



WASHINGTON PARISH PARISH HAZARD MITIGATION UPDATE - 2015



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WASHINGTON PARISH HAZARD MITIGATION PLAN UPDATE

Prepared for:

Washington Parish



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March 1, 2016

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ACKNOWLEDGMENTS

This 2015 Washington Parish Hazard Mitigation Plan Update was coordinated by the Washington Parish Hazard Mitigation Plan Update Steering Committee, in collaboration with the participating jurisdictions as well as community stakeholders and the general public. The participating jurisdictions are made up of the following communities:

Washington Parish
 City of Bogalusa
 Town of Franklinton
 Village of Angie
 Village of Varnado

Special thanks is directed to all of those who assisted in contributing feedback and expertise on this document, especially the Washington Parish Office of Homeland Security and Emergency Preparedness. These combined efforts have made this project possible. The Parish Steering Committee consists of the following individuals, who are credited in the creation of this document:

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1 Introduction

Hazard Mitigation is defined as sustained actions taken to reduce or eliminate long-term risk from hazards and their effects. Hazard Mitigation Planning is the process through which natural hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies that would lessen the impacts are determined, prioritized, and implemented.

In that regard, this plan (a) documents the Washington Parish Hazard Mitigation Plan Update (HMPU) process; (b) identifies natural hazards and risks within the parish; and (c) identifies the parish's hazard mitigation strategy to make Washington Parish less vulnerable and more disaster resistant. It also includes mitigation project scoping to further identify scopes of work, estimated costs, and implementation timing requirements of proposed selected mitigation projects. Information in the plan will be used to help guide and coordinate mitigation activities and local policy decisions affecting future land use.

The Washington Parish Hazard Mitigation Plan is a multi-jurisdictional plan that includes the following jurisdictions which participated in the planning process:

- City of Bogalusa
- Town of Franklinton
- Village of Varnado
- Village of Angie

The Federal Emergency Management Agency (FEMA), now under the Department of Homeland Security, has made reducing losses from natural disasters one of its primary goals. The Hazard Mitigation Plan and subsequent implementation of recommended projects, measures, and policies is the primary means to achieving these goals. Mitigation planning and project implementation have become even more significant in a post-Katrina and Rita environment in south Louisiana.

This hazard mitigation plan is a comprehensive plan for disaster resiliency in Washington Parish. The parish is subject to natural hazards that threaten life and health and have caused extensive property damage. To better understand these hazards and their impacts on people and property, and to identify ways to reduce those impacts, the Parish's Office of Homeland Security and Emergency Preparedness undertook this Natural Hazards Mitigation Plan.

"Hazard mitigation" does not mean that all hazards are stopped or prevented. It does not suggest complete elimination of the damage or disruption caused by such incidents. Natural forces are powerful and most natural hazards are well beyond our ability to control. Mitigation does not mean quick fixes. It is a long term approach to reduce hazard vulnerability. As defined by FEMA, "hazard mitigation" means any sustained action taken to reduce or eliminate the long-term risk to life and property from a hazard event.

Why this plan? Every community faces different hazards and every community has different resources and interests to bring to bear on its problems. Because there are many ways to deal with natural hazards and many agencies that can help, there is no one solution or cookbook for managing or mitigating their effects.

Planning is one of the best ways to correct these shortcomings and produce a program of activities that will best mitigate the impact of local hazards and meet other local needs. A well-prepared plan will ensure that all possible activities are reviewed and implemented so that the problem is addressed by the most appropriate and efficient solutions. It can also ensure that activities are coordinated with each other and with

other goals and programs, preventing conflicts and reducing the costs of implementing each individual activity.

Mitigation activities need funding. Under the Disaster Mitigation Act of 2000 (42 USC 5165), a mitigation plan is a requirement for federal mitigation funds. Therefore, a mitigation plan will both guide the best use of mitigation funding and meet the prerequisite for obtaining such funds from FEMA. FEMA also recognizes plans through its Community Rating System (CRS), a program that reduces flood insurance premiums in participating communities. This program is described at the end of this chapter.

This plan identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage caused by natural hazards. It fulfills the federal mitigation planning requirements, qualifies for CRS credit, and provides the parish and its municipalities with a blueprint for reducing the impacts of these natural hazards on people and property.

History

When the Territory of Orleans was divided into parishes, present-day Washington Parish was part of Spanish West Florida. It is located in the part of Louisiana which is referred to as "The Florida Parishes", after the treaty signed by France and England on February 10, 1763. Following the signing, this area was immediately organized as an English colony named "West Florida." Louisiana became a state in 1812, but "West Florida" did not become a part of the state until several months later. Parish government was organized March 6, 1819, when the Parish of St. Tammany was divided by a state legislative act. The act defined the boundaries of the severed area and it also declared the new parish was to be called Washington Parish in honor of the first President of the United States.



Figure 1-1: Location of Washington Parish

The town of Franklinton became the permanent parish seat following an election on July 4, 1826. Bogalusa was founded in 1906; the name "Bogalusa" derived from the creek named "Bogue Lusa", which flows through the city. Bogalusa was incorporated on July 4, 1914 and remains the only city in Washington Parish to this day. When the Great Southern Lumber Company was established in 1906, the local populace embraced this leap into the twentieth century and helped make it the largest sawmill in the world at the time. Local forests were nearly depleted by 1920. The earliest reforestation efforts in the U.S. occurred in Washington Parish. Since then, more than 161,731 acres have been planted to create the largest man-made forest on the North American continent. In addition to the Great Southern Lumber Company Sawmill (1908-1938), Bogalusa is also where the Bogalusa Paper Company (1918-1937), and the New Orleans Great Northern Railroad ventures were undertaken, among others.

Location, Demography and Economy

Location

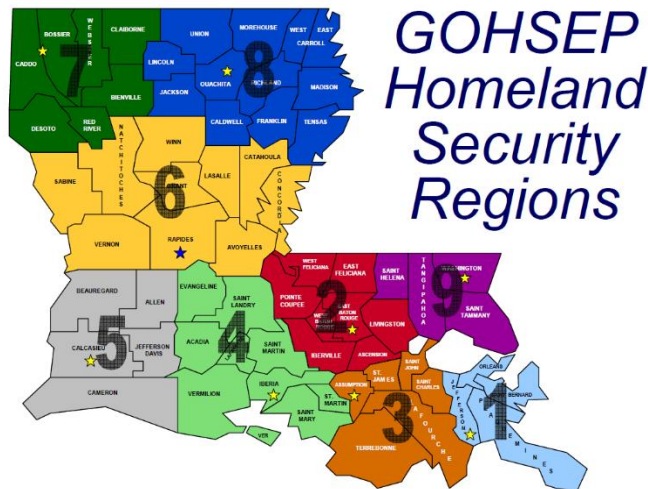


Figure 1-2: Louisiana Homeland Security Regions

Washington Parish is located in Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 9.

As noted above, Washington Parish is located in the eastern region of Louisiana known as the Florida Parishes. Although the parish is "in-land" it is only 78 miles from the Gulf of Mexico. Washington Parish is bordered to the west by Tangipahoa Parish and to the south by St. Tammany Parish. To the north are Pike, Walthall, and Marion Counties across the Mississippi state line, and to the east is Pearl River County, Mississippi.

Washington Parish contains four incorporated communities: the Villages of Angie and Varnado, the Town of Franklinton, and the City of Bogalusa. Franklinton is located in the central part of the parish and is the parish seat. Bogalusa, the industrial heart of the parish, lies on the Pearl River, at the eastern border of the state.

Washington Parish covers an area of 669.6 square miles, or 428,550 acres. The topography is gently rolling with an average elevation of 129 feet above sea level. The Pearl River is the largest river in the parish and forms the eastern border with the State of Mississippi. Several lakes in the parish are oxbows created by the Pearl River. The Bogue Chitto River is a major tributary of the Pearl and flows near Franklinton.

More than 60% of the land covered in the parish is forest land, consisting of pine forests and hardwood timber. A little more than a quarter of the parish is agricultural and croplands, and less than 3% is considered developed or built up as of 1998.

The main transportation routes through Washington Parish are Louisiana State Highways 10, 16, 21, 25, 38, 60, and 430. No interstate highways run through Washington Parish. Franklinton is 25 miles east of I-55 and 41 miles west of I-59. Bogalusa is 46 miles east of I-55 and 20 miles west of I-59. During states of emergency, some of these roadways are significant evacuation routes for Washington Parish.

Washington Parish is also served by the Illinois Central Railroad. The railroad track runs north through Bogalusa, Varnado, and Angie. Rail rates in Louisiana tend to be lower than those in the other states because of competition from barge carriers. Illinois Central Railroad handles a significant volume of containers, trailers of flat cars, and carload traffic between Louisiana and other parts of America.

Bogalusa-Carr Memorial Airport, a 5,000 foot paved, lighted runway, accommodates corporate jets. It is located within the Bogalusa Industrial Park, just north of the city. Franklinton Airport is located approximately three miles southeast of town limits. The runway is 3,000 feet in length with an asphalt surface. It is illuminated for night flying. Automobile rentals are offered by Franklinton auto dealers, however, fueling is not available on the premises.

Demography

The 1990 U.S. Census reported a population of 43,185 people in Washington Parish, a reduction of approximately 1,000 from 1980. The 2000 U.S. Census reported a Washington Parish population of 43,926 people in 19,106 households, a population increase of 1.68%. The 2006 Annual Population Estimate from the U.S. Census Bureau estimates a population of 44,750, a population increase of 1.88%. More recently, the U.S. Census Bureau showed an annual population estimate of 41,168 for 2010 and 46,384 for 2013. They indicate the percent change from 2010-2014 to be a decrease in population by 1.90%.

*Table 1-1: Washington Parish Population
(Source: U.S. Census Bureau)*

	2010 Census	2013 Census	(Current Yr) Estimate	Percent Change 2010 -2014
Total Population	41,168	46,384	46,286	-1.90%
Population Density (Pop/Sq Mi)	70.4	—	—	—
Total Households 2009- 2013: 17,599				

While Washington Parish is faced with a variety of natural hazards and all the problems that accompany growth and decline in growth, it also has the potential to mitigate their adverse effects through current and new programs and projects.

Economy

In the midst of economic growth, Washington Parish has managed to retain its traditional community spirit and easygoing lifestyle. Residents continue to look forward to and participate in Festival in the Park, the Washington Parish Fair, Christmas in the Park, and other events that strengthen the fabric of the community.

The Washington Economic Development Foundation (WEDF) serves Washington Parish to facilitate an intensive program of economic and industrial development in an effort to create new job opportunities for the people of the parish. WEDF was established on May 8, 1981, and is supported by the residents of Washington Parish, Louisiana, through membership subscriptions. WEDF serves as the principal business recruitment and economic development agency for Washington Parish. ¹

¹ Source: Washington Parish Economic Development Foundation

Washington Economic Development Foundation Services:

1. Site location assistance
2. Assistance obtaining incentives, grants and support from local and state sources
3. Partnerships with Greater New Orleans Inc., and Louisiana Economic Development
4. Workforce recruitment
5. Permitting assistance
6. Demographic and labor Information
7. Partnerships with local utility companies

Washington Parish is known for its agriculture, particularly watermelons, as well as its timber and paper industry. Bogalusa is home to the paper mill and other related businesses in the area.

Washington Parish's part in target industry determination remarks on plenty of affordable and available land, labor, and housing, timber and paper production, an excellent quality of life, and recreational and living opportunities.

*Table 1-2: Business Patterns in Washington Parish
(Source: enstats.census.gov)*

Business Description	Number of Employees	Number of Establishments	Payroll (\$1,000)
Retail Trade	1390	142	7,111
Manufacturing	500-999	26	---
Health Care, Social Assistance	2,462	82	18,988
Mining	72	10	712
Transportation / Warehousing	85	21	1,151
Construction	527	43	4,013
Administration, Support, Waste Management, Remediation Services	102	13	876
Real Estate, Rental, Leasing	20-99	13	170
Wholesale Trade	139	20	969
Other Services, Except Public Administration	367	66	1,578
Accommodation, Food Services	806	66	2,398
Financial and Insurance	340	61	2,842
Professional, Scientific, Technical Services	123	42	1,084
Utilities	100-249	6	---
Arts, Entertainment, Recreation	20-99	10	108

In other words, while nature has presented the parish with a variety of hazards, the parish has the human resources that can face those hazards and manage the impact they have on people and property.

This plan will discuss hazards affecting Washington Parish. Hazard Profiles (see Section Two) contain detailed information on the likelihood of occurrence, possible magnitude or intensity, areas of the parish that could be affected, and conditions that could influence the manifestation of the hazard.

Hazard Mitigation

To fully understand hazard mitigation efforts in Washington Parish and throughout Louisiana, it is first crucial to understand how hazard mitigation relates to the broader concept of emergency management. In the early 1980s, the newly-created Federal Emergency Management Agency (FEMA) was charged with developing a structure for how the federal, state, and local governments would respond to disasters. FEMA developed the *Four Phases of Emergency Management*, an approach which can be applied to all disasters. The four phases are as follows:

- **Hazard Mitigation**—described by FEMA and the Disaster Mitigation Act of 2000 (DMA 2000) as “any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event.” The goal of mitigation is to save lives and reduce property damage. Besides significantly aiding in the obviously desirous goal of saving human lives, mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities and minimize community disruption, helping communities return to usual daily living in the aftermath of disaster. Examples of mitigation involve a range of activities and actions including the following: land-use planning, adoption and enforcement of building codes, and construction projects (e.g., flood proofing homes through elevation, or acquisition or relocation away from floodplains).
- **Emergency Preparedness**—includes plans and preparations made to save lives and property and to facilitate response operations before a disaster event.
- **Disaster Response**—includes actions taken to provide emergency assistance, save lives, minimize property damage, and speed recovery immediately following a disaster.
- **Disaster Recovery**—includes actions taken to return to a normal or improved operating condition following a disaster.

Figure 1-3 illustrates the basic relationship between these phases of emergency management. While hazard mitigation may occur both before and after a disaster event, it is significantly more effective when implemented before an event occurs. This is one of the key elements of this plan and its overall strategy: reduce risk before disaster strikes in order to minimize the need for post-disaster response and recovery.

As *Figure 1-3* demonstrates, mitigation relies on updating in the wake of disaster. This can give the appearance that mitigation is only reactive rather than proactive. In reality, however, post-disaster revision is a vital component of improving mitigation. Each hazardous event affords an opportunity to reduce the consequences of future occurrences.



Figure 1-3: The Four Phases of Emergency Management and their Relation to Future Hazard Mitigation
(Source: Louisiana State Hazard Mitigation Plan 2014)

Unfortunately, this cycle can be painful for a community. For instance, the risks of disasters that could create catastrophic incidents in Louisiana were thought to be relatively well-understood prior to 2005. However, the impact of the 2005 hurricane season on the Gulf Coast region of the United States prompted a new level of planning and engagement related to disaster response, recovery, and hazard

mitigation. Hurricanes Katrina and Rita hit three weeks apart and together caused astonishing damage to human life and to property. The two storms highlighted a hurricane season that spawned 28 storms—unparalleled in American history. The 2005 hurricane season confirmed Louisiana’s extreme exposure to natural disasters and both the positive effects and the concerns resulting from engineered flood-protection solutions.

The catastrophic events of 2005 had profound impacts on emergency management and hazard mitigation throughout Louisiana. As detailed later in this document, significant funding has been made available to the State of Louisiana and its parishes for the purpose of hazard mitigation planning. The storms also raised awareness of the importance of hazard mitigation among decision-makers and the general population, which has been particularly important since natural hazards will likely be increasing in frequency, magnitude, and impact in the coming years due to climate change.

General Strategy

During the last update of the Louisiana State Hazard Mitigation Plan, the State Hazard Mitigation Team (SHMT) began a long-term effort to better integrate key components of all plans with hazard mitigation implications in Louisiana to ensure that the programs, policies, recommendations, and implementation strategies are internally consistent. As each of these documents were adopted by various agencies within the state, the SHMT worked to incorporate this information into the decision process.

Part of the ongoing integration process is that GOHSEP encourages the parishes and the local municipalities with independent hazard mitigation plans to utilize the same plan format and methodologies as the State Hazard Mitigation Plan in order to create continuity of information from local to state mitigation plans and programs.

The 2015 Washington Parish Hazard Mitigation Plan maintains much of the information from the 2006 and 2010 plan versions, but it now reflects the order and methodologies of the 2011 Louisiana State Hazard Mitigation Plan. The sections in the 2010 Washington Hazard Mitigation Plan were as follows:

- Section One Introduction
- Section Two Parish Profile
- Section Three Planning Process
- Section Four Risk Assessment
- Section Five Mitigation Strategy
- Section Six Plan Maintenance
- Tables
- Maps
- Figures
- Appendices

This plan update now also coheres with the Plain Writing Act of 2010, which requires federal agencies to use clear communication that is accessible, consistent, understandable, and useful to the public. While the State of Louisiana and its political subdivisions are not required to meet such standards, the Act aligns with best practices in hazard mitigation. Since successful hazard mitigation relies on full implementation and cooperation at all levels of government and community, a successful hazard mitigation plan must also be easily used at all of these levels. Nevertheless, the Washington Parish Hazard Mitigation Steering Committee was not ignorant or dismissive of the successful analysis and mitigation planning executed in previous plan

updates. This plan update remains coherent with those documents, retaining language and content when needed, deleting it when appropriate, and augmenting it when constructive.

2015 Plan Update

This 2015 plan update proceeds with the six previous goals of the Washington Parish hazard mitigation plan. The current goals are as follows:

Goal 1: Identify and pursue preventative measures that will reduce future damages from hazards including the reduction of repetitive flood losses in the parish and municipalities.

Goal 2: Enhance public awareness and understanding of hazard mitigation.

Goal 3: Facilitate sound development in the parish and municipalities so as to reduce or eliminate the potential impact of hazards.

Goal 4: Enhance local capability and improve data collection as relates to hazard mitigation

This plan update makes a number of textual changes throughout. But the most obvious changes are data related and structural. First, the Spatial Hazard Events and Losses Database for the United States (SHELDUS) was used as a data source for hazard identification because it incorporates all storm event data from the National Climatic Data Center (NCDC) Storm Events Database used in previous plans, as well as storm event data from other sources including the NOAA Storm Prediction Center, National Hurricane Center, and U.S. Fire Administration. Furthermore, all of the sections were updated to reflect the most current information and the most current vision of the plan update. Second, instead of eleven, separate sections for numerous tables, maps and appendices, the present plan update has four sections and five appendices. The most significant changes are the newly developed hazard profiles and risk assessments, as well as the removal of much repetition between sections from the previous plan updates. The 2015 plan update is organized generally as follows:

- Section One Introduction
- Section Two Hazard Identification and Parish-wide Risk Assessment
- Section Three Capability Assessment
- Section Four Mitigation Strategies
- Appendix A Planning Process
- Appendix B Plan Maintenance
- Appendix C Mapping Methodology
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

Table 1-3: Plan Crosswalk

2010 Plan	Revised Plan (2015)
Section 1: Introduction	Section 1: Introduction
Section 2: Parish Profile	Section 1: Introduction ; Section 2: Hazard Identification and Parish-Wide Risk Assessment
Section 3: Planning Process	Appendix A: Planning Process
Section 4: Risk Assessment	Section 2: Hazard Identification and Parish-Wide Risk Assessment
Section 5: Mitigation Strategy	Section 4: Mitigation Strategy
Section 6: Plan Maintenance Procedures	Appendix B: Plan Maintenance

Despite changes in this plan update, the plan remains consistent in its emphasis on the few types of hazards that pose the most risk to loss of life, injury, and property in Washington Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, Washington Parish remains at high risk of water inundation from various sources, including flooding, failure of dams/levees and forced drainage systems, tornadoes and tropical cyclone activity. The parish is also at high risk of damages from high winds and wind-borne debris—caused by various meteorological phenomena. Other hazards threaten the parish and/or its municipalities though not to such great degrees and not in such widespread ways. In all cases, the relative social vulnerability of areas threatened and affected plays a significant role in how governmental agencies and their partners (local, parish, state and federal) prepare for and respond to disasters.

Mitigation efforts related to particular hazards are highly individualized by jurisdiction. Flexibility in response and planning is essential. The most important step forward to improve hazard management capability is to improve coordination and information sharing between the various levels of government regarding hazards.

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2 Hazard Identification and Parish-Wide Risk Assessment

This section assesses the various hazard risks that Washington Parish faces, in order to identify a strategy for mitigation. Having identified the categories of hazards, emergencies, disasters, and catastrophes, this section details the major climatological and natural/human-influenced hazards by (1) defining them, (2) explaining how they are measured, (3) describing their geographic extent, (4) surveying their previous occurrences, and (5) evaluating their future likelihood of occurrences.

The table below provided an overview of the hazards that had been previously profiled in the Washington Parish Hazard Mitigation Plan published in 2010, as well as the hazards that were identified in the State's 2014 Hazard Mitigation Plan that were considered to be of high or medium risk for the parish by the state. Those hazards identified as high or medium risk by the state or previously identified as a risk by the parish, have been determined to provide a risk to the parish and will be profiled in this section.

Table 2-1: Hazard Profile Summary

Hazard	Profiled in Last Plan	Considered Medium or High Risk in the State's HM Plan	Profiled in the 2015 Update
Coastal Land Loss/Subsidence			
Drought			
Earthquakes			
Expansive Soils			
Fog			
Flooding	X	X	X
Excessive Heat			
Sinkholes			
Termites			
Thunderstorms (Hail, Lightning & Wind)			
Tornadoes	X	X	X
Tropical Cyclones	X	X	X
Wildfires	X		X
Winter Storms			

Prevalent Hazards to the Community

While many of the hazards identified in [Table 2-1](#) occur in the parish, their occurrence was not merited for further study by the planning committee. The determination was made to focus attention and resources on the most prevalent hazards which include the hazards previously profiled along with sinkholes.

The following hazards have been selected to be included in this risk assessment:

- a) Flooding (backwater, riverine, localized stormwater event)
- b) Tropical Cyclones (flooding and high winds)
- c) Wildfires
- d) Tornadoes

For analysis purposes, the impact of the critical and prevalent hazards is summarized as follows:

- Flooding from rivers and waterways, rain storms, tropical storms, and hurricanes in the following forms:
 - a) Riverine
 - b) Stormwater
 - c) Surge
 - d) Back water flooding (as the result of river flooding and surge)
- High wind damage most commonly resulting from hurricanes, thunderstorms and tornadoes

The potential destructive power of tropical cyclones was determined to be the most prevalent hazard to the parish. Nine of the fourteen Presidential Declarations Washington Parish has received resulted from tropical cyclones which validates this as the most significant hazard. Therefore, the issue of hurricanes will serve as the main focus during the mitigation planning process. Hurricanes present risks from the potential for flooding, primarily resulting from storm surge, and high wind speeds. While storm surge is considered the hazard with the most potential destructive potential, the risk assessment will also assess non-storm surge flooding as well. Since 1972, Washington Parish has received five Presidential Declarations as a result of flooding.

