish’s geography, it does not mention concerns from sea level rise/natural disasters; instead, it takes an almost totally economically driven focus (for instance, the plan wishes to “encourage infill development within existing communities allowing for the broadest possible range of housing choices...”).

Calcasieu Parish:

Calcasieu Parish adopted a Comprehensive Master Plan in 2006 that provided a blueprint for future development focused on identifying hurricane safe areas for development and setting safe building standards and codes. In 2009, Calcasieu Parish completed a Comprehensive Drainage Plan for its major watersheds. The plan includes computer hydrology models to help guide future development away from flood prone areas. The plan is intended to protect and improve the parish’s drainage infrastructure in an effort to protect human life and private property. The Drainage Plan sets out specific development areas in nine watershed districts. Calcasieu also has a “Unified Development Code” that was updated in 2011 (Chapter 26 of the Code of Ordinances of Calcasieu Parish) intended to achieve the goals set forth in its 2006 Comprehensive Plan.⁵²

⁵⁰ Assumption Parish Police Jury, Assumption Parish Comprehensive Plan 2008, at p. 1, available at: <http://www.scpdc.org/wp-content/uploads/FINAL%20Assumption%20Comprehensive%20Plan.pdf>

⁵¹ *Id.* at 14

⁵² Calcasieu Parish Police Jury, *Unified Development Code*, Public Review Draft, March 7, 2011, p. 1, available at: <http://cppj.net/Modules/ShowDocument.aspx?documentid=1706>

Cameron Parish:

Cameron Parish does not have a comprehensive plan. However, it does have an Office of Planning and Development that is assigned “all necessary due diligence in physical development and post storm disaster recovery.”⁵³ Further, in 2011, the parish released a Redevelopment Plan funded by Cheniere Energy (who is building an LNG plant in the parish). The plan involves a three phase listing of projects to “ensure long term sustainability and quality communities” in the parish considering a comprehensive planning process.⁵⁴

Iberia Parish:

Iberia Parish issued a 20-year Master Plan in 2000; however, it was intended as an economic and infrastructure development plan that did not incorporate a specific land use planning or resiliency component.

Jefferson Parish:

In 2006, Jefferson Parish commissioned the University of Washington to update its “Envision Jefferson 2020 Plan.” The update was to incorporate mixed-use and smart growth alternatives into its land use planning for the West Bank of the Mississippi River in particular since the majority of undeveloped land is there. The plan identifies many specific goals for the parish and frames them with a “smart growth” mentality, mainly through mixed-use development. The plan also has a somewhat extensive “Hazard” section that considers ways to implement things like the mixed-use developments in a way that keeps the natural hazards of the area in mind.

Lafourche Parish:

Lafourche Parish Council adopted a Comprehensive Resiliency Plan on April 8, 2014. The parish intends for this plan to guide “economic development, transportation and land use investments in the parish for the next 20 years, as well as work to strengthen our resiliency to natural disasters.” The plan covers, among other things,

⁵³ Cameron Parish Police Jury, Office of Planning and Development, synopsis on parish website, available at: <http://www.parityofcameron.net/planning-development>

⁵⁴ Cameron Parish Police Jury, Overall Program Design: *Planning and Development, 2011 Position Statement*, available at: <http://www.parityofcameron.net/Images/Interior/planning%20docs/2011%20overall%20program%20design%20report%20planning%20&%20development.pdf>

land use, resiliency and hazard mitigation, culture and recreation, housing planning, infrastructure, and economic development.⁵⁵

Livingston Parish:

Livingston Parish had a Draft Plan that was to be voted on during the Council's September 25, 2014, meeting, but we are unable to locate the plan. On Wednesday, October 15, we called the Livingston Parish Planning Department, and the Department was unable to open or print a copy of their draft plan. Also, the Department member helping us was unable to view the Draft Plan from her computer. Phone number: 225-686-3062

Orleans Parish:

In 2012, New Orleans adopted an amended Comprehensive Master Plan to set the city's goals for the 21st Century.⁵⁶ The plan opts for the creation of a comprehensive land use plan that "enhances the quality and character of every neighborhood and district while fostering the core qualities of sustainability and public health and invites innovative development in areas that need to change. It also sets forth a "state of the art Comprehensive Zoning Ordinance." The plan adopts an ambitious resiliency based strategy for the city to eventually adopt building practices to a 1 in 500 year flood resiliency standard. Finally, the plan institutes a "force of law" to ensure that all land use actions must be consistent with, or not interfere with, the Land Use Plan included in the Master Plan. This includes all city funded capital improvements and in the comprehensive zoning ordinance.