Hurricanes, tropical storms, and heavy storms are fairly common occurrences and resultant wind damage is of utmost concern. Damage from high winds can include roof damage, destruction of homes and commercial buildings, downed trees and power lines, and damage and disruption to services caused by heavy debris. A wind map for Washington Parish is included in the hurricane risk assessment.

Washington Parish is also susceptible to tornadoes which are the most frequent hazard within the parish. Tornadoes can spawn from tropical cyclones or severe weather systems that pass through Washington Parish. High winds produced by tornadoes have the potential to destroy residential and commercial buildings as well as create windborne objects from the debris produced from destroying the natural and human environment such as building materials and trees.

Previous Occurrences

Table 2-2 summarizes federal disaster declarations for Washington Parish since 1965. Information includes names, dates, and types of disasters.

Table 2-2: Washington Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
208	9/10/1965	Tropical Cyclone – Hurricane Betsy
272	8/18/1969	Tropical Cyclone - Camille
374	4/27/1973	Severe Storm, Flood
3031	2/22/1977	Drought, Flood
616	4/9/1980	Severe Storm, Flood
679	4/20/1983	Severe Storm, Flood
956	8/26/1992	Tropical Cyclone – Hurricane Andrew
1246	9/23/1998	Tropical Cyclone – TS Frances and Hurricane Georges
1380	6/11/2001	Tropical Cyclone – Tropical Storm Allison
1437	10/3/2002	Tropical Cyclone – Hurricane Lili
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1786	09/02/2008	Tropical Cyclone - Hurricane Gustav
4015	8/18/2011	Severe Storm, Flood
3347	8/27/2012	Tropical Cyclone – Hurricane Isaac

Probability of Future Hazard Events

The probability of a hazard event occurring in Washington Parish is estimated on the following page. The percent chance of an event happening during any given year was calculated by posting past events and dividing by the time period. Unless otherwise indicated the time period used to access probability followed the method used in the State of Louisiana’s most current Hazard Mitigation Plan. The primary source for historical data used throughout the plan is the Spatial Hazards Events and Losses Database (SHELDUS) which provides historical hazard data from 1960 to 2014. In staying consistent with the state plan, the SHELDUS database was evaluated for the last twenty five years (1989 – 2014) in order to determine future probability of a hazard occurring. While the twenty-five year record used by the state was adopted for the purpose of determining the overall probability, to assist with determining estimated losses, unless otherwise stated the full fifty-four year record was used when HAZUS-HM wasn’t available to determine losses. This full record was used to provide a more extensive record to determine losses. All assessed damages were adjusted to inflation to reflect the equivalent amount of damages with the value of the U.S. dollar today. In addition, the National Climatic Data Center (NCDC) was also used to help identify hazard data specific to the municipalities as it contains specific data for cities, whereas SHELDUS is limited to parishes.

The following table shows the annual probability for each hazard occurring across the parish and in separate jurisdictions.

Table 2-3: Probability of Future Hazard Reoccurrence

Hazard	Probability				
	Washington Parish (Unincorporated)	Angie	Bogalusa	Franklinton	Varnado
Flooding	36%	20%	24%	16%	16%
Tropical Cyclones	40%	40%	40%	40%	40%
Tornadoes	68%	68%	68%	68%	68%
Wildfires	< 1%	< 1%	< 1%	< 1%	< 1%

As shown in

Table 2-3, tornadoes have the highest chance of occurrence in the parish (68%) followed by tropical cyclones (64%). Flooding has an annual chance of occurrence of 36%, but these probability percentages decrease for the incorporated areas of the parish. Bogalusa has the highest annual chance of occurrence for a flooding event at 24%, compared to the other incorporated areas. Angie's annual chance of occurrence for a flooding event was calculated at 20%, and both Franklinton and Varnado have a 16% annual chance. Wildfires have less than a 1% chance of occurring annually.

Inventory of Assets for the Entire Parish

As part of the risk assessment, the planning team identified essential facilities throughout the parish. Several methods were used to assist in identifying all essential facilities including field data collected by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness on critical infrastructure from a previous hazard mitigation project.

Within the entire planning area, there are an estimated value of \$5,727,831,000 in structures throughout the parish. The table below provides the total estimated value for each structure by occupancy.

Table 2-4: Estimated Total of Potential Losses throughout Washington Parish

Occupancy	Washington Parish	Unincorporated Washington	Angie	Bogalusa	Franklinton	Varnado
Agricultural	\$40,604,000	\$37,300,000	\$0	\$1,644,000	\$1,660,000	\$0
Commercial	\$679,122,000	\$197,371,000	\$4,784,000	\$285,652,000	\$187,405,000	\$3,910,000
Government	\$52,159,000	\$17,966,000	\$4,430,000	\$14,915,000	\$10,419,000	\$4,429,000
Industrial	\$187,863,000	\$110,852,000	\$1,456,000	\$52,438,000	\$23,117,000	\$0
Religion	\$237,306,000	\$115,722,000	\$592,000	\$79,412,000	\$32,364,000	\$9,216,000
Residential	\$4,460,217,000	\$2,777,206,000	\$18,263,000	\$1,258,593,000	\$354,362,000	\$51,793,000
Education	\$70,560,000	\$21,824,000	\$1,142,000	\$28,814,000	\$18,624,000	\$156,000
Total	\$5,727,831,000	\$3,278,241,000	\$30,667,000	\$1,721,468,000	\$627,951,000	\$69,504,000

Essential Facilities of the Parish

The following pages contain maps that show the locations and names of the essential facilities within the parish.