Plaquemines Parish:

Plaquemines Parish began creating a new master comprehensive plan in 2010 (the previous plan was 30 years old) and adopted in 2013. The plan included a new land use plan outlining the framework for revisions to the parish's zoning and subdivision regulations and to inform future parish council zoning decisions, conditional use permits, and development applications.⁵⁷ The zoning recommendations suggest that the floodplain district be revised to be a "more

⁵⁵ Lafourche Parish Government, Planning Department, *Comprehensive Resiliency Plan*, available at: <http://www.lafourchegov.org/government/departments/planning/comprehensive-resiliency-plan>.

⁵⁶ New Orleans City Government, City Planning Commission, *Plan for the 21st Century*, 2012, available at: <http://www.nola.gov/city-planning/master-plan/>

⁵⁷ Plaquemines Parish Government, *Comprehensive Master Plan, Future Land Use Plan*, February 28, 2012, available at:

[http://www.jacobspinning.us/plaq/Documents/2012-02-28 I Future Land Use Plan 20120228.pdf](http://www.jacobspinning.us/plaq/Documents/2012-02-28%20I%20Future%20Land%20Use%20Plan%2020120228.pdf)

inclusive conservation district” with expanded regulations on development types to ensure compatibility with the parish’s conservation goals.⁵⁸ The plan further calls for the adoption of a flood hazard management ordinance. It also provides specific zoning recommendations for certain developments the parish wishes to pursue. The plan does include most of the chapters suggested in the 2007 paper.

St. Bernard Parish:

On August 4, 2014, St. Bernard Parish Planning Commission adopted the parish’s Comprehensive Plan. The plan is available on the parish’s planning website, at the St. Bernard Parish Government Building, and the St. Bernard Parish Public Library. The web version of the plan is broken into several sections, including stormwater management, land use, housing, transportation, cultural, natural resources and transportation, community appearance, parks and recreation, infrastructure, and economic development.⁵⁹ The plan explains that residential building can be done in the floodplain as long as the homes are elevated. Additionally, the plan suggests utilizing the floodplain for public uses including recreation.

St. Charles Parish:

St. Charles Parish adopted a new Master Comprehensive Plan in 2011 (the previous plan was over 15 years old). The new plan sets forth updated zoning projections and recommendations and specific development plans similar to the Plaquemine plan. The plan is short on specifics about flood prevention in planning, however, and is more centered on economic development. Regardless, the plan contains most of the suggested chapters outlined in the 2007 on p. 28.

St. James Parish:

St. James Parish’s website provides a copy of the most current Comprehensive Plan for the parish. The St. James Parish Planning Commission adopted this plan on March 5, 2014 to be utilized through 2031. The plan addresses human services, housing elements, economic development, infrastructure, and land use. The plan’s Introduction explains, “the St. James Parish Comprehensive Plan 2031 is a 20-year plan designed to articulate a vision of future growth within the Parish in a manner that will sustain the values of its citizens. The comprehensive plan makes basic strategic choices and provides a flexible framework for adapting to real conditions over time.”⁶⁰ The land use section of the plan discusses conflicts between residential

⁵⁸ *Id.* at 7.

⁵⁹ Planning Commission, St. Bernard Parish, St. Bernard Parish Comprehensive Plan, available at: <http://www.stbernardparishcompplan.com/news/final-comp-plan/>.

⁶⁰ St. James Parish Planning Commission, St. James Parish Comprehensive Plan, available at: <http://www.stjamesla.com/planning>.

and industrial interests, as well as goals for developing the parish's land. However, this section does not address development in low-lying areas.

St. John the Baptist Parish:

St. John the Baptist Parish adopted a Land Use Plan in 2005.⁶¹ The plan breaks down the existing land use patterns in the parish and identifies current area uses and undeveloped areas. The plan then sets out future population projections and asserts that future development must be compatible with available infrastructure; protect the natural environment and rural landscape; designed to minimize negative impacts on the quality of the natural environment; discourage growth in environmentally sensitive and environmentally significant areas of the parish; protect and preserve rural areas from incompatible urban development; promote intergovernmental cooperation; and begin development of the parish's Comprehensive Plan. The plan sets forth very specific and environmentally focused land use planning initiatives for residential and industrial developments, requiring such developments to be compatible with the natural environment – mainly by banning development in flood prone areas.