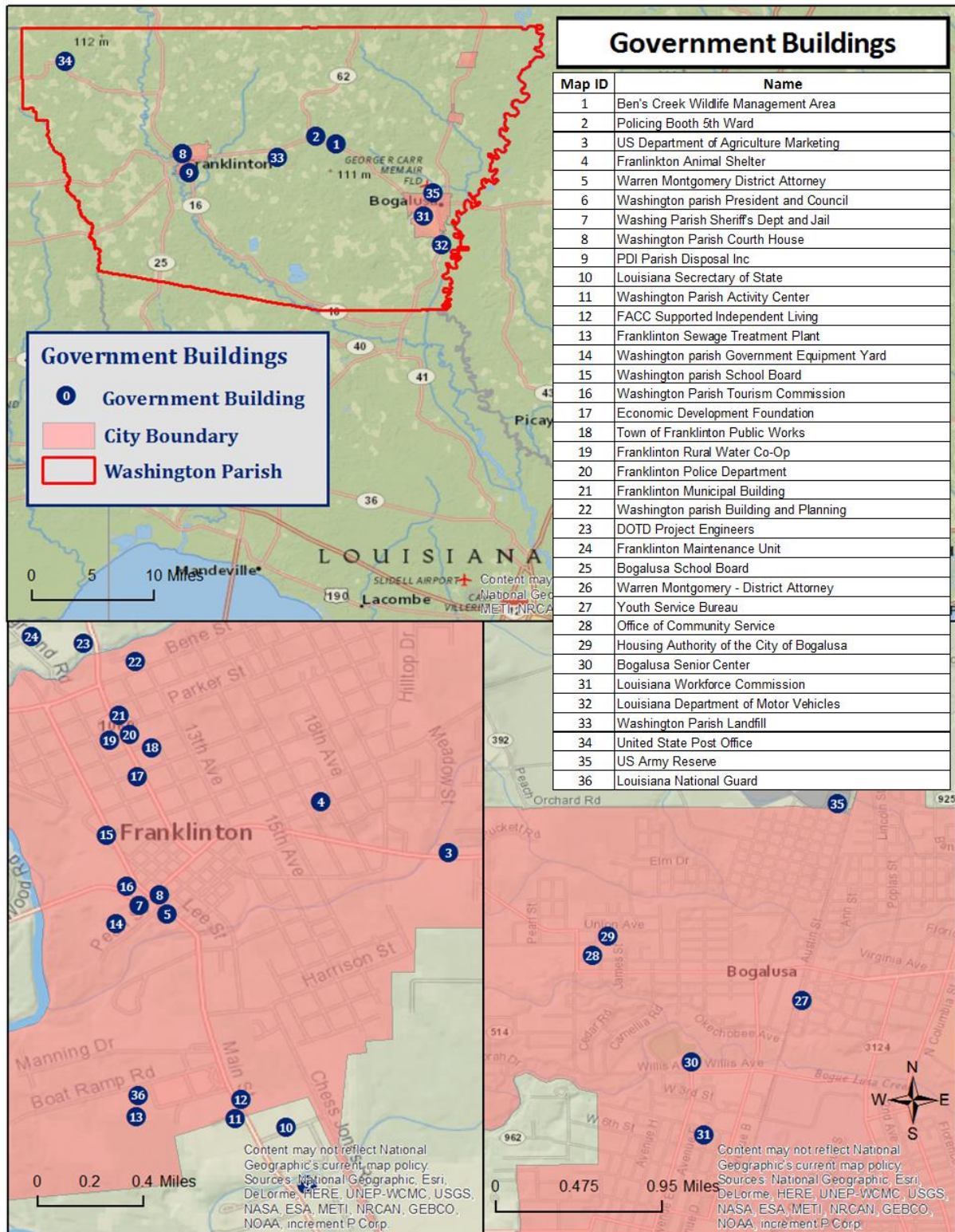


Figure 2-1: Government Buildings throughout Washington Parish

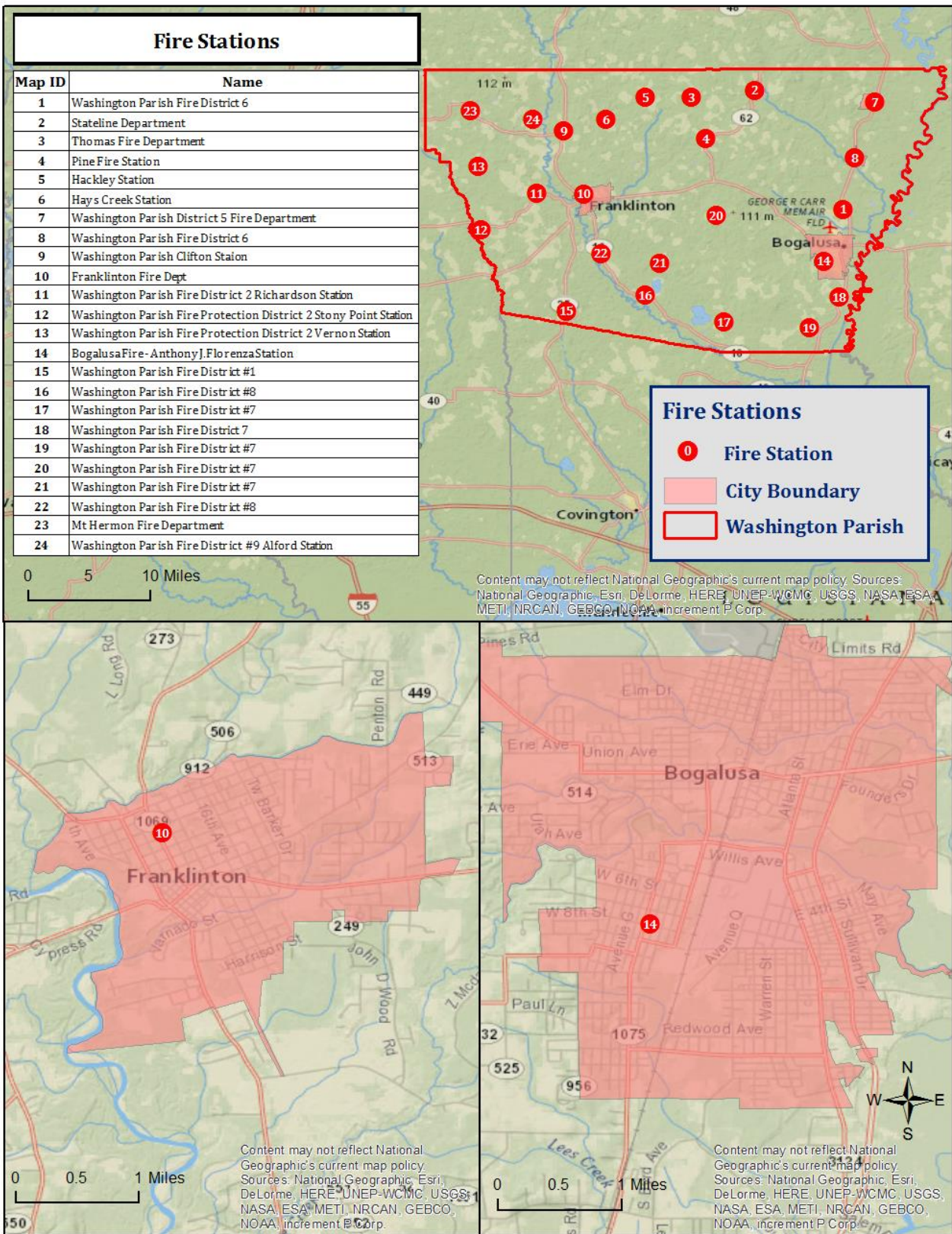


Figure 2-2: Fire Stations throughout Washington Parish

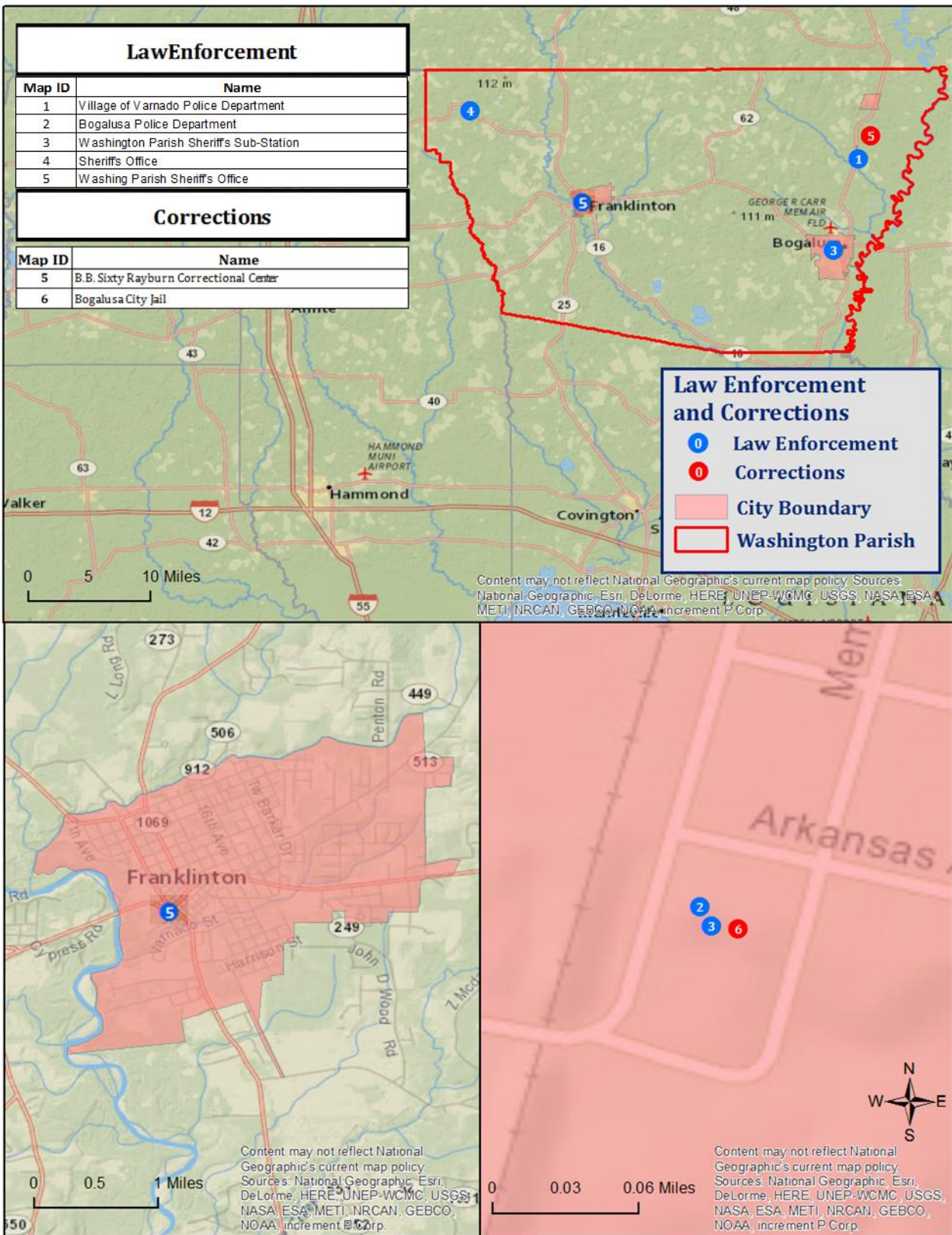


Figure 2-3: Law Enforcement Facilities in Washington Parish

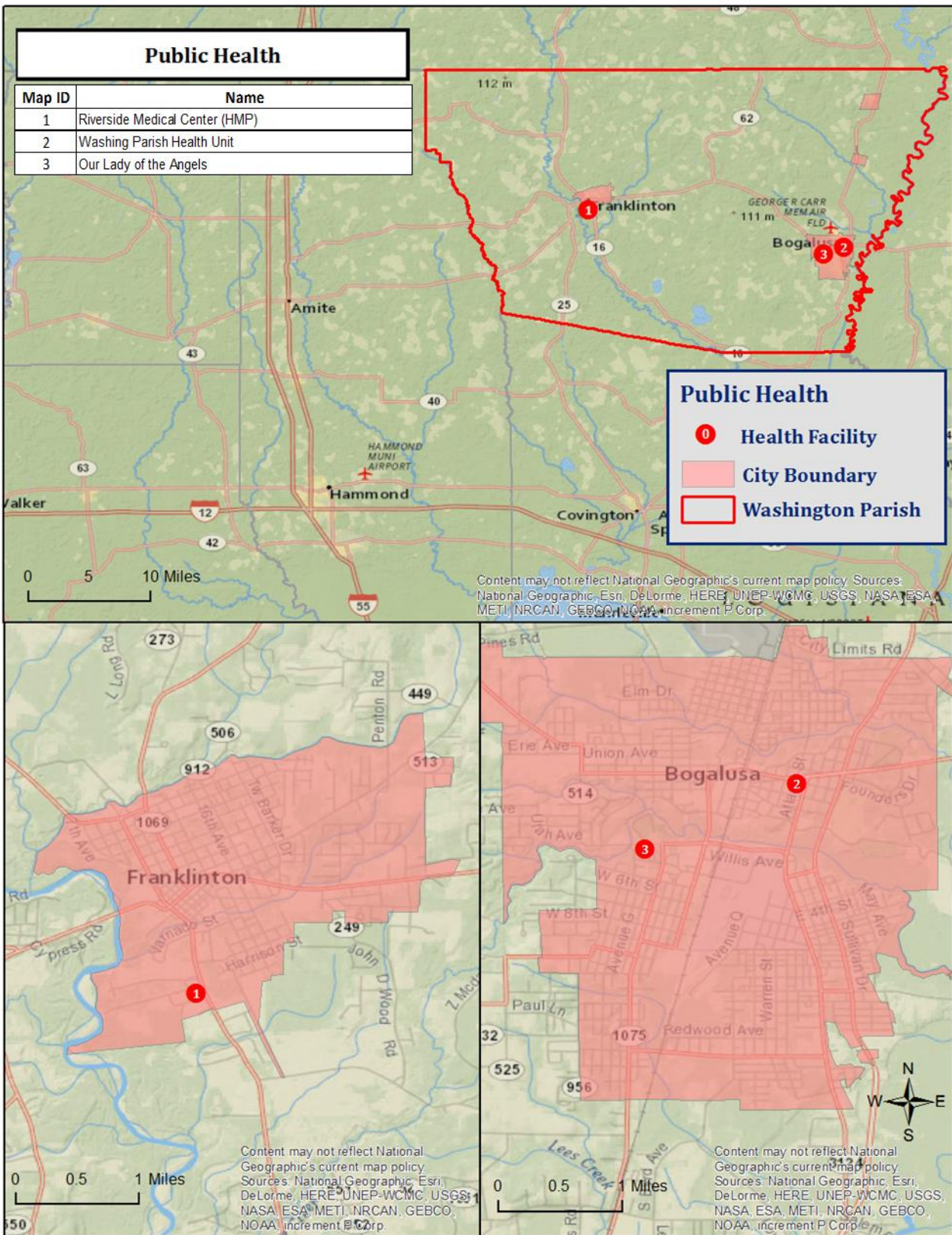


Figure 2-4: Public Health Facilities in Washington Parish

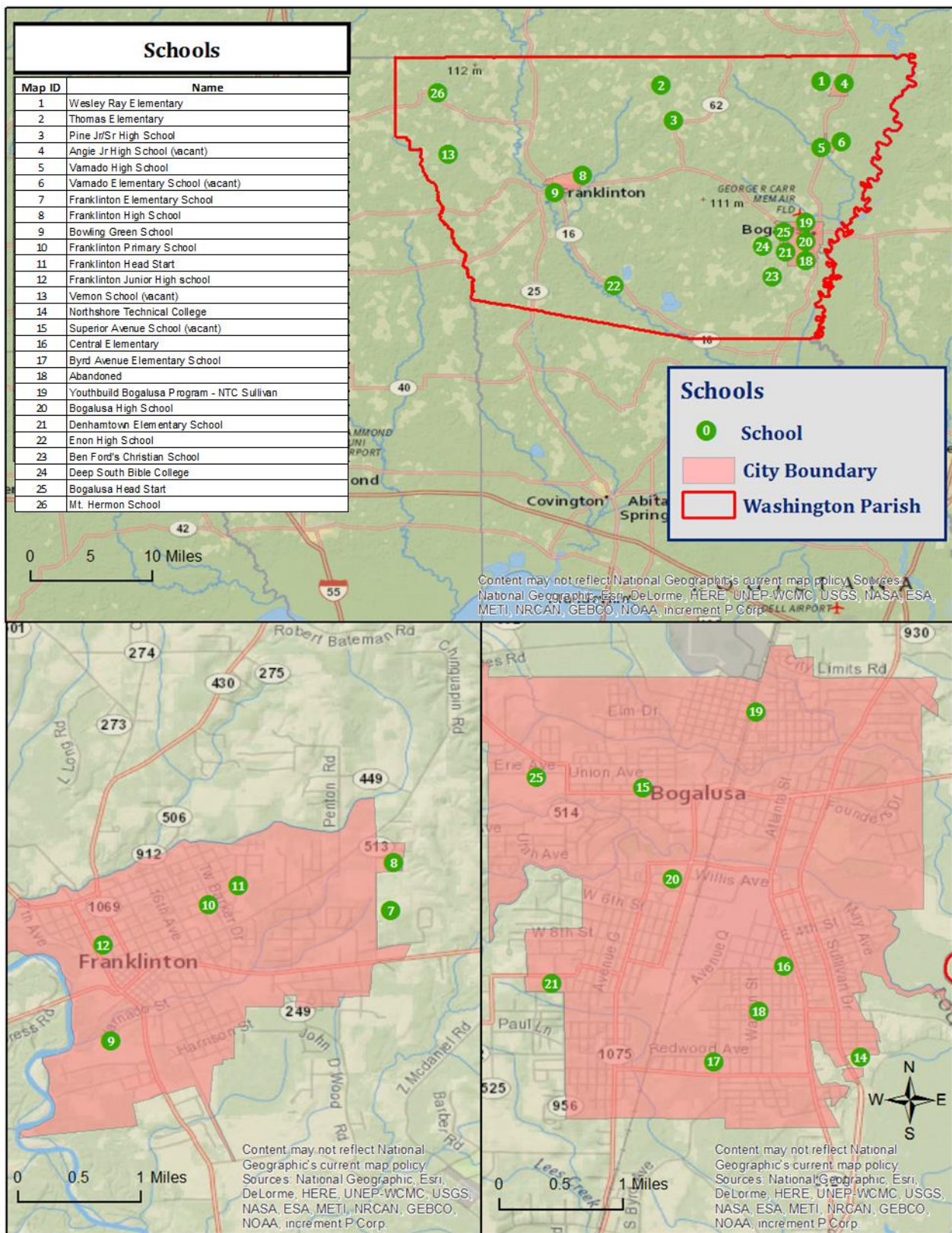


Figure 2-5: Educational Facilities in Washington Parish

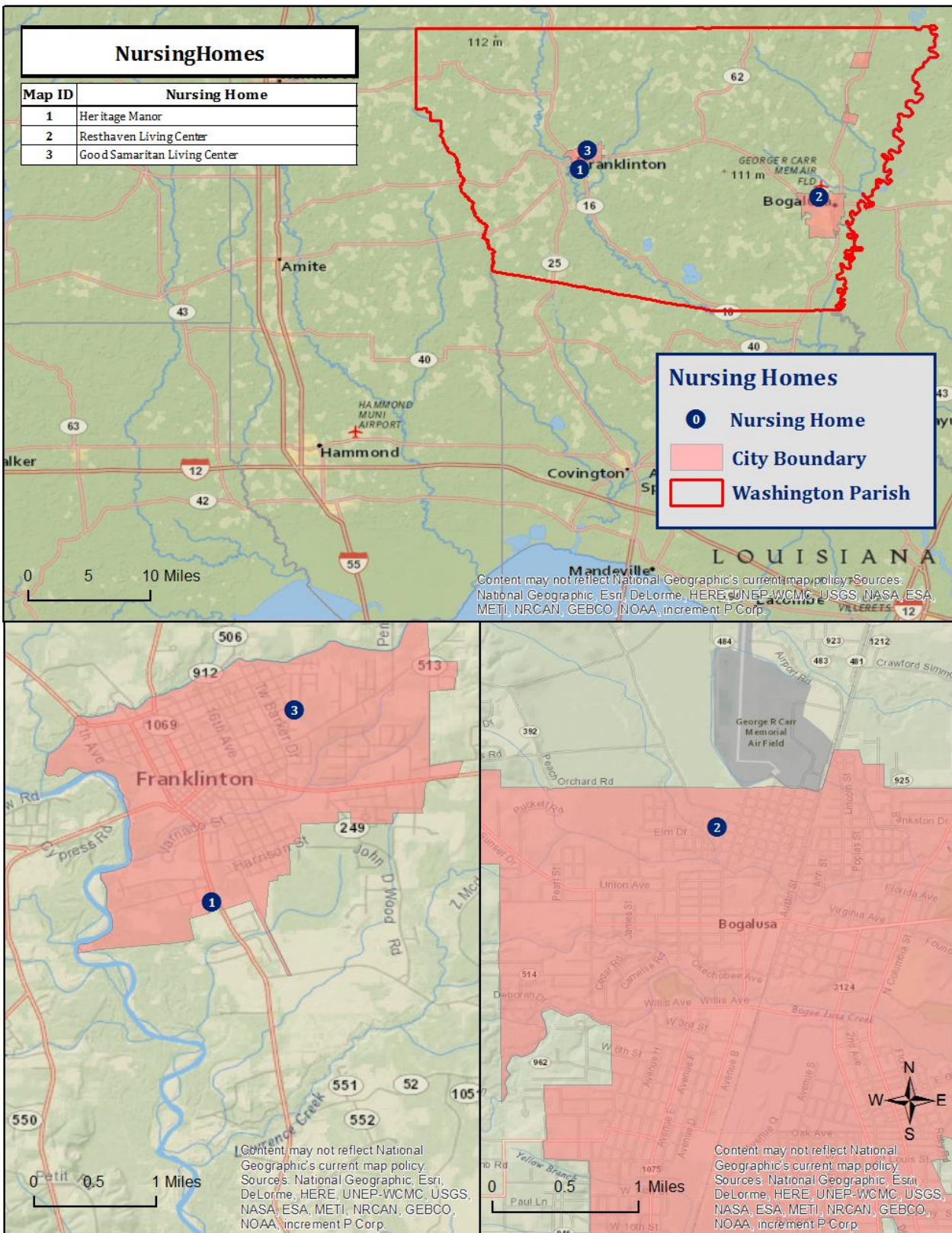


Figure 2-6: Nursing Home Facilities in Washington Parish

Future Development Trends

Washington Parish experienced a small growth in population and housing between the years of 2000 and 2010 growing from a population of 43,926 with 19,106 housing units in 2000 to a population of 47,168 with 21,039 housing units in 2010. This growth was largely in the unincorporated areas of Washington Parish. Growth has slowed significantly since 2010 and almost every jurisdiction in Washington Parish has experienced a decline in population numbers. The exceptions to this are the villages of Angie and Varnado which both experienced a population growth from 2010 to 2013. Angie's population increased from 251 to 371 during this time period and Varnado's population increased from 336 to 379. Angie's housing growth during the same time period has been just as significant increasing from 123 units in 2010 to 153 units in 2013. Bogalusa and Franklinton have both experienced a decrease in population and housing numbers from 2010 to 2013, while Varnado has only experienced a decrease in housing numbers. The future population and number of buildings can be estimated using U.S. Census Bureau housing and population data. The following tables show population and housing unit estimates from 2000 to 2013.

Table 2-5: Population Growth Rate for Washington Parish

Total Population	Washington Parish	Washington Unincorporated	Angie	Bogalusa	Franklinton	Varnado
1-Apr-00	43,926	26,322	240	13,365	3,657	342
1-Apr-10	47,168	30,492	251	12,232	3,857	336
1-Jul-13	46,935	30,160	371	12,186	3,839	379
Population Growth between 2000 – 2010	7.4%	15.8%	4.6%	-8.5%	5.5%	-1.8%
Average Annual Growth Rate between 2000 – 2010	0.7%	1.6%	0.5%	-0.8%	0.5%	-0.2%
Population Growth between 2010 – 2013	-0.5%	-1.1%	47.8%	-0.4%	-0.5%	12.8%
Average Annual Growth Rate between 2010 – 2013	-0.16%	-0.36%	15.94%	-0.13%	-0.16%	4.27%

Table 2-6: Housing Growth Rate for Washington Parish

Total Housing Units	Washington Parish	Washington Unincorporated	Angie	Bogalusa	Franklinton	Varnado
1-Apr-00	19,106	10,993	114	6,300	1,536	163
1-Apr-10	21,039	13,290	123	5,798	1,657	171
1-Jul-13	21,064	13,593	153	5,550	1,601	167
Housing Growth between 2000 – 2010	10.1%	20.9%	7.9%	-8.0%	7.9%	4.9%
Average Annual Growth Rate between 2000 – 2010	1.0%	2.1%	0.8%	-0.8%	0.8%	0.5%
Housing Growth between 2010 – 2013	0.1%	2.3%	24.4%	-4.3%	-3.4%	-2.3%
Average Annual Growth Rate between 2010 – 2013	0.0%	0.8%	8.1%	-1.4%	-1.1%	-0.8%

As shown in [Table 2-5](#) and [Table 2-6](#), Washington Parish population and housing has been fairly stagnant since 2010 and in some areas declining. Population rates grew at 0.7% annually between the years of 2000 – 2010, but declined during the years of 2010 and 2013 at an annual rate of -0.16%. Annual housing rates between 2000 and 2010 were 1%, but they fell to 0% annually for the years of 2010-2013. The village of Angie has experienced the most significant growth of any of the jurisdictional areas in both housing and population growth rates between 2010 and 2013 with annual population growth rates calculated at 15.9% and annual housing growth rates of 8.1%. The village of Varnado has also experienced an increase in population during the same time period with a calculated annual growth rate of 4.3%. With the exception of Varnado and Angie, population numbers have been in a decline since the year 2000. Housing numbers are fairly the same with growth being either in decline or stagnant with the exception of Angie.

Future Hazard Impacts

Hazard impacts were estimated for five and ten years in the future (2019 and 2024). Yearly population and housing growth rates were applied to parish inventory assets for composite flood and tropical cyclones. Based on a review of available information, there is nothing to indicate substantial change in growth rates from the present until 2024. A summary of estimated future impacts is shown in the following table. Dollar values are expressed in future costs and assume an annual rate of inflation of 1.02%.

Table 2-7: Estimated Future Impacts, 2019-2024
(Source: HAZUS, US Census Bureau)

Hazard / Impact	Total in Parish (2014)	Hazard Area (2014)	Hazard Area (2019)	Hazard Area (2024)
Flood Damage				
Structures	21,072	15,277	15,307	15,343
Value of Structures	\$5,788,546,753	\$4,196,475,496	\$4,423,656,947	\$4,712,567,009
# of People	47,170	34,196	35,060	36,125
Tropical Cyclone				
Structures	21,072	21,072	21,114	21,164
Value of Structures	\$5,788,546,753	\$4,978,150,207.36	\$5,247,648,596.45	\$5,590,373,744.78
# of People	47,170	47,170	48,361	49,830

Land Use

The Washington Parish Land Use table is provided below. Residential, commercial and industrial areas account for only 8% of the parish's land use. Forest land at 212,898 acres is by far the largest category accounting for 49% of parish land. The parish also consists of water areas (1%), agricultural land (15%), and wetlands (27%).

Table 2-8: Washington Parish Land Use
(Source: USGS Land Use Map)

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	64,794	15%
Wetlands	115,297	27%
Forest land (not including forested wetlands)	212,898	49%
Urban/Development	34,323	8%
Water	5,146	1%

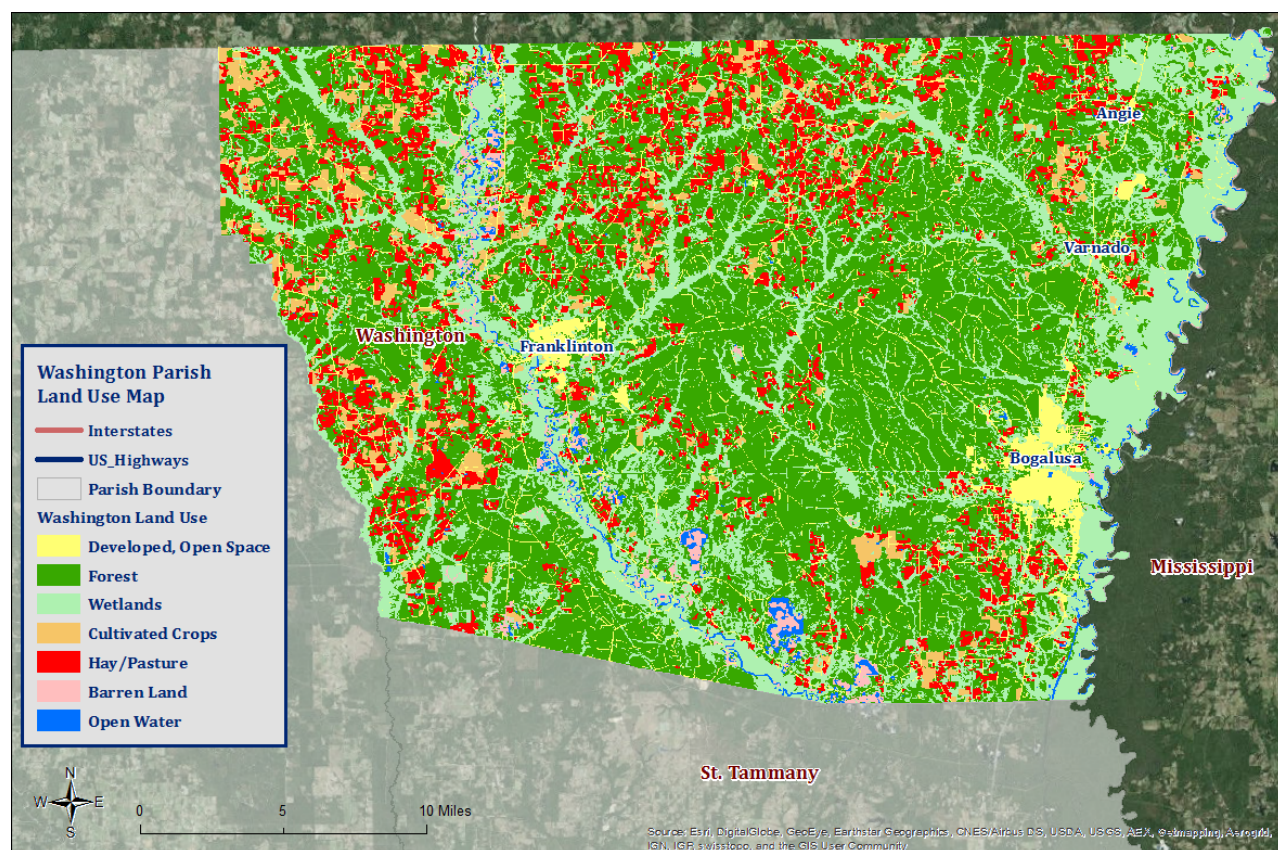


Figure 2-7: Washington Parish Land Use Map
(Source: USGS Land Use Map)

Hazard Identification

Flooding

A flood is the overflow of water onto land that is usually not inundated. The National Flood Insurance Program defines a flood as:

A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waves, unusual and rapid accumulation or runoff of surface waters from any source, mudflow, or collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Factors influencing the type and severity of flooding include natural variables such as precipitation, topography, vegetation, soil texture, and seasonality, as well as anthropogenic factors such as urbanization (extent of impervious surfaces), land use (e.g., agricultural and forestry tend to remove native vegetation and accelerate soil erosion), and the presence of flood-control structures such as levees and dams.

Excess precipitation, produced from thunderstorms or hurricanes, is often the major initiating condition for flooding, and Louisiana can have high rainfall totals at any time of day or year. During the cooler

months, slow-moving frontal weather systems produce heavy rainfalls, while the summer and autumn seasons produce major precipitation in isolated thunderstorm events (often on warm afternoons) that may lead to localized flooding. During these warmer seasons, floods are overwhelmingly of the flash flood variety, as opposed to the slower-developing river floods caused by heavy stream flow during the cooler months.

In cooler months, particularly in the spring, Louisiana is in peak season for severe thunderstorms. The fronts that cause these thunderstorms often stall while passing over the state, occasionally producing rainfall totals exceeding ten inches within a period of a few days. Since soil tends to be nearly saturated at this time (due to relatively low overall evaporation rates), spring typically becomes the period of maximum stream flow across the state. Together, these characteristics increase the potential for high water, and low-lying, poorly drained areas are particularly prone to flooding during these months.

In Louisiana, six specific types of floods are of main concern: riverine, flash, ponding, backwater, urban, and coastal.

- **Riverine flooding** occurs along a river or smaller stream. It is the result of runoff from heavy rainfall or intensive snow or ice melt. The speed with which riverine flood levels rise and fall depends not only on the amount of rainfall, but even more on the capacity of the river itself and the shape and land cover of its drainage basin. The smaller the river, the faster water levels rise and fall. Thus, the Mississippi River levels rise and fall slowly due to its large capacity. Generally, elongated and intensely-developed drainage basins will reach faster peak discharges and faster falls than circular-shaped and forested basins of the same area.
- **Flash flooding** occurs when locally intense precipitation inundates an area in a short amount of time, resulting in local stream flow and drainage capacity being overwhelmed.
- **Ponding** occurs when concave areas (e.g., parking lots, roads, and clay-lined natural low areas) collect water and are unable to drain.
- **Backwater flooding** occurs when water slowly rises from a normally unexpected direction where protection has not been provided. A model example is the flooding that occurred in LaPlace during Hurricane Isaac in 2012. Although the town was protected by a levee on the side facing the Mississippi, floodwaters from Lake Maurepas and Lake Pontchartrain crept into the community on the side of town opposite the Mississippi River.
- **Urban flooding** is similar to flash flooding but is specific to urbanized areas. It takes place when storm water drainage systems cannot keep pace with heavy precipitation, and water accumulates on the surface. Most urban flooding is caused by slow-moving thunderstorms or torrential rainfall.
- **Coastal flooding** can appear similar to any of the other flood types, depending on its cause. It occurs when normally dry coastal land is flooded by seawater, but may be caused by direct inundation (when the sea level exceeds the elevation of the land), overtopping of a natural or artificial barrier, or the breaching of a natural or artificial barrier (i.e., when the barrier is broken down by the sea water). Coastal flooding is typically caused by storm surge, tsunami, and gradual sea level rise.

In Washington Parish, all six types of flooding have historically been observed. For purposes of this assessment, ponding, flash flooding and urban flooding are considered to be flooding as a result of storm water from heavy precipitation thunderstorms

Based on stream gauge levels and precipitation forecasts, the National Weather Service (NWS) posts flood statements watches and warnings. The NWS issues the following weather statements with regard to floods:

- **Flood Categories**
 - Minor Flooding: Minimal or no property damage, but possibly some public threat.
 - Moderate Flooding: Some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations.
 - Major Flooding: Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations.
 - Record Flooding: Flooding which equals or exceeds the highest stage or discharge at a given site during the period of record keeping.
- **Flood Warning**
 - Issued along larger streams when there is a serious threat to life or property.
- **Flood Watch**
 - Issued when current and developing hydro meteorological conditions are such that there is a threat of flooding, but the occurrence is neither certain nor imminent.

Floods are measured mainly by probability of occurrence. A 10-year flood event, for example, is an event of small magnitude (in terms of stream flow or precipitation) but with a relatively high annual probability of recurrence (10%). A 100-year flood event is larger in magnitude, but it has a smaller chance of recurrence (1%). A 500-year flood is significantly larger than both a 100-year event and a 10-year event, but it has a lower probability than both to occur in any given year (0.2%). It is important to understand that an X-year flood event does not mean an event of that magnitude occurs only once in every X years. Instead, it just means that on average, we can expect a flood event of that magnitude to occur once every X years. Given that such statistical probability terms are inherently difficult for the lay population to understand, the Association of State Floodplain Managers (ASFPM) promotes the use of more tangible expressions of flood probability. As such, the ASFPM also expresses the 100-year flood event has having a 25% chance of occurring over the life of a 30-year mortgage.

It is essential to understand that the magnitude of an X-year flood event for a particular area depends on the source of flooding and the area's location. The size of a specific flood event is defined through historic data of precipitation, flow, and discharge rates. Consequently, different 100-year flood events can have very different impacts. The 100-year flood events in two separate locations have the same likelihood to occur, but they do not necessarily have the same magnitude. For example, a 100-year event for the Mississippi River means something completely different in terms of discharge values (ft^3/s) than for the Amite River. Not only are the magnitudes of 100-year events different between rivers, they can be different along any given river. A 100-year event upstream is different from one downstream since river characteristics (volume, discharge, and topography) change. As a result, the definition of what constitutes a 100-year flood event is specific to each location, river, and time, since floodplain and river characteristics change over time. Finally, it is important to note that each flood event is unique. Two hypothetical events at the same location, given the same magnitude of stream flow, may still produce substantially different impacts, if there were different antecedent moisture characteristics, different times of day of occurrence

(which indicates the population's probable activities at the flood's onset), or other characteristic differences.

The 100-year event is of particular significance since it is the regulatory standard that determines the obligation or lack thereof to purchase flood insurance. Flood insurance premiums are set depending on the flood zone as modeled by National Flood Insurance (NFIP) Rate Maps. The NFIP and FEMA suggest insurance rates based on special flood hazard areas (SFHAs), as diagrammed in *Figure 2-8*.

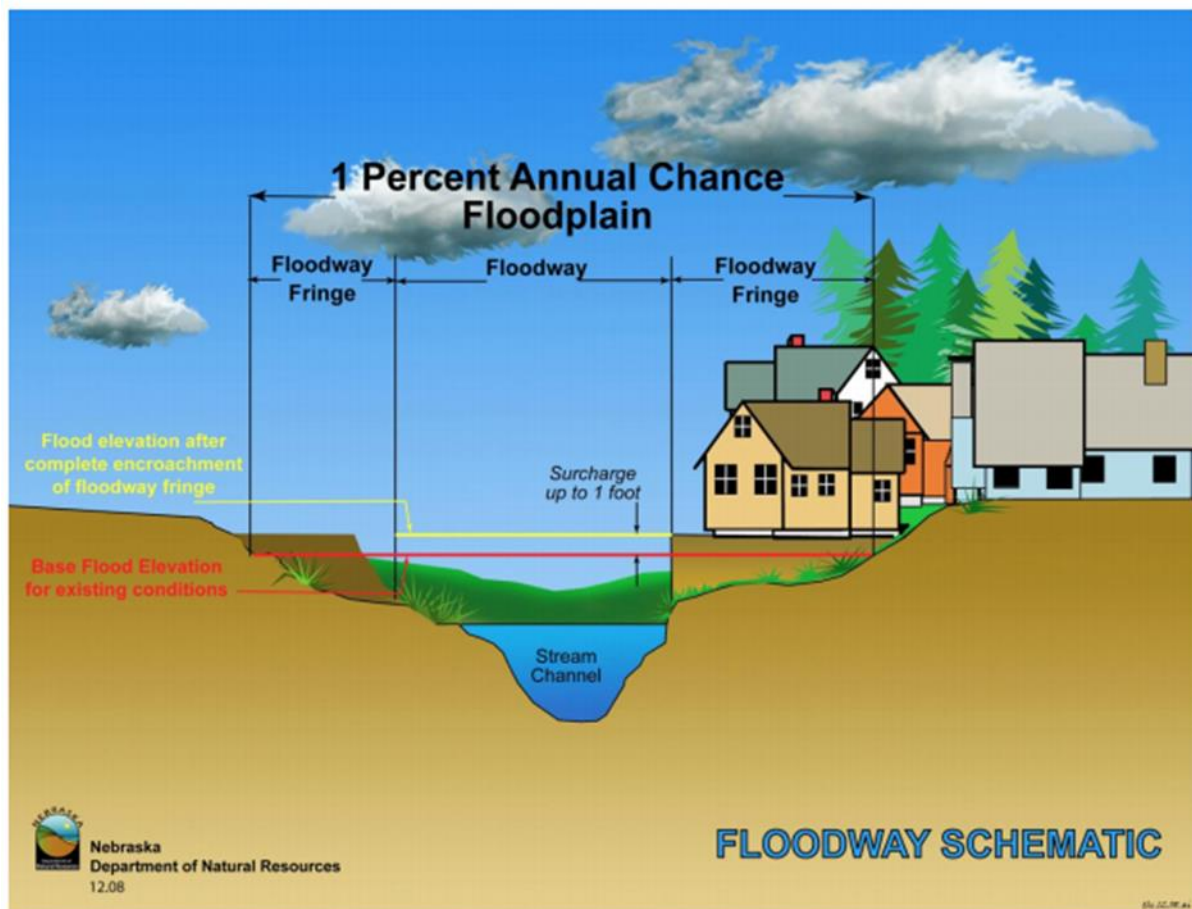


Figure 2-8: Schematic of 100-Year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe.