St. Martin Parish:

It does not appear that St. Martin Parish has a comprehensive plan at this time. However, the City of Breaux Bridge does have comprehensive master plan that sets forth a 20-year policy planning framework for the city's physical development.⁶² The plan directs future planning to "meet community desires while conserving natural resources (e.g. bayous and wetlands) and protecting rural areas on the city's periphery." The plan highly recommends protection of Bayou Teche, which bisects the city, due to its environmental significance and recreational value.

St. Mary Parish:

St. Mary Parish first issued a comprehensive plan in 2002 that closely followed the Louisiana Speaks Long-Term Community Recovery Plan for its land use and economic plan.⁶³ The plan implemented a parish-wide zoning ordinance for the first

⁶¹ St. John the Baptist Parish Government, *St. John Land Use Plan*, 2005, available at: http://www.sjbparish.com/pdfs/landuse/St_John_Parish_Land_Use_Plan.pdf

⁶² Breaux Bridge City Government, *Breaux Bridge Comprehensive Study*, Land Use and Character, October 18, 2012, available at: <http://gov.breauxbridgelive.com/images/compstudy/Ch4-Land-Use-and-Character-10-08-12.pdf>

⁶³ We were unable to obtain a copy of the plan, but the Louisiana Speaks website gave a short breakdown – Louisiana Speaks, Parish Plans – Current Planning Efforts, available at: http://www.louisianaspeaks-parishplans.org/IndParishHomepage_BaselinePlanningEvents.cfm?EntID=15

time and established a planning and zoning office. The parish's new Unified Development Code recognizes the parish's vulnerability to climate change and integrated ordinances into the code intended to mitigate flood hazards and design standards that promote appropriate density in specific locations. The regulations are intended to protect the environment and private property by requiring: structures to be built at or above the most recent BFE; non-residential structures be built at or above BFE or if not they need be water tight, with the plan providing opening specifications for waterproofed structures; manufactured homes elevated and anchored to resist flotation/collapse/lateral movement; new BFE data required for new subdivision proposals; prohibiting the use of fill in the floodplain; and prohibiting man-made alteration of sand dunes and mangrove stands in the floodplain.⁶⁴

St. Tammany Parish:

St. Tammany Parish's plan, New Directions 2025 (ND 2025), was completed and adopted in 2003. Updates to ND 2025 have been made and are readily available on the parish's website. ND 2025 acknowledges that much of St. Tammany is subject to storm water or flooding, and that these areas are heavily populated and developed. ND 2025 states that "any development within the 100-year floodplain (as currently defined by [FEMA]...), or within areas of flat topography and "very wet" (hydric) soils, shall be required to use low impact development—site and structure design and construction—techniques." The plan also suggests that the parish have a comprehensive and effective drainage plan and that the parish attempt to monitor and preserve natural drainage channels as much as possible. Finally, ND 2025 states that "flood protection strategies should be developed and implemented prior to the permitting of new development, since this approach is less costly than remedial responses."⁶⁵

Tangipahoa Parish:

Tangipahoa Parish's Comprehensive Plan was adopted on June 8, 2008, and amended on July 8, 2008. The plan addresses flood protection, and acknowledges that the general approach to preventing flood damage is to avoid building in the floodplain, or if construction is done in the floodplain, to ensure that structures are

⁶⁴ Louisiana Resiliency Assistance Program, Office of Community Development, Louisiana State University Coastal Sustainability Studio Initiative, January 2014, available at: <http://resiliency.lsu.edu/planning/st-mary-parish-unified-development-code/>

⁶⁵ St. Tammany Parish, New Directions 2025, ND 2025 Future Land Use Plan—Supporting Policy & Statement of Fundamental Principles, available at: <http://www.stpgov.org/new-directions-2025>.

elevated above base flood elevation.⁶⁶ The plan also recommends that the parish strengthen its current flood hazard reduction regulations to better prepare the parish for future sea-level rise.