(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 2-8*), where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

Property Damage

The depth and velocity of flood waters are the major variables in determining property damage. Flood velocity is important because the faster water moves, the more pressure it puts on a structure and the more it will erode stream banks and scour the earth around a building's foundation. In a few situations,

deep and fast moving waters will push a building off its foundation. Structural damage can also be caused by the weight of standing water (hydrostatic pressure).

Another threat to property from a flood is called soaking. When soaked, many materials change their composition or shape. Wet wood will swell, and if dried too quickly, will crack, split, or warp. Plywood can come apart and gypsum wallboard has the potential to fall apart if it is bumped before it has time to completely dry. The longer these materials are saturated, the more moisture, sediment, and pollutants they absorb.

Soaking can also cause extensive damage to household goods. Wooden furniture may become warped, making it unusable while other furnishings such as books, carpeting, mattresses, and upholstery usually are not salvageable. Electrical appliances and gasoline engines will flood, making them worthless until they are professionally dried and cleaned.

Many buildings that have succumbed to flood waters may look sound and unharmed after a flood, but water has the potential to cause severe property damage. Any structure that experiences a flood should be stripped, cleaned and allowed to dry before being reconstructed. This is an extremely expensive and time consuming effort.

Repetitive Loss Properties

Repetitive loss structures are structures covered by a contract for flood insurance made available under the NFIP that:

- a. Have incurred flood-related damage on two occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and
- b. At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Severe repetitive loss (SRL) is defined by the Flood Insurance Reform Act of 2004 and updated in the Biggert-Waters Flood Insurance Reform Act of 2012. For a property to be designated SRL, the following criteria must be met:

- a. Is covered under a contract for flood insurance made available under the NFIP; and
- b. Has incurred flood related damage –
 - 1) For which four or more separate claims payments have been made under flood insurance coverage with the amount of each claim exceeding \$5,000 and with the cumulative amount of such claims payments exceeding \$20,000; or
 - 2) For which at least two separate claims payments have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

Repetitive loss properties for Washington Parish are provided below:

Table 2-9 : Repetitive Loss Structures for Washington Parish

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
Washington Parish (Unincorporated)	29	28	1	0	63	\$887,701	\$14,090
Angie	0	0	0	0	0	\$0	\$0
Bogalusa	12	10	2	0	40	\$590,682	\$14,767
Franklinton	12	12	0	0	49	\$620,931	\$12,672
Varnado	0	0	0	0	0	\$0	\$0
Total	53	50	3	0	152	\$2,099,314	\$13,811

Of the 53 repetitive loss structures, 52 were able to be geocoded to provide an overview of where the repetitive loss structures were located throughout the parish. [Figure 2-9](#) shows the approximate location of the 434 structures, while [Figure 2-10](#) shows where the highest concentration of repetitive loss structures are located. Through the repetitive loss map, it is clear that the primary concentrated area of repetitive loss structures are focused in and around the incorporated areas of Franklinton and Bogalusa.

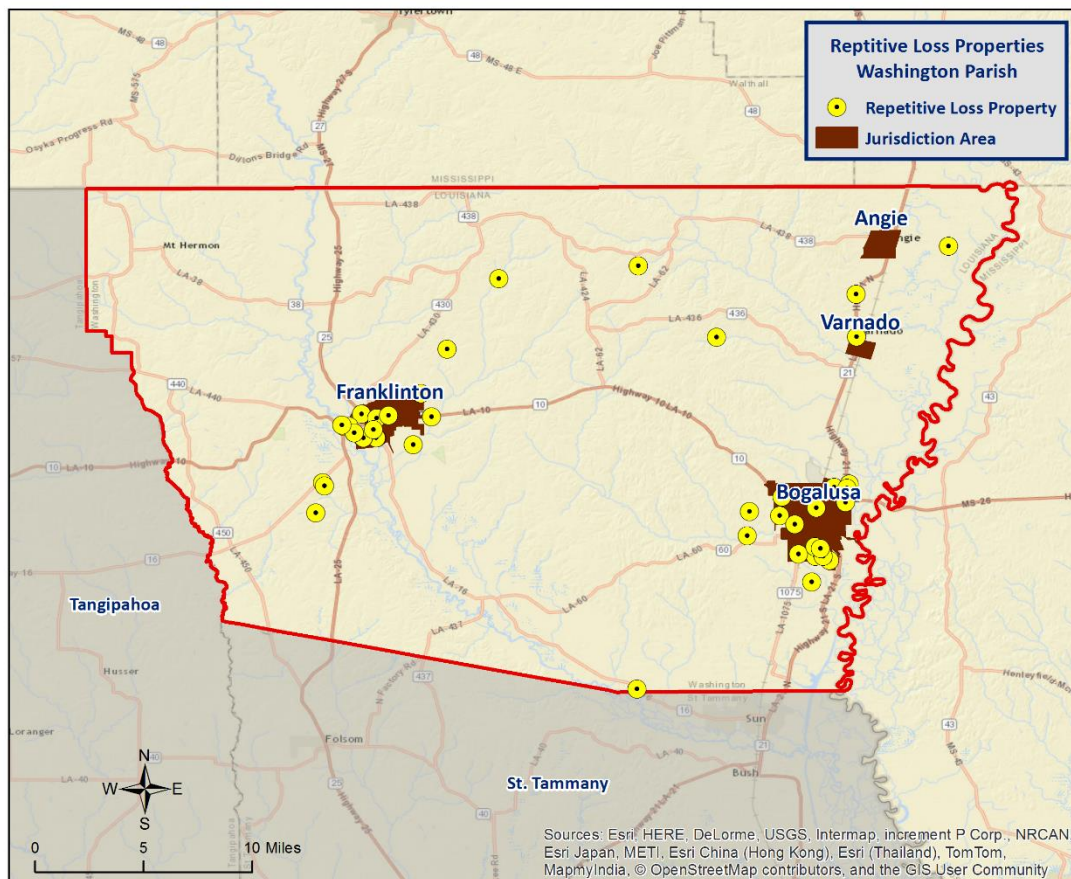


Figure 2-9: Repetitive Loss Properties in Washington Parish

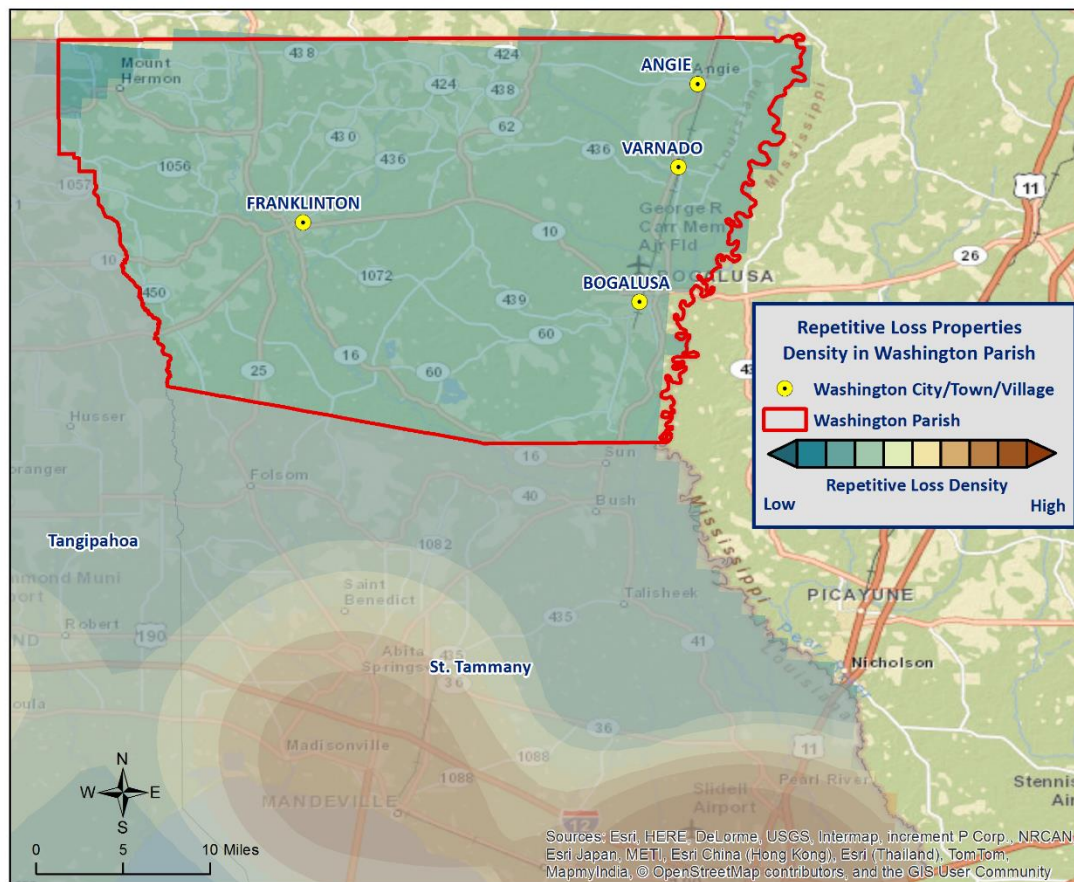


Figure 2-10: Repetitive Loss Property Densities in Washington Parish

National Flood Insurance Program

Flood insurance statistics indicate that Washington Parish has 576 flood insurance policies with the NFIP with total annual premiums of \$393,951. Washington Parish and its jurisdictions are all participants in the NFIP. Flood insurance statistics and additional NFIP participation details for Washington Parish is provided in the tables to follow.

Table 2-10: Summary of NFIP Policies for Washington Parish

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
Washington Parish (Unincorporated)	381	\$66,862,700	\$254,297	263	\$3,106,953
Angie	2	\$264,000	\$1,199	0	\$0
Bogalusa	132	\$24,789,600	\$88,751	101	\$1,126,226
Franklinton	59	\$10,833,700	\$48,925	87	\$1,031,958
Varnado	2	\$385,000	\$779	0	\$0
Total	576	\$103,135,000	\$393,951	451	\$5,265,137

Table 2-11: Summary of Community Flood Maps for Washington Parish

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220230	(Unincorporated)	1/10/1975	5/4/1988	12/3/2009	5/4/1988	No
220231A	Angie, Village of	1/3/1975	12/3/2009	12/3/2009 (M)	12/3/2009	No
220232	Bogalusa, City of	5/6/1977	5/4/1988	12/3/2009	5/4/1988	No
220233	Franklinton, Town of	11/9/1973	9/28/1979	12/3/2009	9/28/1979	No
220234	Varnado, Village of	10/25/1974	2/17/1989	12/3/2009	4/5/1989	No

Threat to People

Just as with property damage, depth and velocity are major factors in determining the threat posed to people by flooding. It takes very little depth or velocity for flood waters to become dangerous. A car will float in less than two feet of moving water and can be swept downstream into deeper waters, trapping the passengers within the vehicle. Victims of floods have often put themselves in perilous situations by entering flood waters they believe are safe or by ignoring travel advisories.

Major health concerns are also associated with floods. Floodwaters can transport materials such as dirt, oil, animal waste, and chemicals (e.g., farm, lawn and industrial), that may cause illnesses of various degrees when coming in contact with humans. Floodwaters can also infiltrate sewer lines and inundate wastewater treatment plants, causing sewage to backup and creating a breeding ground for dangerous bacteria. This infiltration may also cause water supplies to become contaminated and undrinkable.

Flooding in Washington Parish

By definition, flooding is caused by more water than the drainage system can convey. The following is a synopsis of the types of flooding that Washington Parish experiences.

Flash Flooding: Flash floods are characterized by a rapid rise in water level, high velocity, and large amounts of debris. They are capable of tearing out trees, undermining buildings and bridges, and scouring new channels. Major factors in flash flooding are the high intensity and short duration of rainfall and the steepness of watershed and stream gradients.

Local Drainage or High Groundwater Levels: Local heavy precipitation may produce flooding in areas other than delineated floodplains or along recognizable drainage channels. If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems.

Backwater Flooding: Backwater flooding is normally associated with riverine flooding and connotes minimal velocity. All low lying areas are at risk. A heavy rainfall event coupled with a swollen river, canal, or bayou and marsh hinders drainage outflow causing backwater flooding to the same areas susceptible to storm surge.

Riverine Flooding: Riverine flooding, by definition, is river based. Most of the riverine flooding problems occur when there is a high tide in the Gulf of Mexico and as a result Bayou Washington floods low lying areas.

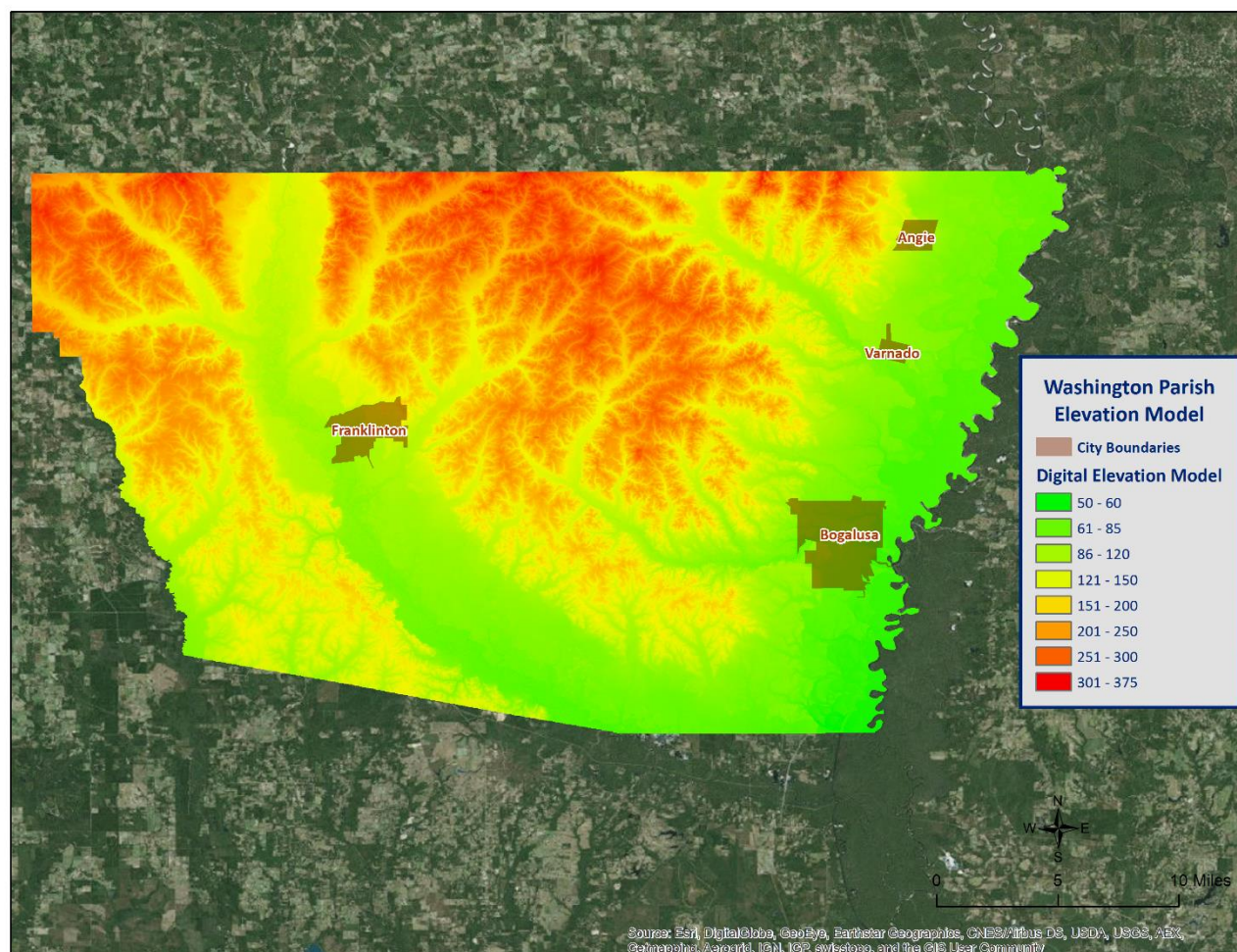


Figure 2-11: Elevation throughout Washington Parish

Looking at the digital elevation model (DEM) in [Figure 2-11](#) for Washington Parish is instructive in visualizing where the low lying and risk areas are for the parish. The highest elevations in the parish are over 350 feet. These higher elevations are located along the northern and western parish border. The lowest elevations in the parish are located along the Pearl River floodplain in the southeast section of Washington Parish. The incorporated areas of Franklinton and Angie have some of the higher elevations of the incorporated areas. Elevation in Franklinton ranges from approximately 130 feet in the southwest to 260 feet in the northeast while elevations in Angie range from 120 feet in west to 85 feet in the east. Bogalusa and Varnado have elevations of averaging approximately 55 feet.

Location

Washington Parish has experienced significant flooding in its history and can expect more in the future. Washington Parish is situated in the floodplains of the Bogue Chitto River, Pearl River, and Pushepatapa Creek. Currently, no flood protection structures are located within Washington Parish, but the parish does maintain ditches and canals throughout the parish to promote unimpeded surface flow of

precipitation. Below are enlarged maps of the incorporated areas showing the areas within each jurisdiction that are at risk to flooding.

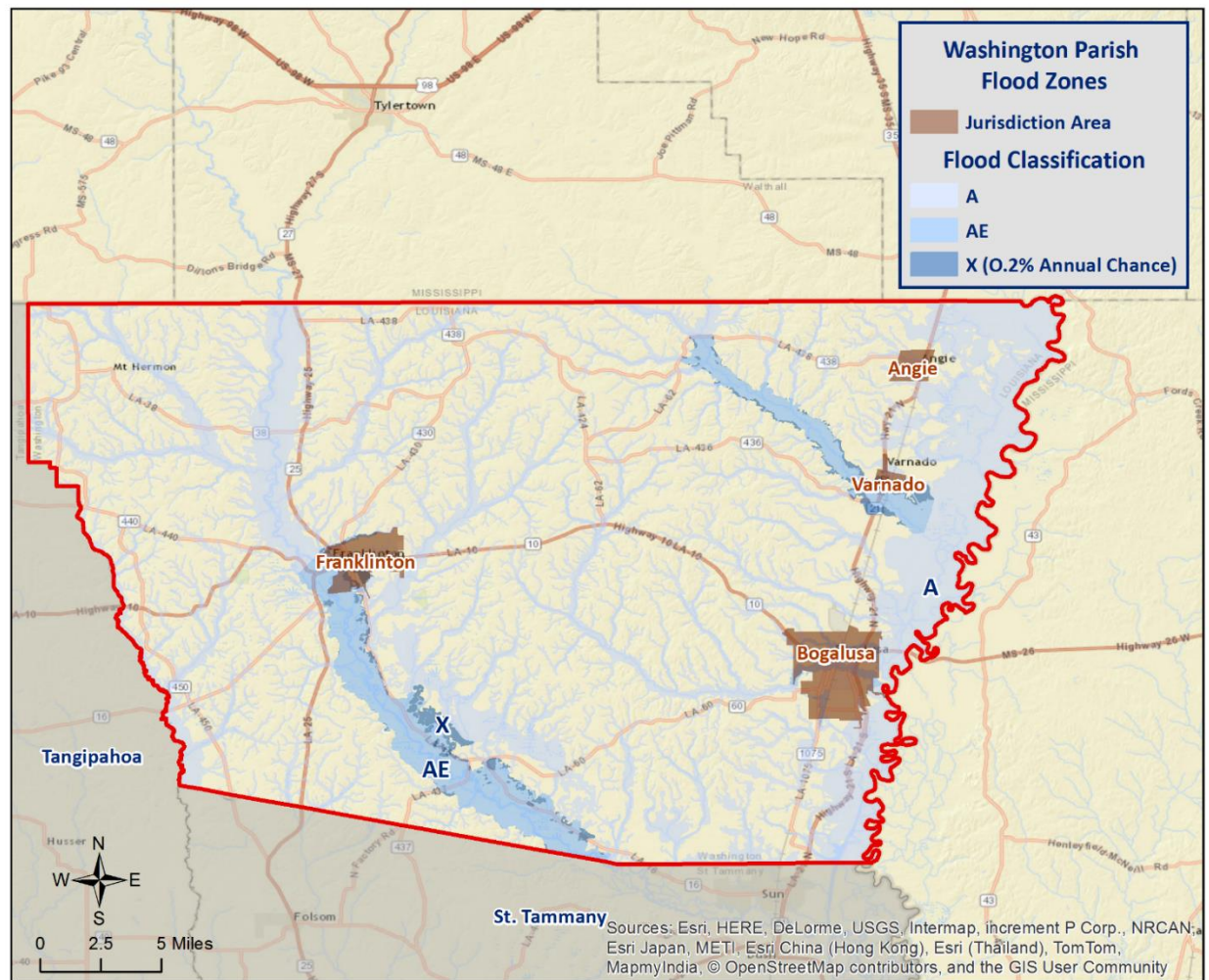


Figure 2-12: Washington Parish Areas within the Flood Zones

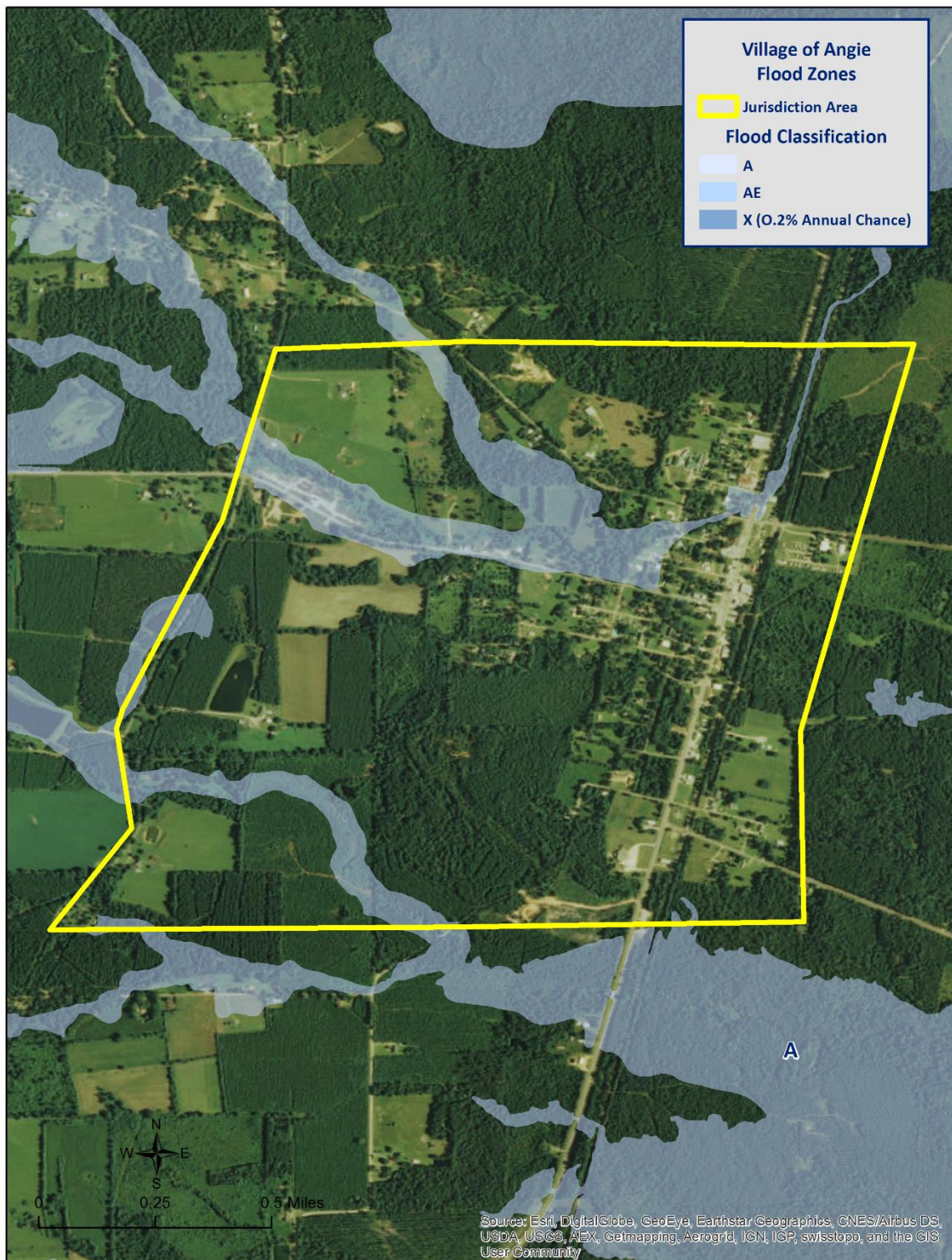


Figure 2-13: Village of Angie Areas within the Flood Zones

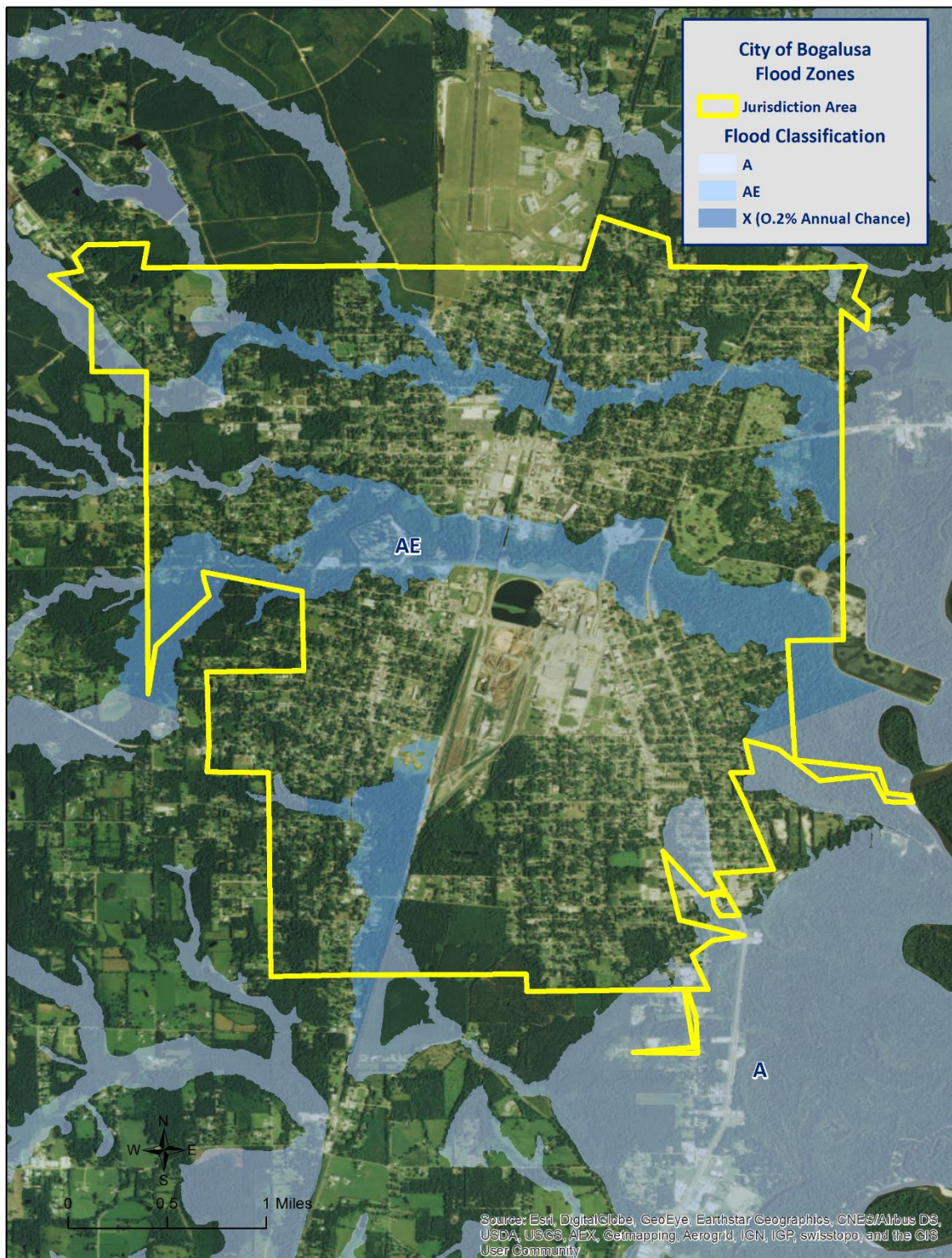


Figure 2-14: City of Bogalusa Areas within the Flood Zones

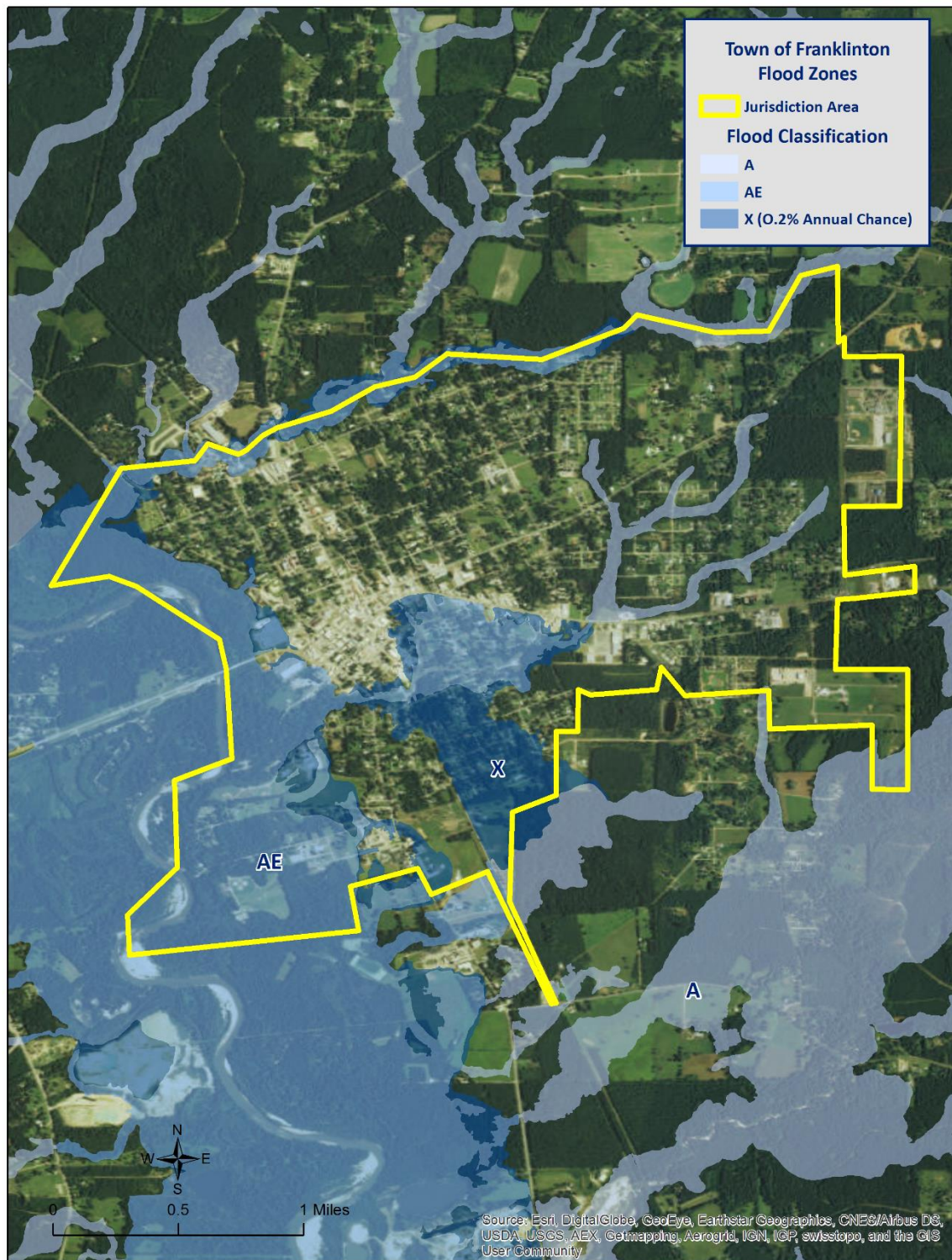


Figure 2-15: Town of Franklinton Areas within the Flood Zones

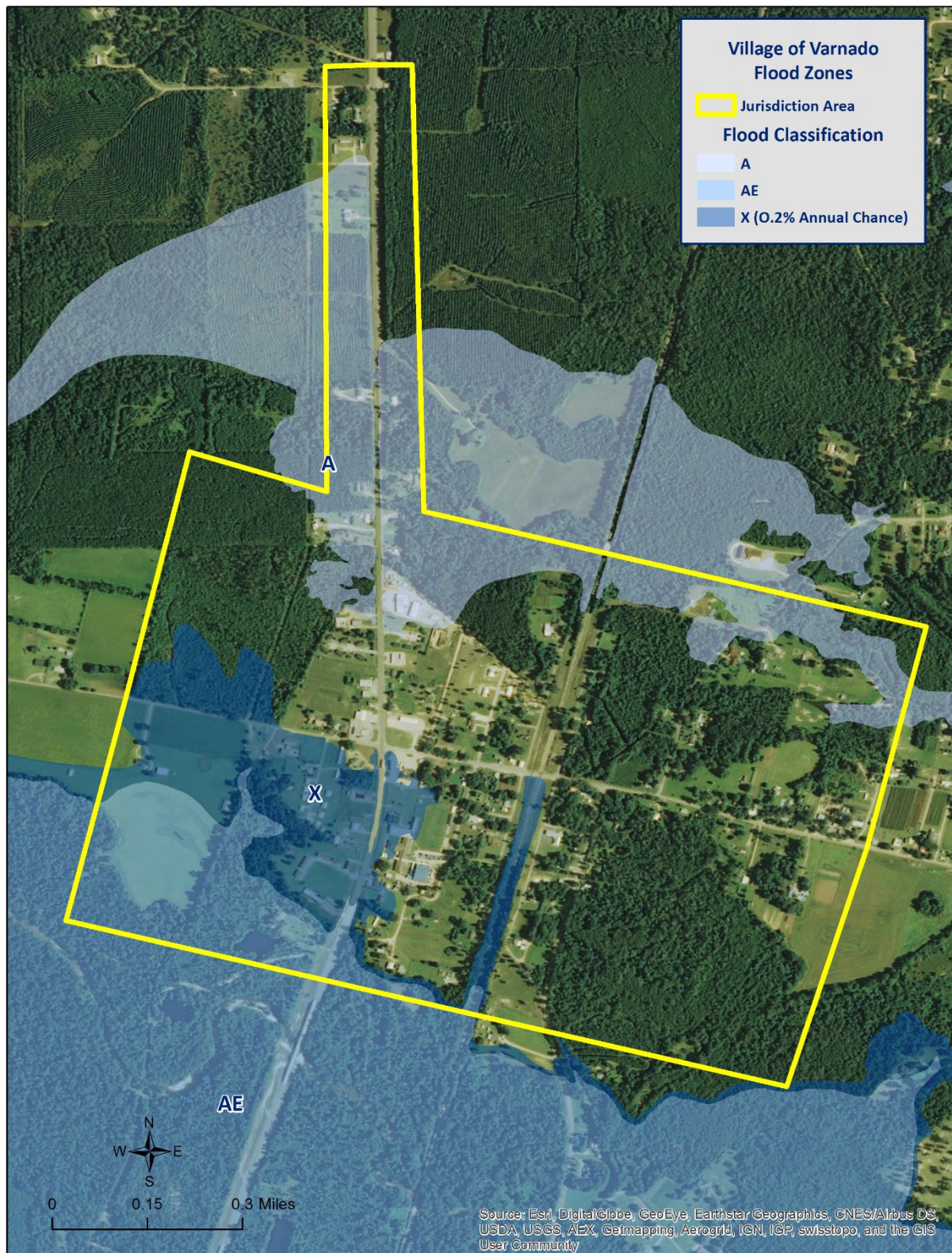


Figure 2-16: Village of Varnado Areas within the Flood Zones

Previous Occurrences and Extents

Historically, there have been 11 flood events that have created significant flooding in Washington Parish between 1989 and 2014. Below is a brief synopsis of the 11 flooding events over the last 25 years, including those that have occurred since the parish's last planning update. There have been no significant flood events for the incorporated areas of Bogalusa, Franklinton, and Varnado in the past five years.

Table 2-12: Historical Floods in Washington Parish with Locations from 1989 - 2014

Date	Extents	Type of Flooding	Estimated Damages	Location
January 6, 1998	Heavy rainfall of 3-6 inches caused rural secondary flooding of roadways and street flooding in incorporated areas.	Flood	\$0	PARISH-WIDE
September 20, 1998	Isolated flash floods occurred in the northern portions of the parish due to Tropical Storm Hermine.	Flash Flood	\$0	ANGIE AND UNINCORPORATED WASHINGTON PARISH
June 11, 2001	Remnants of Tropical Storm Allison caused flash flooding throughout the parish. Heavy rainfall caused small streams and bayous to overflow and dozens of homes were flooded in areas of poor drainage.	Flash Flood	\$125,000	PARISH-WIDE
October 3, 2002	Heavy rainfall from Hurricane Lili produced flash flooding that flooded numerous streets, secondary roadways, and some property.	Flash Flood	\$0	PARISH-WIDE
December 23, 2002	Flood waters from heavy rain inundated several homes in the Bogalusa.	Flash Flood	\$20,000	BOGALUSA
July 1, 2003	Tropical Storm Bill caused riverine flooding which damaged homes and roadways throughout the parish.	Flood	\$250,000	PARISH-WIDE
June 21, 2004	Heavy rainfall of up to 4 inches caused flooding in Bogalusa. Several homes and businesses were flooded along with numerous roadways.	Flash Flood	\$10,000	BOGALUSA

Date	Extents	Type of Flooding	Estimated Damages	Location
October 27, 2006	Several trailers and mobile homes were flooded in a campground due to heavy rain and severe thunderstorms.	Flood	\$20,000	UNINCORPORATED WASHINGTON PARISH
December 30, 2006	Heavy rainfall caused flooding of several secondary and rural highways. A 57 year old woman drowned when her car was swept off Martin Road by floodwaters near Snell Creek.	Flash Flood	\$0	UNINCORPORATED WASHINGTON PARISH
March 27, 2009	Widespread severe weather and heavy rainfall caused flash flooding in the unincorporated areas of Washington Parish. Numerous roadways were impacted by high water.	Flash Flood	\$0	UNINCORPORATED WASHINGTON PARISH
July 25, 2010	Six inches of rain caused by Tropical Storm Bonnie washed out several roads and bridges in northern Washington Parish. More than 20 roads and bridges were damaged.	Flash Flood	\$200,000	UNINCORPORATED WASHINGTON PARISH
August 31, 2012	Rain from Tropical Storm Isaac caused significant flooding to roadways and numerous homes throughout Washington Parish.	Flood	\$3.5M	PARISH-WIDE

The worst-case scenarios are based on several different types of flooding events. Storm water excesses affects primarily the low lying areas of the parish and flood depths of up to five feet can be expected in the southeastern unincorporated areas of the parish located in the Pearl River floodplain. The low lying areas outside of the Pear River floodplain can expect flood depths from two to four feet. The incorporated areas of Bogalusa and Franklinton can expect flood depths from three to five feet from future flooding events. Based on historical records, the worst case scenario for Varnado and Angie would be flooding levels of approximately one to three feet.

Frequency / Probability

While other parts of this plan, along with the State's Hazard Mitigation Plan have relied on the SHELUS database to provides the annual probability, due to Washington Parish having multiple jurisdictions, it was necessary to assess the historical data found in the National Climatic Data Center's for Washington Parish and its jurisdictions to properly determine probability for future flood events. The table on the following page shows the probability and return frequency for each jurisdiction.

Table 2-13: Flood Annual Probabilities for Washington Parish

Jurisdiction	Annual Probability	Return Frequency
Washington Parish (Unincorporated)	36%	2 – 3 years
Angie	20%	5 years
Bogalusa	24%	4 – 5 years
Franklinton	16%	6 – 7 years
Varnado	16%	6 – 7 years

Based on the State’s Hazard Mitigation Plan and the amount of significant flood events that have taken place throughout the parish, the Washington Parish Planning area can anticipate having a significant flooding event less than once every one to two years.

Estimated Potential Losses

Using Hazus-MH Flood Model the 100-year flood scenario, along with the Parish DFIRM, was analyzed to determine losses from this worst-case scenario. *Table 2-14* shows the total economic losses that would result from this occurrence.

*Table 2-14: Estimated Losses in Washington Parish from a 100-Year Flood Event
(Source: HAZUS-MH)*

Jurisdiction	Estimated Total Losses from 100-Year Flood Event
Washington Parish (Unincorporated)	\$506,818,000
Angie	\$3,081,000
Bogalusa	\$109,532,000
Franklinton	\$73,793,000
Varnado	\$16,176,000
Total	\$709,400,000

The Hazus-MH Flood Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the tables on the following pages.

*Table 2-15: Estimated 100-Year Flood Losses for Unincorporated Washington Parish by Sector
(Source: HAZUS-MH)*

Washington Parish (Unincorporated)	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$14,017,000
Commercial	\$50,809,000
Government	\$5,329,000
Industrial	\$21,329,000
Religious / Non-Profit	\$19,564,000
Residential	\$393,083,000
Schools	\$2,687,000
Total	\$506,818,000

*Table 2-16: Estimated 100-Year Flood Losses for Angie by Sector
(Source: HAZUS-MH)*

Angie	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$662,000
Government	\$23,000
Industrial	\$638,000
Religious / Non-Profit	\$0
Residential	\$1,756,000
Schools	\$2,000
Total	\$3,081,000

*Table 2-17: Estimated 100-Year Flood Losses for Bogalusa by Sector
(Source: HAZUS-MH)*

Bogalusa	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$428,000
Commercial	\$24,625,000
Government	\$2,543,000
Industrial	\$5,836,000
Religious / Non-Profit	\$4,309,000
Residential	\$71,540,000
Schools	\$251,000
Total	\$109,532,000

*Table 2-18: Estimated 100-Year Flood Losses for Franklinton by Sector
(Source: HAZUS-MH)*

Franklinton	Estimated Total Losses from 100 Year Flood Event
Agricultural	\$208,000
Commercial	\$28,798,000
Government	\$1,947,000
Industrial	\$828,000
Religious / Non-Profit	\$210,000
Residential	\$39,778,000
Schools	\$2,024,000
Total	\$73,793,000

*Table 2-19: Estimated 100-Year Flood Losses for Varnado by Sector
(Source: HAZUS-MH)*

Varnado	Estimated Total Losses from 100 Year Flood Event
Agricultural	\$0
Commercial	\$144,000
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$1,485,000
Residential	\$14,494,000
Schools	\$53,000
Total	\$16,176,000

Threat to People

The total population within the parish that is susceptible to a flood hazard are shown in the table below.