Terrebonne Parish:

In 2013, Terrebonne Parish adopted a “Vision 2030 Comprehensive Master Plan.”⁶⁷ The plan states that it is the third update to the parish’s master plan and was provided primarily in response to the hurricanes of 2005 and 2008. In its introduction, the plan states “development in the low lying areas should not be prohibited, but should take place in accordance with best practices for coastal living.”⁶⁸ While the new plan refers to the “Terrebonne Parish Planning and Zoning Department,” it does not appear that the parish plans on utilizing zoning in the traditional sense. Rather, the plan projects anticipated land use needs and estimates how much land will be needed and where different developments should be placed on a case-by-case basis. This seems to be due to the fact that there is not much developable land left in the parish – it has been historically restricted to bayou ridges, which the parish anticipates to continue.⁶⁹

Vermilion Parish:

Vermilion Parish has a Comprehensive Resiliency Plan. The plan acknowledges that certain land use recommendations should encourage building more hazard resilient structures, for instance, elevating or flood-proofing houses. Overall, however, the plan is more “goal-oriented,” as it looks at certain hazards that affect the parish and lays out particular goals to try to mitigate effects of hazards in the parish.⁷⁰

⁶⁶ Tangipahoa Parish, Comprehensive Plan at Chapter 7, page 15, available at, <http://www.tangipahoa.org/Data/Sites/8/PlanningPDF/Plan-Final%20Adopted%20Copy.pdf>.

⁶⁷ Houma-Terrebonne Regional Planning Commission, *Terrebonne Parish Comprehensive Plan Update*, November 29, 2012, available at: <http://www.tpcg.org/files/vision2030/final/TP%20Comp%20Plan%20Update%20-%20Complete%20Document.pdf>

⁶⁸ *Id.* at 1-5

⁶⁹ *Id.* at 3-4

⁷⁰ Vermilion Parish, Comprehensive Resiliency Plan, available at http://vermilionparishpolicejury.com/ABOUT_resiliencyplan112011.html.

Appendix B: Additional Information on the Uniform Relocation Act

Specifically, the regulations bar URA recovery under Subpart B if an “owner-occupant...*voluntarily* conveys his or her property.”⁷¹ The regulations describe four conditions that will make an acquisition a “voluntary” conveyance and therefore ineligible for URA benefits: (1) “no specific site or property *needs* to be acquired;” (2) the property in question is not a part of an “intended, planned, or designated project area;” (3) the property will not be acquired if the owner-occupant and the acquiring agency fail to reach a mutually satisfactory agreement and; (4) the Agency informs the owner in writing of what it believes is the fair market value of the property.⁷² Importantly, the regulations also declare that URA benefits will not be attainable if the acquiring agency is not vested with the authority to exercise eminent domain.⁷³

While the language of these requirements is unequivocal, the Department of Housing and Urban Development (“HUD” – which funds many URA benefits) has in the past waived the eminent domain requirement – with the “Road Home” Program after Hurricane Katrina for example.⁷⁴ The administrators of the Road Home program expressly did not have eminent domain authority, however at the state’s urging, HUD waived the requirement to ease the implementation of the program.

Subparts D and E of the URA are triggered if the property owner is considered to be a “displaced person.” Subpart D specifically provides displaced homeowners compensation for actual moving expenses, mortgage, closing costs, security deposits and living expenses.⁷⁵ Subpart E provides that an owner-occupant displaced by a qualified state agency may receive a payment of up to \$22,500.00 to acquire “functionally equivalent” replacement housing.⁷⁶

⁷¹ Id., §24.2(g)(2)(viii)

⁷² 49 C.F.R. 24.101(a)(1)

⁷³ Id., §24.101(a)(2)(i) “Subpart B benefits will not be extended under this provision so long as the acquiring agency “clearly advises the owner that it is unable to acquire the property through eminent domain proceedings should the parties fail to come to an agreement.”