*Table 2-20: Vulnerable Populations Susceptible to a 100-Year Flood Event
(Source: HAZUS-MH)*

Number of People Exposed to Flood Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
Washington Parish (Unincorporated)	29,367	27,103	92.3%
Angie	251	159	63.3%
Bogalusa	12,232	3,779	30.9%
Franklinton	3,857	1,774	46.0%
Varnado	1,461	1,380	94.5%
Total	47,168	34,195	72.5%

The HAZUS-MH Flood Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the tables below:

Table 2-21: Vulnerable Populations Susceptible to a 100-Year Flood Event in Unincorporated Washington Parish

(Source: HAZUS-MH)

Washington Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	27,103	92.3%
Persons Under 5 Years	1,735	6.4%
Persons Under 18 Years	6,586	24.3%
Persons 65 Years and Over	4,309	15.9%
White	18,403	67.9%
Minority	8,700	32.1%

Table 2-22: Vulnerable Populations Susceptible to a 100-Year Flood Event in Angie

(Source: HAZUS-MH)

Angie		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	159	63.3%
Persons Under 5 Years	7	4.4%
Persons Under 18 Years	34	21.5%
Persons 65 Years and Over	25	15.5%
White	110	68.9%
Minority	49	31.1%

Table 2-23: Vulnerable Populations Susceptible to a 100-Year Flood Event in Bogalusa

(Source: HAZUS-MH)

Bogalusa		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	3,779	30.9%
Persons Under 5 Years	310	8.2%
Persons Under 18 Years	703	18.6%
Persons 65 Years and Over	590	15.6%
White	1,833	48.5%
Minority	1,946	51.5%

*Table 2-24: Vulnerable Populations Susceptible to a 100-Year Flood Event in Franklinton
(Source: HAZUS-MH)*

Franklinton		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,774	46.0%
Persons Under 5 Years	119	6.7%
Persons Under 18 Years	351	19.8%
Persons 65 Years and Over	298	16.8%
White	823	46.4%
Minority	951	53.6%

*Table 2-25: Vulnerable Populations Susceptible to a 100-Year Flood Event in Varnado
(Source: HAZUS-MH)*

Varnado		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,380	94.5%
Persons Under 5 Years	25	1.8%
Persons Under 18 Years	52	3.8%
Persons 65 Years and Over	50	3.6%
White	569	41.2%
Minority	811	58.8%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to flooding due to proximity within the 100-year floodplain.

Tornadoes

Tornadoes (also called twisters and cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground. For their size, tornadoes are the most severe storms, and 70% of the world's reported tornadoes occur within the continental United States, making them one of the most significant hazards Americans face. Tornadoes and waterspouts form during severe weather events, such as thunderstorms and hurricanes, when cold air overrides a layer of warm air, causing the warm air to rise rapidly, which usually occurs in a counterclockwise direction in the northern hemisphere. The updraft of air in tornadoes always rotates because of wind shear (differing speeds of moving air at various heights), and it can rotate in either a clockwise or counterclockwise direction; clockwise rotations (in the northern hemisphere) will sustain the system, at least until other forces cause it to die seconds to minutes later.

Since February 1, 2007, the Enhanced Fujita (EF) Scale has been used to classify tornado intensity. The EF Scale classifies tornadoes based on their damage pattern rather than wind speed; wind speed is then derived and estimated. This contrasts with the Saffir-Simpson scale used for hurricane classification, which is based on measured wind speed. [Table 2-26](#) shows the EF scale in comparison with the old Fujita (F) Scale, which was used prior to February 1, 2007. When discussing past tornadoes, the scale used at the time of the hazard is used.

Table 2-26: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

Wind speed (mph)	Enhanced Fujita Scale					
	EF0	EF1	EF2	EF3	EF4	EF5
	65-85	86-110	111-135	136-165	166-200	>200
	Fujita Scale					
	F0	F1	F2	F3	F4	F5
	<73	73-112	113-157	158-206	207-260	>261

The National Weather Service (NWS) has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued with definitions of each:

- Tornado Watch:** Issued to alert people to the possibility of a tornado developing in the area. A tornado has not been spotted but the conditions are favorable for tornadoes to occur.
- Tornado Warning:** Issued when tornado has been spotted or when Doppler radar identifies a distinctive "hook-shaped" area within a thunderstorm line.

Structures within the direct path of a tornado vortex are often reduced to rubble. Structures adjacent to the tornado's path are often severely damaged by high winds flowing into the tornado vortex, known as inflow winds. It is here, adjacent to the tornado's path, that the building type and construction techniques are critical to the structure's survival. Although tornadoes strike at random, making all buildings vulnerable, mobile homes, homes on crawlspaces, and buildings with large spans are more likely to suffer damage.

The major health hazard from tornadoes is physical injury from flying debris or being in a collapsed building or mobile home. Within a building, flying debris or missiles are generally stopped by interior walls. However, if a building has no partitions, any glass, brick, or other debris blown into the interior is life threatening. Following a tornado, damaged buildings are a potential health hazard due to instability, electrical system damage, and gas leaks. Sewage and water lines may also be damaged.

Peak tornado activity in Louisiana occurs during the spring, as it does in the rest of the United States. Nearly one-third of observed tornadoes in the United States occur during April. About half of those in Louisiana, including many of the strongest, occur between March and June. Fall and winter tornadoes are less frequent, but the distribution of tornadoes throughout the year is more uniform in Louisiana than in locations farther north.

Location

While there is a significant tornado record in Washington Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in Washington Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for Washington Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extent

Washington Parish has not experienced any federally declared disasters due to a tornado alone. SHELATUS reports a total of 17 tornadoes or waterspouts occurring within the boundaries of Washington Parish between the years of 1989 to 2014. The tornadoes experienced in Washington Parish have ranged EF0 to EF1 on the EF scale and ranged from F0 to F3 on the F scale. The worst case scenario Washington Parish can expect in the future is an EF1 tornado.

The tornado that caused the most damage to property and resulted in the most injuries occurred on February 21, 1961. The F2 tornado was responsible for over \$389,560 in damage and nine injuries. The tornado touched down near the town of Angie and moved north destroying a school and several homes that were in the tornado's path. There have been no fatalities in Washington Parish as a result of tornadoes.

Table 2-27: Historical Tornadoes in Washington Parish with Locations from 1989-2014

Date	Impacts	Property Damage	Location	Magnitude
September 2, 1989	0.1 mile path with a width of 20 yards. Lifted a mobile home off the ground and landing it on another. Rolled an additional trailer.	\$9,393	UNINCORPORATED WASHINGTON PARISH	F1
April 14, 1990	0.5 mile path with a width of 30 yards. Heavily damaged a mobile home and downed several trees.	\$855	UNINCORPORATED WASHINGTON PARISH	F1
April 14, 1990	0.5 mile path with a width of 30 yards. Downed several trees.	\$927	UNINCORPORATED WASHINGTON PARISH	F1
August 31, 2000	0.2 mile path with a width of 25 yards. Downed several trees.	\$676	FRANKLINTON	F0
April 24, 2003	14 mile path with a width of 30 yards. Several homes sustained roof damage and several trees downed.	\$63,304	BOGALUSA	F1
June 27, 2004	0.5 mile path with a width of 30 yards. Approximately 30 homes were damaged from primarily fallen trees and tree limbs.	\$92,492	FRANKLINTON	F1
May 8, 2006	0.3 mile path with a width of 30 yards. Blew two cars on Highway 25 off the road and into a ditch.	\$11,555	FRANKLINTON	F1
November 14, 2006	0.5 mile path with a width of 50 yards. Several mobile homes damaged near Mt. Hermon.	\$56,968	MT HERMON	F1
November 14, 2006	0.5 mile path with a width of 50 yards. Destroyed a barn and downed several trees and power lines.	\$23,573	FRANKLINTON	F1
November 15, 2006	5.01 mile path with a width of 75 yards. Damaged several mobile homes and downed trees and power lines.	\$115,901	THOMAS	F1
October 17, 2007	0.2 mile path with a width of 25 yards. Caused severe roof	\$33,875	FRANKLINTON	EF1

Date	Impacts	Property Damage	Location	Magnitude
	damage and shattered windows at three businesses.			
October 17, 2007	0.2 mile path with a width of 25 yards. Caused significant damage to a roof of a mobile home. Uprooted several trees and moved an automobile about 15 feet.	\$16,684	FRANKLINTON	EF1
February 17, 2008	0.1 mile path with a width of 15 yards. Destroyed a shed and ripped the roofs off of several farm out buildings.	\$8,786	MT HERMON	EF0
February 17, 2008	0.25 mile path with a width of 15 yards. Minor roof damage to 3 homes and 6 sheds.	\$21,510	VARNADO	EF0
May 15, 2008	2.5 mile path with a width of 100 yards. Approximately 54 homes received some form of wind damage.	\$108,200	ENON	EF1
April 4, 2011	0.2 mile path with a width of 75 yards. Large portions of a roof structure was completely removed from a home. Two mobile homes sustained roof damage.	\$31,484	FRANKLINTON	EF1
April 4, 2011	0.2 mile path with a width of 75 yards. Lifted a trailer off the ground and blew it into another camper. Destroyed sheet metal and tin roofing on an awning.	\$51,368	BOGALUSA	EF1

Since 2010, the year the last update to this hazard mitigation plan was written, Washington Parish has had two tornado touch downs. There have been no significant tornado events in the incorporated areas of Angie and Varnado or the unincorporated area of Washington Parish in the past 5 years. The following is a brief synopsis of these events:

[April 4, 2011 – EF1 Tornado in Franklinton](#)

A strong storm system over the middle Mississippi River Valley pushed a cold front through southeast Louisiana. A squall line developed in advance of the front and produced numerous reports of severe weather with one of them being an EF1 tornado that touched down in Franklinton. A large portion of a roof structure was completely moved from one home due to

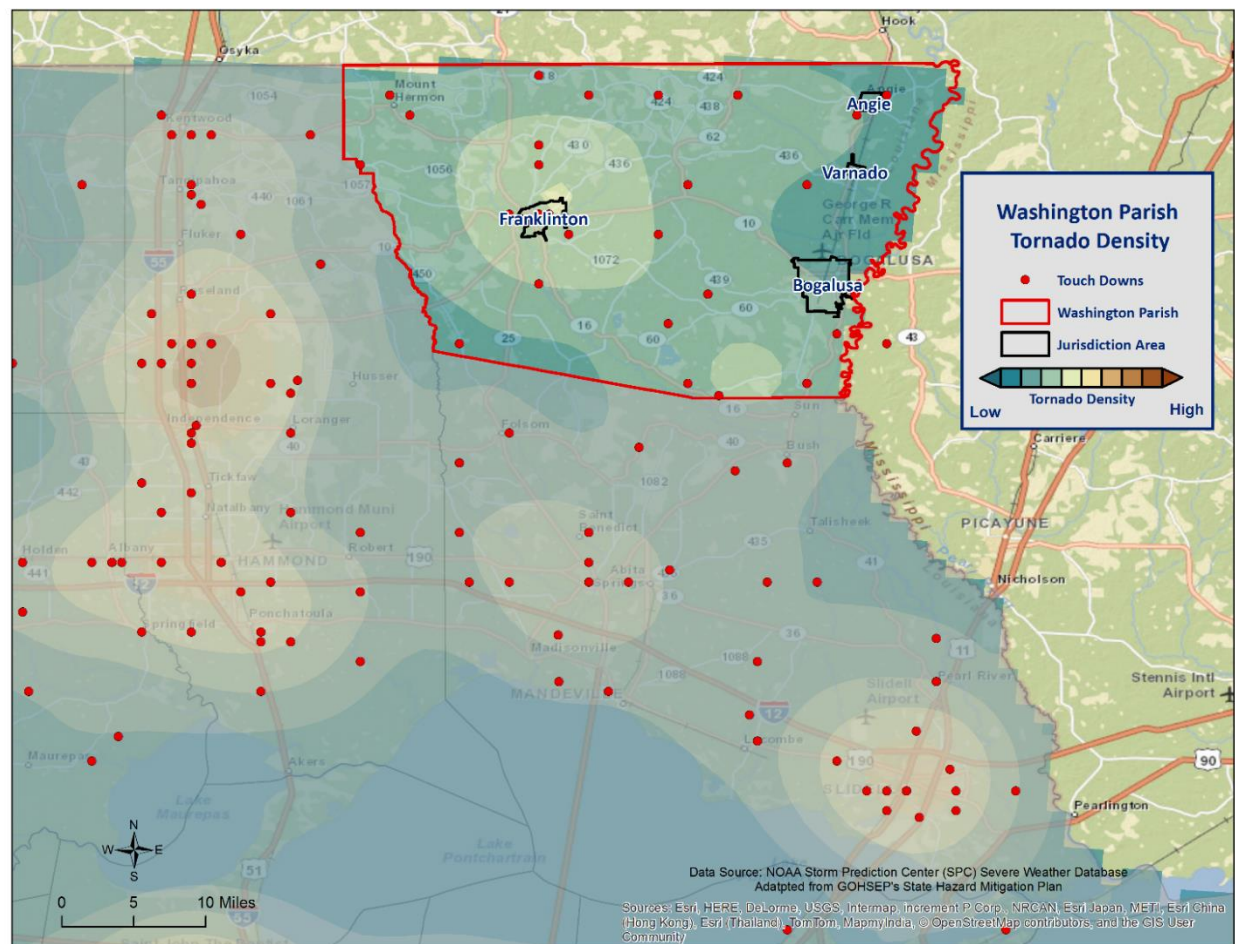
winds from the tornado. Several very large trees were completely uprooted and two single wide mobile homes sustained roof damage. Damage path length was approximately 0.2 miles and the path width was 75 yards. Winds were rated as high end EF1 with maximum wind speeds of 105 mph.

April 4, 2011 – EF1 Tornado in Bogalusa

The same storm system that was mentioned in the previous synopsis created a second tornado in Bogalusa. The tornado lifted a trailer off the ground and blew it approximately 20 yards into another camper. Sheet metal and tin roofing from an awning were blown 50 to 75 yards away and wrapped around a tree approximately 20 feet off the ground. Numerous trees were uprooted and downed. Maximum estimated winds were 105 mph.

Frequency / Probability

Tornadoes are a sporadic occurrence within Washington Parish, with an annual chance of occurrence calculated at 68% based on the records for the past 25 years (1989-2014). *Figure 2-17* displays the density of tornado touchdowns in Washington Parish and neighboring parishes. Based on the State Hazard Mitigation Plan, the overall probability of a tornado touching down in Washington Parish is once every one to two years.



*Figure 2-17: Location and Density of Tornadoes to Touchdown in Washington Parish
(Source: NOAA/SPC Severe Weather Database)*

Estimated Potential Loses

According to the SHELATUS database, there have been 17 tornadoes that have caused some level of property damage. The total damage from the actual claims for property is \$647,552, with an average cost of \$38,091 per tornado strike. When annualizing the total cost over the 25-year record, total annual losses based on tornadoes are estimated to be \$25,902. To provide an estimated annual estimated potential loss per jurisdiction, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. Based on the 2010 Census data, [Table 2-28](#) provides an annual estimate of potential losses for Washington Parish.

Table 2-28: Estimated Annual Losses for Tornadoes in Washington Parish

Estimated Annual Losses for Tornadoes in Washington Parish				
Washington Parish (Unincorporated) (62.3% of Population)	Angie (0.5% of Population)	Bogalusa (25.9% of Population)	Franklinton (8.2% of Population)	Varnado (3.1% of Population)
\$16,127	\$138	\$6,717	\$2,118	\$802

[Table 2-29](#) presents an analysis of building exposure that are susceptible to tornadoes by general occupancy type for Washington Parish along with the percentage of building stock that are mobile homes.

*Table 2-29: Building Exposure by General Occupancy Type for Tornadoes in Washington Parish
(Source: FEMA's Hazus 2.2)*

Building Exposure by General Occupancy Type for Tornadoes Exposure Types (\$1,000)							
Residential	Commercial	Industrial	Agricultural	Religion	Government	Education	Mobile Homes (%)
4,460,217	679,122	187,863	40,604	237,306	52,159	70,560	22.4%

There have been no reported deaths or injuries due to tornadoes for the 25 year period from 1989 – 2014.

In accessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 22.4% of all housing in Washington Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are seven known locations where manufactured housing is concentrated. Those seven locations have an overall number of manufactured houses ranging from 1 to 60. The location and density of manufactured houses can be seen in [Figure 2-18](#).

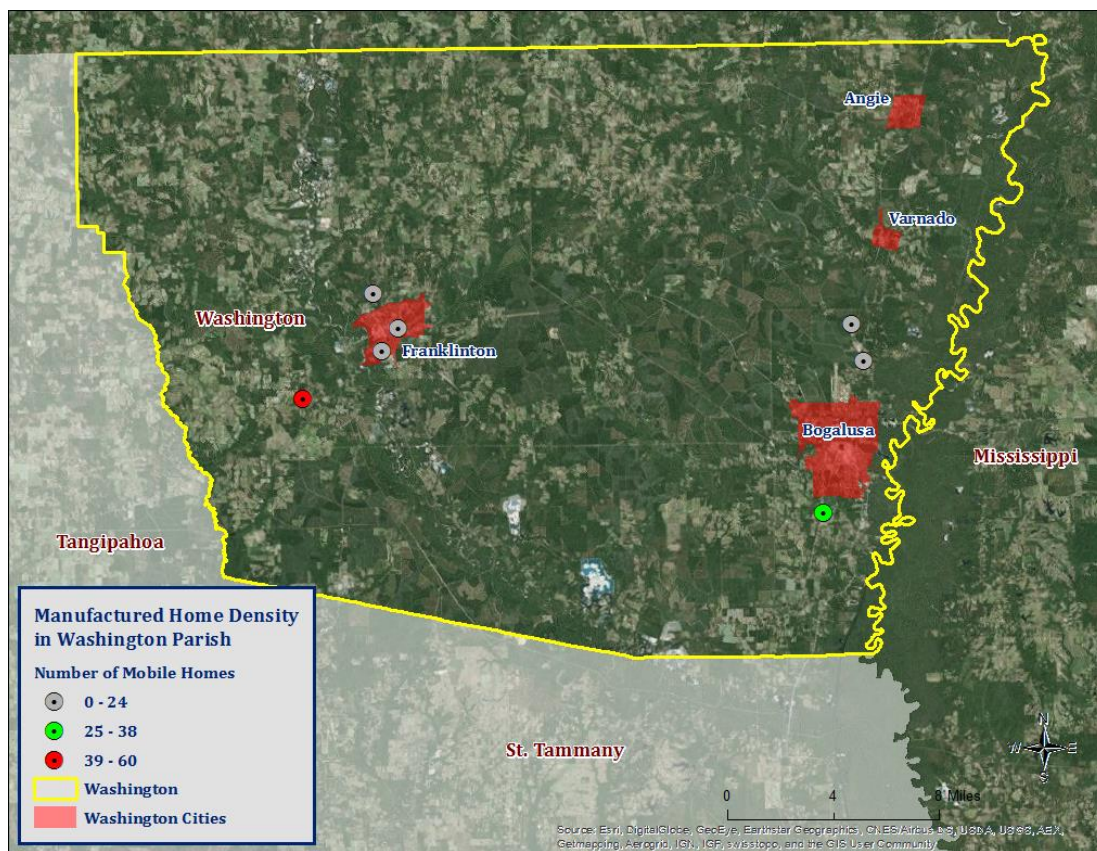


Figure 2-18: Location and Approximate Number of Units in Manufactured Housing Locations throughout Washington Parish

Vulnerability

See Appendix C for parish and municipality building exposure to tornado hazards.

Tropical Cyclones

Tropical cyclones are among the worst hazards that Louisiana faces. These spinning, low-pressure air masses draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes. Usually, these storms begin as clusters of oceanic thunderstorms off the western coast of Africa and move westward in the trade wind flow. The spinning of these thunderstorm clusters begins because of the formation of low pressure in a perturbation in the westerly motion of the storms associated with differential impacts of the Earth's rotation. The west-moving, counterclockwise-spinning collection of storms-now called a tropical disturbance may then gather strength as it draws humid air toward its low-pressure center, forming a tropical depression (defined when the maximum sustained surface wind speed is 38 mph or less), then a tropical storm (when the maximum sustained surface wind ranges from 39 mph to 73 mph), and finally a hurricane (when the maximum sustained surface wind speeds exceed 73 mph). [Table 2-30](#) presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-30: Saffir-Simpson Hurricane Wind Scale

Saffir-Simpson Hurricane Wind Scale			
Category	Sustained Winds	Pressure	Types of Damage Due to Winds
Tropical Depression	<39 mph	N/A	N/A
Tropical Storm	39-73 mph	N/A	N/A
1	74-95 mph	>14.2 psi	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap and shallow-rooted trees may be toppled, especially after the soil becomes waterlogged. Extensive damage to power lines and poles likely will result in power outages that could last several days.
2	96-110 mph	14-14.2 psi	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallow-rooted trees will be snapped or uprooted, especially after the soil becomes waterlogged, and block numerous roads. Near total power loss is expected with outages that could last from several days to weeks.
3	111-129 mph	13.7 -14 psi	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, especially after the soil becomes waterlogged, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130-156 mph	13.3-13.7 psi	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be

			snapped or uprooted especially after the soil becomes waterlogged, and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	<13.7 psi	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks to months.

Many associated hazards can occur during a hurricane, including heavy rain, flooding, high winds, and tornadoes. A general rule of thumb in coastal Louisiana is that the number of inches of rainfall to be expected from a tropical cyclone is approximately 100 divided by the forward velocity of the storm in mph; so a fast-moving storm (20 mph) might be expected to drop five inches of rain while a slow-moving (5 mph) storm could produce totals of around 20 inches. However, no two storms are alike, and such generalizations have limited utility for planning purposes. Hurricane Beulah, which struck Texas in 1967, spawned 115 confirmed tornadoes. In recent years, extensive coastal development has increased the storm surge resulting from these storms so much that this has become the greatest natural hazard threat to property and loss of life in the state. Storm surge is a temporary rise in sea level generally caused by reduced air pressure and strong onshore winds associated with a storm system near the coast. Although storm surge can technically occur at any time of the year in Louisiana, surges caused by hurricanes can be particularly deadly and destructive. Such storm surge events are often accompanied by large, destructive waves exceeding ten meters in some places that can inflict high numbers of fatalities and economic losses. In 2005, Hurricane Katrina clearly demonstrated the destructive potential of this hazard, as it produced the highest modern-day storm surge levels in the state of Louisiana, reaching up to 18.7 feet near Alluvial City in St. Bernard Parish.

Property can be damaged by the various forces that accompany a tropical storm. High winds can directly impact structures in three ways: wind forces, flying debris, and pressure. By itself, the force of the wind can knock over trees, break tree limbs and destroy loose items, such as television antennas and power lines. Many things can be moved by high winds. As winds increase, so does the pressure against stationary objects. Pressure against a wall rises with the square of the wind speed. For some structures, this force is enough to cause failure. The potential for damage to structures is increased when debris breaks the building "envelope" and allows the wind pressures to impact all surfaces (the building envelope includes all surfaces that make up the barrier between the indoors and the outdoors, such as the walls, foundation, doors, windows, and roof). Buildings needing maintenance and mobile homes are most subject to wind damage. High winds mean bigger waves. Extended pounding by waves can demolish any structure not properly designed. The waves also erode sand beaches, roads, and foundations. When foundations are undermined, the building will collapse.

Nine out of ten deaths during hurricanes are caused by storm surge flooding. Falling tree limbs and flying debris caused by high winds have the ability to cause injury or death. Downed trees and damaged

buildings are a potential health hazard due to instability, electrical system damage, broken pipelines, chemical releases, and gas leaks. Sewage and water lines may also be damaged. Salt water and fresh water intrusions from storm surge send animals, such as snakes, into areas occupied by humans.

Location

Hurricanes are the single biggest threat to all of south Louisiana. With any single hurricane having the potential to devastate multiple parishes during a single event, the risk of a tropical cyclone has the probability of impacting anywhere within the planning area for Washington Parish. As such, all jurisdictions are equally at risk for tropical cyclones.

Previous Occurrences / Extent

The central Gulf of Mexico coastline is among the most hurricane-prone locations in the United States, and hurricanes can affect every part of the state. The SHELDUS database reports a total of eight tropical cyclone events occurring within the boundaries of Washington Parish between the years 2002-2014 (*Table 2-31*). The tropical cyclone events experienced in Washington Parish include depressions, storms, and hurricanes. As a worst case scenario, Washington Parish can expect to experience hurricanes at the Category 3 level in the future.

Table 2-31: Historical Tropical Cyclone Events in Washington Parish from 2002- 2014
(Source: SHELDUS)

Date	Name	Storm Type While Impacting Parish Name Parish
September 2, 2002	Lili	Tropical Storm
June 30, 2003	Bill	Tropical Storm
July 5, 2005	Cindy	Tropical Storm
August 28, 2005	Katrina	Hurricane – Category 3
August 24, 2008	Fay	Tropical Depression
September 1, 2008	Gustav	Hurricane – Category 2
September 2, 2011	Lee	Tropical Storm
August 28, 2012	Isaac	Tropical Storm

Hurricane Betsy (1965)

Hurricane Betsy made landfall in September 1965 as a Category 3 hurricane and caused extensive damage in Washington Parish. Winds were measured at up to 95 mph within the parish which resulted in extensive damage to trees and power lines. Many homes and businesses experienced roof damage and approximately 2,800 customers in Washington Parish lost telephone service. Hurricane Betsy caused significant damage to timber and cotton crops.

Hurricane Andrew (1992)

Hurricane Andrew came ashore in Louisiana August 26, 1992, as a Category 3 storm. As it traveled through Washington Parish, it brought heavy rains and winds up to 75 mph which knocked down trees and power lines. Virtually every road in the parish contained debris. Over 100 trees in Washington Parish had to be cut and cleared from local roadways. Louisiana Highway 10 between Franklinton and Bogalusa had to be closed due to the amount of toppled trees that were covering the roadway. Rainfall in

Washington Parish exceeded 12 inches. Before Hurricanes Katrina and Rita hit in 2005, Andrew was considered the most costly storm in U.S. history with damage totals nearing \$25 billion.

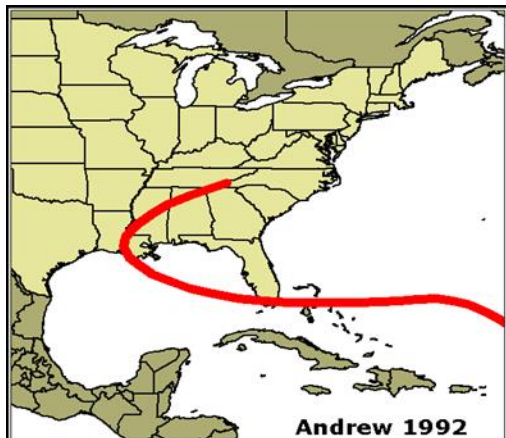


Figure 2-19: Hurricane Andrew Path and Satellite Image Taken on August 25, 1992

[Tropical Storm Allison \(2001\)](#)

In June 2001, Tropical Storm Allison made landfall in the state of Texas and moved across Louisiana causing extensive flood damage. Up to 30 inches of rain fell in some areas of the state. In Washington Parish, Tropical Storm Allison poured more than 20 inches of rain. Periods of torrential rain overwhelmed local drainage and created severe ponding of water which flooded numerous roadways and low lying areas, with many houses and some businesses flooded.

[Hurricane Lili \(2002\)](#)

In October of 2002, Hurricane Lili made landfall along the west shore of Vermilion Bay in South Central Louisiana as a Category 2 hurricane. More than 40 roads were closed due to high water in Washington Parish. About 10,700 customers were without power and downed trees and power lines were widespread throughout the parish. The hurricane continued to move north-northwest across south central Louisiana before turning northeast across the northern portion of the state. Due to the rapid weakening, no sustained hurricane force winds were measured in southeast Louisiana. Strong wind gusts downed trees and large tree branches across much of southeast Louisiana. Property damage occurred when the trees and tree limbs fell onto houses and automobiles. Several short-lived tornadoes touched down producing only minor property damage. Heavy rainfall was not widespread, in part due to the rapid movement of the hurricane away from the area. Flash flooding occurred in only a few areas within Washington Parish.

[Tropical Storm Bill \(2003\)](#)

In June 2003, Tropical Storm Bill developed in the southern Gulf of Mexico and made landfall on southeastern Louisiana south of Houma with sustained winds of 60 mph. The maximum storm surge associated with Tropical Storm Bill was 5.8 feet. Thousands of homes in Louisiana lost power during the storm. The maximum measured rainfall was 10.16 inches in Folsom. Significant river flooding developed during the first five days of July as a result of heavy rainfall associated with Tropical Storm Bill. The collective effects of Tropical Storm Bill resulted in four injuries and \$44 million in property damage in the parishes of Jefferson, Livingston, Lafourche, Orleans, Plaquemine, St. Bernard, St. Charles, St. John the Baptist, St. Tammany, Tangipahoa, and Washington.

Hurricane Katrina (2005)

Hurricane Katrina was one of the strongest and most destructive hurricanes on record to impact the coast of the United States. The National Hurricane Center ranked Katrina as the costliest storm (both before and after adjusting for inflation) and the third deadliest in the U.S. since 1851. The hurricane made landfall in Plaquemine Parish on August 29, 2005, as a Category 3 storm and continued on a north northeast track with a second landfall occurring near the Louisiana-Mississippi border.

Washington Parish experienced catastrophic wind damage as well as extensive power loss due to Hurricane Katrina. Wind damaged a significant amount of homes and businesses in the parish. Debris from the storm made some roads impassable for up to ten days. Secondary roads took much longer to clear, making it difficult for first responders to attend to those in need of medical attention. Washington Parish had no outside communication for two weeks and it took approximately four weeks before regular phone service was restored.

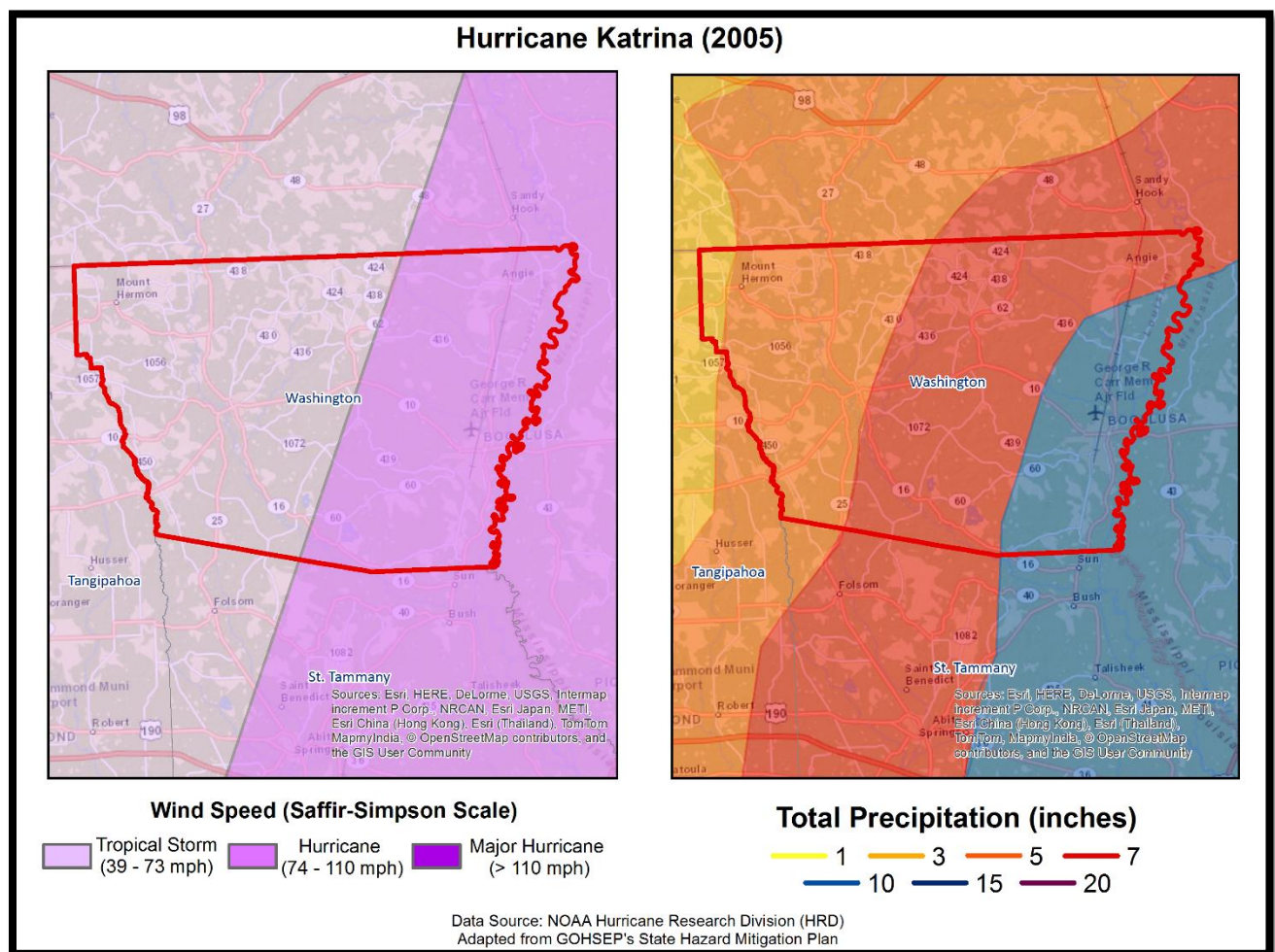


Figure 2-20: Wind Speed and Precipitation Totals in Washington Parish for Hurricane Katrina

Hurricane Rita (2005)

While Hurricane Katrina and resulting levee failures captured headlines worldwide, lesser known but just as destructive Hurricane Rita wreaked havoc on southwestern Louisiana less than a month later. The storm made landfall as a Category 3 hurricane in Cameron Parish. Across southeast Louisiana, the main affect from Hurricane Rita was the substantial storm surge flooding that occurred in low lying communities across coastal areas of southern Terrebonne, southern Lafourche, and southern Jefferson Parishes, where numerous homes and businesses were flooded. Some of the most substantial damage occurred in southern Terrebonne Parish where storm surge of five to seven feet above normal overtopped or breached local drainage levees inundating many small communities. Newspaper accounts indicated approximately 10,000 structures were flooded in Terrebonne Parish. Lafitte and other communities in lower Jefferson Parish also suffered extensive storm surge flooding. Storm surge flooding also occurred in areas adjacent to Lake Pontchartrain and Lake Maurepas with some homes and businesses flooded from Slidell to Mandeville and Madisonville. Approximately 1,500 structures were reported flooded in Livingston Parish near Lake Maurepas. Repaired levees damaged by Hurricane Katrina in late August were overtopped or breached along the Industrial Canal in New Orleans resulting in renewed flooding in adjacent portions of New Orleans and St. Bernard Parish, although the flooding was much more limited in area coverage than during Hurricane Katrina. Washington Parish experienced only minor power outages due to tropical force winds from Hurricane Rita.

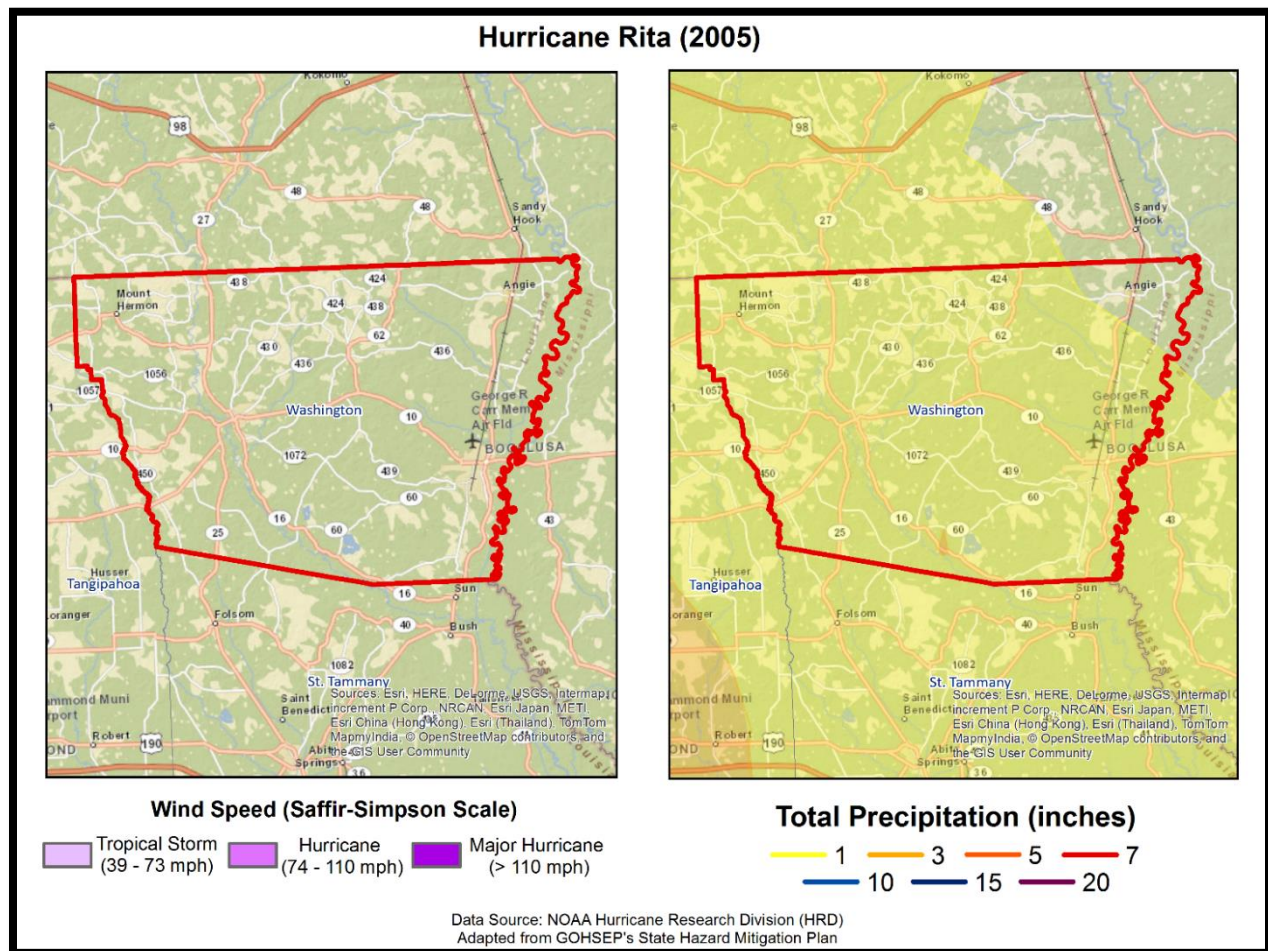


Figure 2-21: Wind Speed and Precipitation Totals in Washington Parish for Hurricane Rita

Hurricane Gustav (2008)

Hurricane Gustav emerged into the southeast Gulf of Mexico as a major category 3 hurricane on August 31st after developing in the Caribbean Sea and moving across western Cuba. Gustav tracked northwestward across the Gulf toward Louisiana and made landfall as a category 2 hurricane near Cocodrie, Louisiana during the morning of September 1st. Gustav continued to move northwest across south Louisiana and weakened to a Category 1 storm over south central Louisiana later that day. The storm diminished to a tropical depression over northwestern Louisiana on September 2nd.

The highest wind gust recorded was 102 knots or 117 mph at a USGS site at the Houma Navigational Canal and at the Pilot Station East C-MAN at near the Southwest Pass of the Mississippi River. The highest sustained wind of 91 mph was recorded at the Pilot's Station East C-MAN site. However, due to the failure of equipment at some observation sites during the storm higher winds may have occurred. The minimum sea level pressure measured was 951.6 millibars at a USGS site at Caillou Lake southwest of Dulac and 954.5 millibars at the LUMCON facility near Dulac. Rainfall varied considerably across southeast Louisiana ranging from around four inches to just over 11 inches.

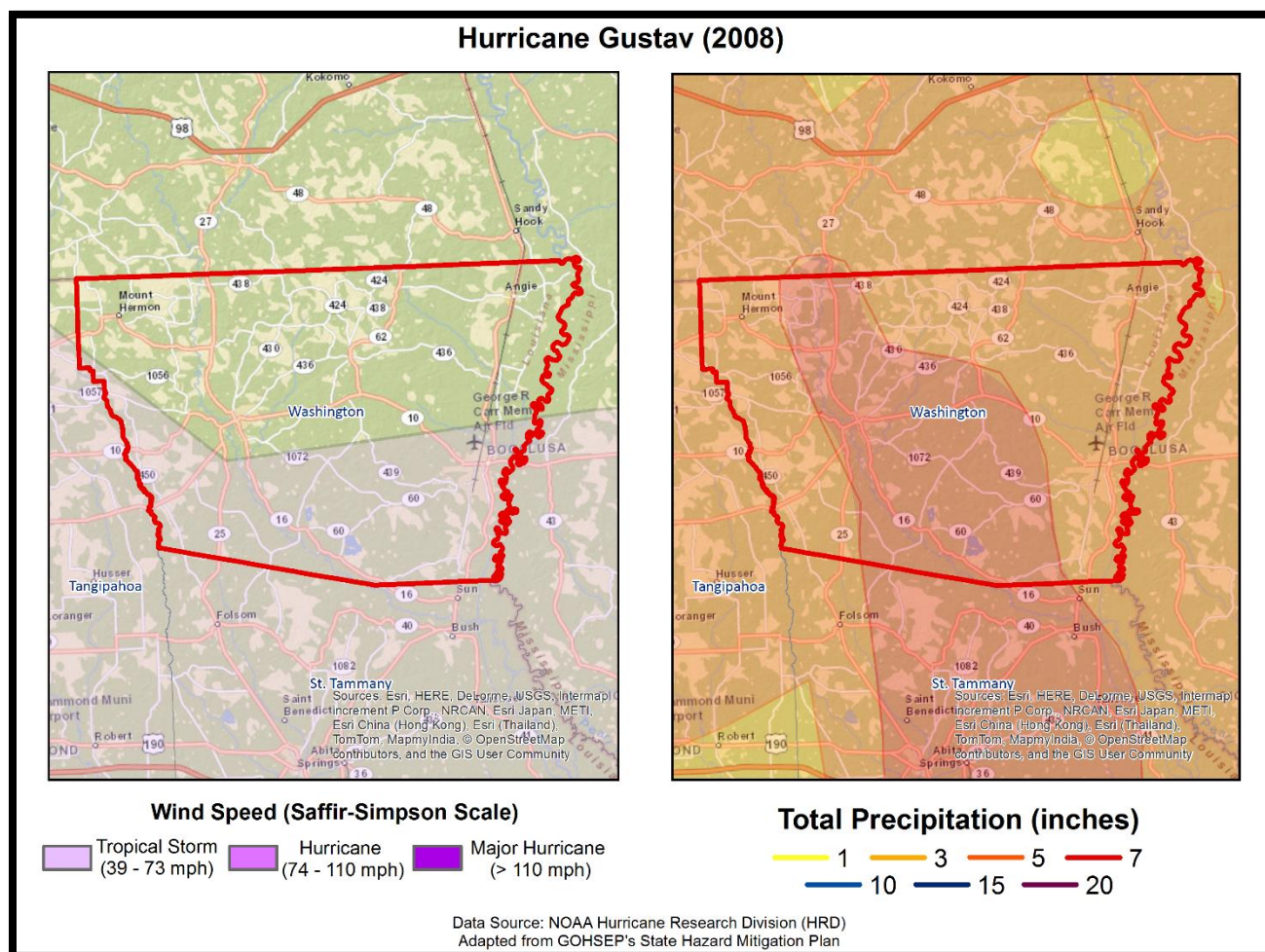


Figure 2-22: Wind Speed and Precipitation Totals in Washington Parish for Hurricane Gustav

Gustav produced widespread wind damage across southeast Louisiana, especially in the area from Houma and Thibodaux through the greater Baton Rouge area. Hurricane force wind gusts occurred across the inland areas through the Baton Rouge area and surrounding parishes. A peak wind gust of 91 mph was recorded at the Baton Rouge (Ryan Field) Airport at 112 PM CST. This was only 1 mph less than the highest wind gust recorded during Hurricane Betsy in 1965. The electric utility serving most of southeast Louisiana reported 75 to 100 percent of utility customers were without power after the storm from Lafourche and Terrebonne Parishes northwest through the Baton Rouge area to southwest Mississippi and central Louisiana. Considerable damage occurred to many houses and structures as large tree limbs and trees were toppled by the hurricane force winds. Preliminary estimates from the American Red Cross indicated that around 13,000 single family dwellings were damaged by the hurricane in southeast Louisiana, and several thousand more apartments and mobile homes. Early estimates from Louisiana Economic Development indicated that Gustav caused at least \$4.5 billion in property damage in Louisiana, including insured and uninsured losses.

Washington Parish experienced heavy rain and widespread flooding due to Hurricane Gustav. Bogalusa and Angie received between six to nine inches of rain while Franklinton received approximately 10 inches of rain due to Hurricane Gustav. The Washington Parish fairgrounds flooded and received extensive damage to buildings. Rain water washed out a bridge located on River Road as well as washed out several culverts and secondary roads. Washington Parish residents were without power in some areas for up to five days.

[Tropical Storm Lee \(2011\)](#)

Tropical Storm Lee initially developed as Tropical Depression Thirteen in the middle of the Gulf of Mexico on Thursday evening September 1st, 2011. The depression moved slowly north and gradually strengthened, eventually reaching tropical storm strength just south of the Louisiana coast on Friday afternoon September 2, 2011. Tropical Storm Lee made only slow and haltingly northward progress over the next 24 hours, eventually moving onshore the Louisiana coast Saturday night, September 3, 2011, with a maximum sustained wind estimated around 60 mph. Lee moved slowly inland to the north of Baton Rouge late Sunday September 4, 2011, and eventually weakened to a tropical depression Sunday evening.