⁷⁴ 73 *Fed. Reg.* at 611152. Specifically, HUD stated that it waived the acquisition requirements of the URA and implementing regulations, so that they would not apply to an “arm's length voluntary purchase carried out by a person that does not have the power of eminent domain, in connection with the purchase of properties for the projects listed in the [Road Home program].” According to the state, the failure to suspend the requirements would impede disaster recovery. The waiver did not affect any lawful occupants of the affected projects, in terms of relocation assistance and payments, and only waived certain transaction-related requirements vis a vis the project owners. This is available at:

<http://www.gpo.gov/fdsys/pkg/FR-2008-10-15/html/E8-24535.htm>

⁷⁵ 42 U.S.C.A. § 4622(a)(1), 24 C.F.R. § 42.350

⁷⁶ Id., § 4623(a)(1), see also 49 C.F.R. §24.401

The URA statute dictates that a “person” means any individual, partnership, corporation, or association.⁷⁷ Further, a “displaced person” is any person who moves from real property, or moves his personal property from real property in two scenarios. First, the move is a “*direct* result of a written notice of intent to acquire or the acquisition of such real property in whole or in part for a program or project undertaken by a Federal agency or with Federal financial assistance.”⁷⁸ Second, the program will apply when a person is a “residential tenant or conducts a small business or farm operation” and is displaced as a “*direct* result of rehabilitation, demolition, or such other displacing activity under a program or project undertaken by a Federal agency or with Federal financial assistance where the head of the applicable Federal agency determines that the displacement is permanent.”⁷⁹ The URA Amendments of 1987 added the word “direct” to clarify the scope and application of the program.

The 1987 Amendments also added provisions expressly precluding persons the law will *not* consider as “displaced.” First, anyone who unlawfully occupies a property cannot receive benefits. Second, individuals that reside on the property for the purpose of obtaining URA benefits will not receive benefits. Third, short-term renters whose lease expires before the property is needed by the acquiring agency will not receive benefits.⁸⁰ In turn, just about anyone being displaced by a government Agency who does not fit into one of these three conditions would be potentially eligible for some form of URA benefits.

To be considered “displaced,” the URA requires that a person occupy the acquired residence for 180 days prior to acquisition to be eligible for any relocation benefits.⁸¹ Being intended as a “relocation” program, this is a blanket requirement applying to all URA benefits. Thus, it would be difficult to imagine how someone who has a second home, like a fishing camp, in an area subject to sea level rise could recover any URA benefits. However, in the event an area prospectively subject to a state/federal relocation program is destroyed by a hurricane prior to acquisition by the relocation program, this 180-day period can be met. While not codified in the URA or its regulations, courts have recognized “constructive occupancy” in the case of hurricanes displacing persons rather than the federally financed acquisition.⁸²

⁷⁷ Id., § 4601(5)

⁷⁸ Id., § 4601(6)(A)(i)(emphasis added)

⁷⁹ 42 U.S.C.A. § 4601(6)(A)(ii)(emphasis added)

⁸⁰ Id. § 4601(6)(B)

⁸¹ Id. § 4623(a)(1)

⁸² See *Seeherman v. Lynn*, 4040 F. Supp. 1318 (M.D. Pa. 1975) and *Ledesma v. Urban Renewal Agency*, 432 F. Supp. 564 (S.D. Tex. 1977). *Seeherman* was the first case to recognize the doctrine but the court partially attributed it to the Disaster Relief Act of 1970 which mandated relocation benefits not be withheld if the otherwise eligible homeowner was unable to reestablish occupancy due to a “presidentially declared disaster.” *Ledesma* further added that the doctrine was presumed by the URA’s requirement that all residents receive “fair and equitable” treatment.

This doctrine has been found to apply as long as “all owners of property occupied their homes on the day prior” to the natural disaster.⁸³

To recap, an owner/occupant will be considered “displaced” and therefore eligible for URA benefits under Subparts D and E if they occupied the property for at least 180 days prior to being displaced as a direct result of a federally financed relocation program or they occupied the property up the day before a presidentially declared natural disaster forced them to leave and the property was subsequently acquired by a federally financed relocation program.

Putting the benefits of Subparts B, D and E together, it is important to note that the “voluntariness” of a certain transaction applies to Subpart B benefits only. Subparts D and E are triggered only if the homeowner is a “displaced person” under the URA as a “direct result of a federally funded or assisted program” requirement stated above. While these two standards are fairly close in whom they can benefit, they still differ. To fully utilize the provisions of the URA to assist in the relocation of vulnerable coastal communities, Louisiana will have to develop a program that contemplates the “displaced person” standard, yet avoids displacing people “voluntarily.” Looking to the wording of the URA regulations and programs that incorporated the URA in the past will be helpful.

To use the Road Home as an example, people who moved as a direct result of the acquisition of their homes by the Road Home program were considered “displaced persons” for the benefits of Subparts D and E. This was allowed despite the administrating agency for Road Home not having eminent domain authority - only a “buyout only provision.”⁸⁴ However, without the express waiver of the eminent domain requirement by HUD mentioned above, it was arguable whether or not people whose homes were “voluntarily” acquired by Road Home, which would have left them barred from Subpart B benefits.

On the one hand, it has been argued that even without the eminent domain waiver the “use of federal dollars to finance property acquisition” – *not* the eminent domain power – “is the basic determinant for URA applicability.”⁸⁵ The eminent domain power therefore is merely indicative of a URA triggering event, not mandatory. Thus, a potential relocation program might not need to retain eminent domain authority. For instance, it could be argued that while not explicitly vested with eminent domain power, a “buyout only” provision like in the Road Home

⁸³ *Seeherman*, 404 F. Supp at 1320

⁸⁴ The buyout only provision in the Road Home program provided homeowners with a means of selling property to the state so the property owner could move out of certain neighborhoods where too few homeowners were choosing to reinvest. The program also had a provision for homeowners to self-finance the renovation of their homes but considering the low income of many residents, yet high ownership percentages, this “alternative” was largely unrealistic for affected areas.

⁸⁵ *Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs*, 54 Fed. Reg. at 8918. The Federal Register goes on to explain that “any acquisition made under the *threat* of eminent domain is clearly subject to the URA.”

program in reality would be the only rational opinion for displaced homeowners of limited financial means. Therefore, while not a formal exercise of eminent domain by the state, this would amount to a “functional taking” based on the acceptance of the decision-making power of the state by the homeowners requires the state to take responsibility for the predictable and rational decisions made by homeowners directly due to the state program. A more attenuated argument for a sea level rise “taking” without eminent domain would be that as the sea level rises, the land slowly becomes “seashore” and therefore land owned by the state without the state actively taking it. There would be an argument that if a person’s property became permanently inundated by the ocean and therefore owned by the state, the state would need to compensate the owner for this “taking.” While interesting, it would be more desirable for the state to relocate people living on such vulnerable property long before this is an issue.

In turn, it would be wise to for such a program to have eminent domain authority regardless if at all possible. Presumably, the state could have valid eminent domain power in a new relocation program based on the precedent set by cases like *Kelo v. City of New London*, 545 U.S. 469 (2005)⁸⁶ and *Berman v. Parker*, 348 U.S. 26 (1954).⁸⁷ These cases validated the ability of the state to acquire even non-blighted properties on the basis that the state program as a whole benefits the public’s interest in the property. In a prospective relocation program for coastal residents displaced by a state managed coastal restoration project for instance, the state would be relocating a select area of non-blighted properties for the benefit of the public’s interest in rebuilding the coast to better protect the state from hurricanes. Not only would this clearly be an acceptable public purpose, it is presumably transferring ownership of the land to the state - rather than another private entity - making this a stronger case than *Kelo* for example.

To recap, while it may not be absolutely required, a prospective Louisiana coastal relocation program should retain eminent domain authority so it has solid footing for taking advantage of URA Subpart B benefits. Any program could be managed fully by the state, but must use at least some form of federal funding or assistance. Finally, the program must be conscious of how it “displaces” property owners. For the URA to fully apply, it needs to ensure the residents as displaced and forced to relocate as a direct result of the program, but do so “involuntarily.” Thus, the program needs to provide enough incentive for the property owners to assent

⁸⁶ *Kelo* affirmed the authority of New London, Connecticut, to take *non-blighted* private property by eminent domain, and then transfer it for a dollar a year to a private developer solely for the purpose of increasing municipal revenues.

⁸⁷ In *Berman*, the Supreme Court reviewed an effort by the District of Columbia to take and raze blighted structures, in order to eliminate slums in the Southwest Washington area. The Court held that the taken and razed land could be transferred to private redevelopers who would construct condominiums, private office buildings and a shopping center. Further, the Court ultimately ruled against the owners of a *non-blighted* property within the area on the grounds that the project should be judged on its *plans as a whole*, not on a parcel-by-parcel basis.

without much pushback, but at the same time be relocated involuntarily enough to avoid losing some URA benefits. Presumably, this could be done relatively easily if the program used Road Home as a starting point and modified it to better fit the requirements of the URA and catered it to fit the given problem the state is trying to solve.