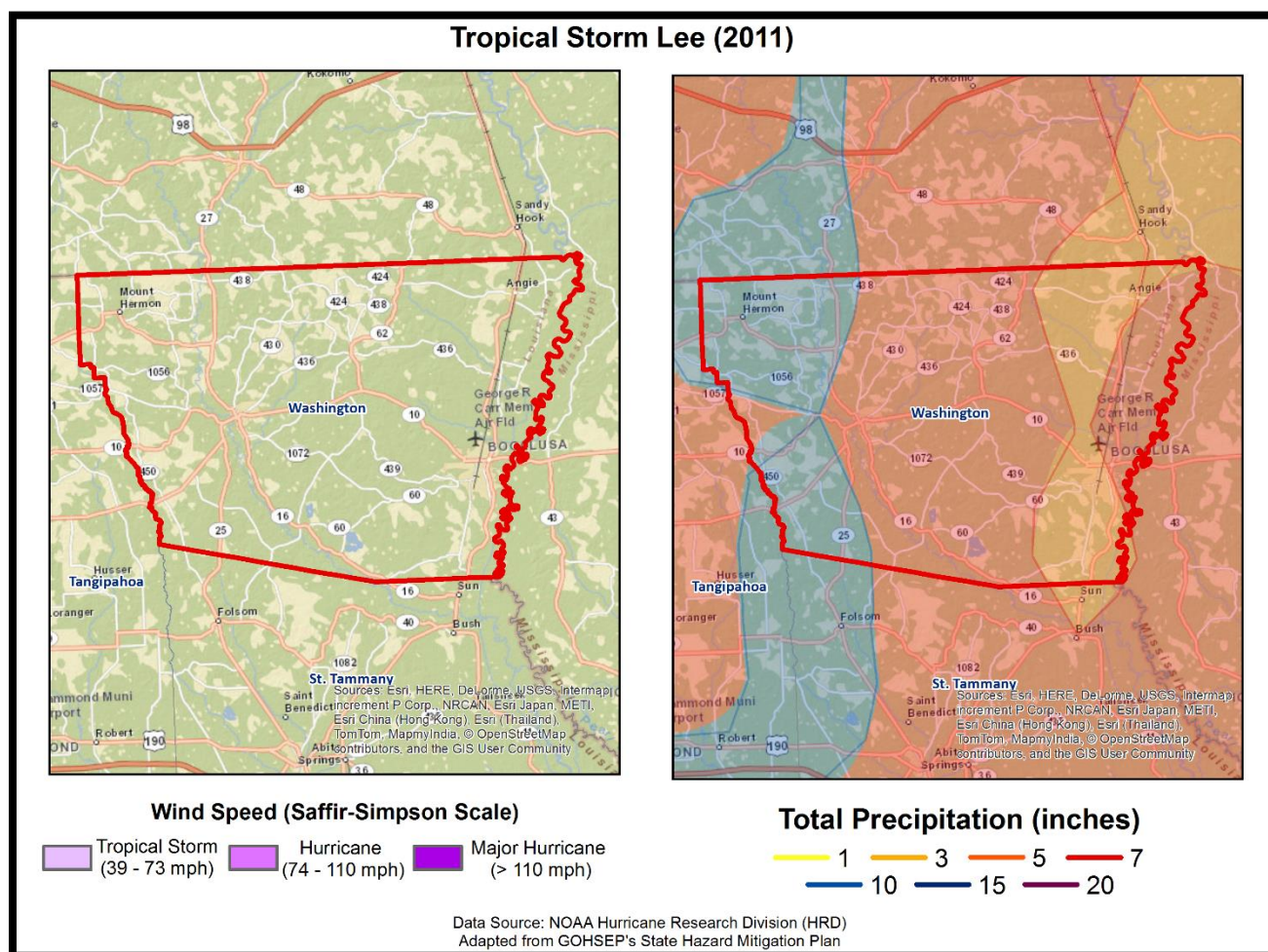


Figure 2-23: Wind Speed and Precipitation Totals in Washington Parish for Tropical Storm Lee

Tropical Depression Lee then moved steadily northeast throughout Monday, September 5, 2011, taking on extra-tropical characteristics over the next 24 hours as it interacted with an upper level disturbance moving through the region. The maximum wind observed in Louisiana was a southerly wind of 40 kts (46 mph) sustained, 50 kts (58 mph) gust at New Orleans Lakefront Airport on September 4, 2012 at 0528CST. The lowest minimum central pressure was 993.2 mb at Baton Rouge Ryan Field at September 4, 2012 at 0959CST. As Tropical Depression Lee was moving northeast and taking on mid-latitude characteristics, strong northerly winds were experienced across the region, occasionally gusting to higher levels than experienced when Lee was characterized as a tropical storm. No fatalities or injuries were associated with any Tropical Storm Lee hazards.

The main impacts associated with Tropical Storm Lee were associated with storm surge and rainfall. Both of these impacts were related to its slow forward speed as it crossed the region, which allowed the circulation to linger over the area for several days. Storm surge associated with Lee caused storm tides three to five feet above normal, causing lowland flooding. Additional detailed information about Tropical Storm Lee's storm surge is contained in the separate storm surge report. Four day total rainfall ranged between seven and fifteen inches across the area. A maximum of 15.48 inches was recorded near Holden in Livingston Parish. Due to dry antecedent conditions, river flooding was minimal for the amount of rainfall that occurred. Wind impacts were generally minimal due to only tropical storm strength winds

being recorded, resulting in tree limbs being blown down, and weak trees toppling, causing power outages. Effects from the landfall of Tropical Storm Lee were felt in different areas throughout St. Tammany Parish and its incorporated jurisdictions. According to the National Weather Service, the following statistics were recorded in association with Tropical Storm Lee:

- **Rainfall totals:** Angie 7.9 inches, Bogalusa 8.4 inches, Franklinton 7.8 inches, and Varnado 8.2 inches of rainfall
- **Overall synopsis:** Zero deaths or injuries; approximately \$10,000 worth of damage.

(Source: National Weather Service Post Tropical Cyclone Report)

In Washington Parish, overall there were minimal reports of damage to residences or infrastructure. Tropical Storm Lee did cause localized flooding in low lying areas especially in the Pearl River floodplain.

[Hurricane Isaac \(2012\)](#)

Isaac entered the Gulf of Mexico as a tropical storm on August 26, moving northwest after crossing Haiti, Cuba and the Florida Straits. Isaac strengthened into a hurricane on the morning of the 28th when it was 75 miles south-southeast of the mouth of the Mississippi River. Isaac made landfall in Plaquemines Parish as a Category 1 Hurricane near Southwest Pass of the Mississippi River on the evening of the 28th. A second landfall occurred near Port Fourchon the following morning. The storm weakened to a tropical storm on the afternoon of the 29th about 50 miles west southwest of New Orleans, and weakened further to a tropical depression on the afternoon of the 30th near Monroe, Louisiana.

The highest wind gust recorded on land in Louisiana was 75 knots, or 86 mph, measured by a portable weather station (Texas Tech University) near Buras on the evening at August 28th. The maximum sustained wind in Louisiana was 65 knots, or 75 mph, at the same portable weather station near Buras on the evening of August 28th. There were several marine observations near the coast that had slightly higher wind readings, but their observation heights were generally 80 feet or higher.

Due to Isaac's very large size, and slow forward speed, tropical storm force winds lasted in excess of 48 hours in many areas of coastal southeast Louisiana. Occasional hurricane gusts of 70 to 85 mph were recorded across southeast Louisiana during the night of August 28th and early on the 29th, especially south of Lake Pontchartrain. Interior areas of southeast Louisiana such as around Baton Rouge and northward experienced tropical storm force winds. Widespread power outages occurred across the area. Local utility companies reported over 700,000 customers were without power at the peak of the storm in southeast Louisiana. Generally, most of the wind damage was limited to downed trees and power lines, and roof damage caused by wind and falling trees and tree limbs.

Significant impact also occurred around Lakes Pontchartrain and Maurepas with a storm tide of five to nine feet. Five to ten thousand homes were flooded in low lying areas of that border these lakes of the following parishes: St. Tammany, Tangipahoa, Livingston, Ascension, St James and St John the Baptist. Laplace in St. John the Baptist was hit especially hard with over 5,000 homes flooded by storm surge. An additional storm surge fatality occurred in St. Tammany Parish on the morning of the 30th when a 75-year-old man drove his car into a storm surge filled ditch. Storm surge flooding also affected areas south and southwest of New Orleans with a storm tide of four to seven feet. Roadways and low lying property

were flooded. Local levees around Lafitte and Myrtle Grove were overtopped and/or breached resulting flooding of numerous houses and property in this area.

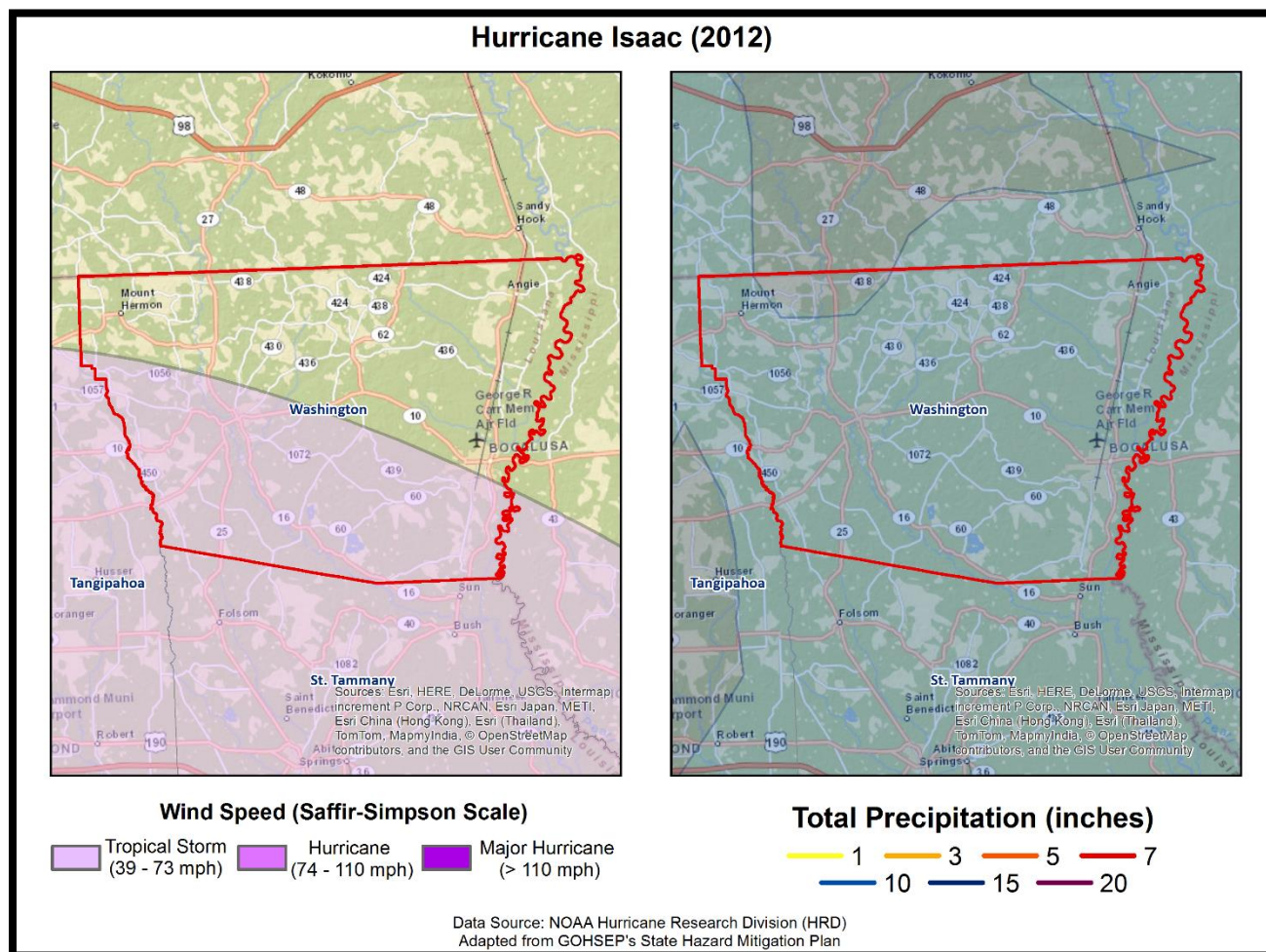


Figure 2-24: Wind Speed and Precipitation Totals in Washington Parish for Hurricane Isaac

Many areas of southeast Louisiana received eight to 12 inches of rain with a few locations having 15 inches of rain or more. Maximum storm total rainfall was 20.66 inches at the New Orleans Carrollton gauge on the Mississippi River. Rainfall run-off produced moderate to major flooding on the Tangipahoa, Tchefunche, Tickfaw, Amite, Pearl, Bogue Chitto and Bogue Falaya Rivers. Storm surge and high tides restricted outflow of the rivers near the coast and lakes exacerbating flooding in those areas.

Overall impacts of Isaac resulted in at least \$600 million in damages in southeast Louisiana, three direct fatalities, and two indirect fatalities. Storm surge flooding accounted for the bulk of damage, estimated around \$500 million and the three direct storm surge fatalities in Louisiana. Winds accounted for a much lesser amount of slightly more than a \$100 million.

In Washington Parish, Isaac caused significant building damage and power outages throughout the parish. In Bogalusa, 9.95 inches of rain fell during the event causing the Bogue Lusa Creek near Willis Avenue and Cassidy Park to flood. Several trees were uprooted due to high winds and much of the property damage

was caused by falling limbs or trees especially in the incorporated areas of Bogalusa, Angie, Varnado, and Franklinton.

Figure 2-25 displays the wind zones that affect Washington Parish in relation to critical facilities throughout the parish.

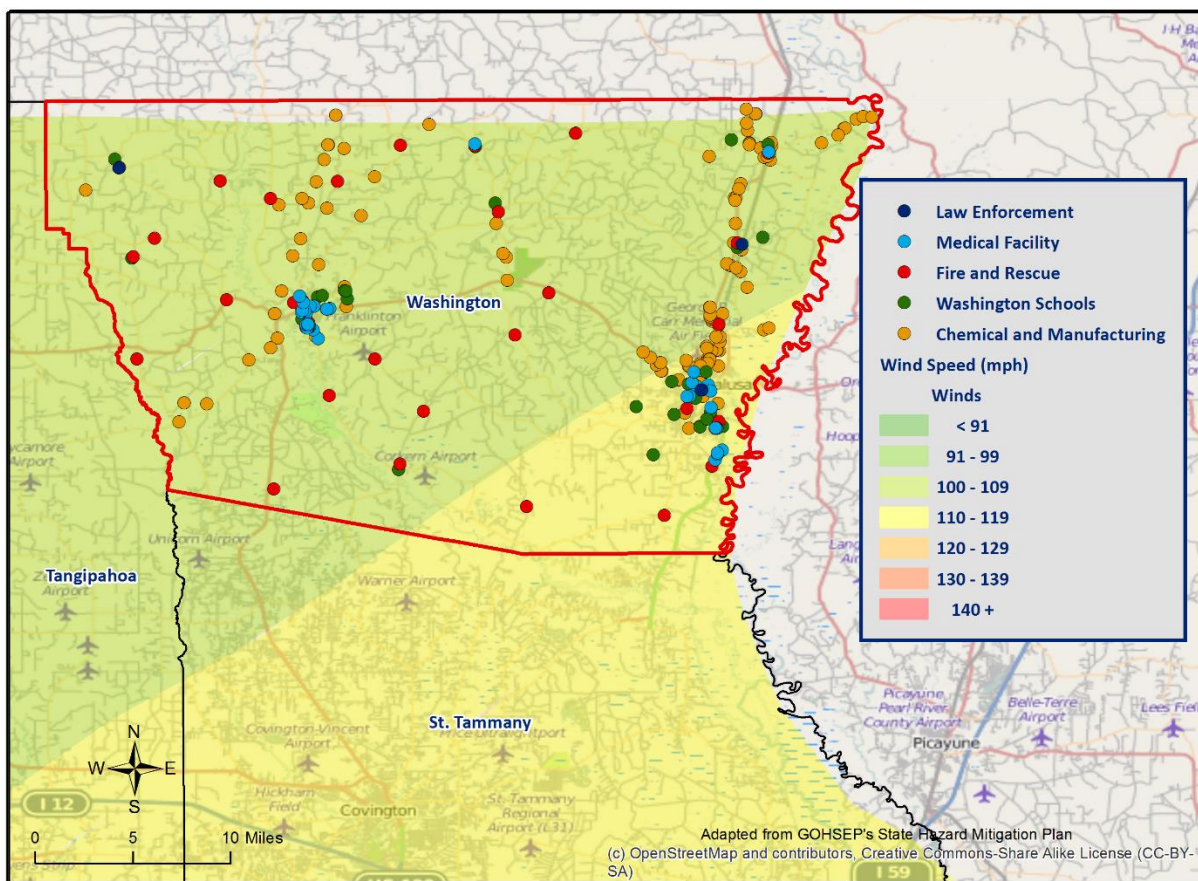


Figure 2-25: Winds Zones for Washington Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that occur regularly within Washington Parish. The annual chance of occurrence for a tropical cyclone occurrence based on a 25-year historical record is estimated at 40% for Washington Parish and its municipalities.

The tropical cyclone season for the Atlantic Basin is from June 1st through November 30th with most of the major hurricanes (Saffir-Simpson Categories 3, 4, & 5) occurring between the months of August and October. Based on geographical location alone, Washington Parish is highly vulnerable to tropical cyclones. This area has experienced several tropical cyclone events in the past and can expect more in the future. Based on a 25-year historical record, the probability of future occurrence of tropical cyclones in Washington Parish is approximately once every 2 to 3 years.

Estimated Potential Losses

Using Hazus 2.2 Hurricane Model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. *Table 2-32* shows the total economic losses that would result from this occurrence.

Table 2-32: Total Estimated Losses for a 100-Year Hurricane Event

(Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event
Washington Parish (Unincorporated)	\$33,761,779
Angie	\$288,562
Bogalusa	\$14,062,522
Franklinton	\$4,434,201
Varnado	\$1,679,639
Total	\$54,226,704

The Hazus 2.2 Hurricane Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the following tables.

Table 2-33: Estimated Losses in Washington Parish for a 100-Year Hurricane Event

(Source: Hazus 2.2)

Washington Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$162,353
Commercial	\$1,780,700
Government	\$89,766
Industrial	\$239,677
Religious / Non-Profit	\$378,337
Residential	\$31,005,689
Schools	\$105,258
Total	\$33,761,779

*Table 2-34: Estimated Losses in Angie for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Angie	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$1,388
Commercial	\$15,220
Government	\$767
Industrial	\$2,049
Religious / Non-Profit	\$3,234
Residential	\$265,006
Schools	\$900
Total	\$288,562

*Table 2-35: Estimated Losses in Bogalusa for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Bogalusa	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$67,624
Commercial	\$741,701
Government	\$37,390
Industrial	\$99,831
Religious / Non-Profit	\$157,586
Residential	\$12,914,550
Schools	\$43,842
Total	\$14,062,522

*Table 2-36: Estimated Losses in Franklinton for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Franklinton	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$21,323
Commercial	\$233,873
Government	\$11,790
Industrial	\$31,479
Religious / Non-Profit	\$49,690
Residential	\$4,072,222
Schools	\$13,824
Total	\$4,434,201

*Table 2-37: Estimated Losses in Varnado for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Varnado	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$8,077
Commercial	\$88,589
Government	\$4,466
Industrial	\$11,924
Religious / Non-Profit	\$18,822
Residential	\$1,542,524
Schools	\$5,237
Total	\$1,679,639

Threat to People

The total population within the parish that is susceptible to a hurricane hazard are shown in the table below.

*Table 2-38: Number of People Susceptible to a 100-Year Hurricane Event in Washington Parish
(Source: Hazus 2.2)*

Number of People Exposed to Hurricane Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
Parish (Unincorporated)	29,367	20,764	70.7%
Angie	251	205	81.7%
Bogalusa	12,232	9,642	78.8%
Franklinton	3,857	3,104	80.5%
Varnado	1,461	1,122	76.8%
Total	47,168	40,393	86%

The HAZUS-MH Hurricane Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the tables below:

*Table 2-39: Vulnerable Populations in Unincorporated Washington Parish for a 100-Year Hurricane
(Source: Hazus 2.2)*

Washington Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	20,764	70.7%
Persons Under 5 Years	1,329	6.4%
Persons Under 18 Years	5,046	24.3%
Persons 65 Years and Over	3,301	15.9%
White	14,099	67.9%
Minority	6,665	32.1%

*Table 2-40: Vulnerable Populations in Angie for a 100-Year Hurricane
(Source: Hazus 2.2)*

Angie		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	205	81.7%
Persons Under 5 Years	9	4.4%
Persons Under 18 Years	44	21.5%
Persons 65 Years and Over	32	15.5%
White	141	68.9%
Minority	64	31.1%

*Table 2-41: Vulnerable Populations in Bogalusa for a 100-Year Hurricane
(Source: Hazus 2.2)*

Bogalusa		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	9,642	78.8%
Persons Under 5 Years	791	8.2%
Persons Under 18 Years	1,793	18.6%
Persons 65 Years and Over	1,504	15.6%
White	4,676	48.5%
Minority	4,966	51.5%

*Table 2-42: Vulnerable Populations in Franklinton for a 100-Year Hurricane
(Source: Hazus 2.2)*

Franklinton		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	3,104	80.5%
Persons Under 5 Years	208	6.7%
Persons Under 18 Years	615	19.8%
Persons 65 Years and Over	521	16.8%
White	1,440	46.4%
Minority	1,664	53.6%

*Table 2-43: Vulnerable Populations in Varnado for a 100-Year Hurricane
(Source: Hazus 2.2)*

Varnado		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,122	76.8%
Persons Under 5 Years	20	1.8%
Persons Under 18 Years	43	3.8%
Persons 65 Years and Over	40	3.6%
White	462	41.2%
Minority	660	58.8%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to hurricanes.

Wildfire

A wildfire is combustion in a natural setting, marked by flames or intense heat. Most frequently wildfires are ignited by lightning or unintentionally by humans. Fires set purposefully (but lawfully) are referred to as controlled fires or burns. There are three different types of wildfires. (1) **Ground fires** burn primarily in the thick layers of organic matter directly on the forest floor and even within the soil. Ground fires destroy root networks, peat, and compact litter. These fires spread extremely slowly and can smolder for months. (2) **Surface fires** burn litter and vegetative matter in the underbrush of a forest. (3) **Crown fires** spread rapidly by wind and move quickly by jumping along the tops of trees. There are two types of crown fires—(a) *passive (or dependent)* crown fires rely on heat transfer from surface fire, whereas (b) *active (or independent)* crown fires do not require any heat transfer from below. Active crown fires tend to occur with greater tree density and drier conditions. A firestorm is a mass, crown fire (also called a running crown fire, area fire, or conflagration). They are large, continuous, intense fires that lead to violent convection. They are characterized by destructively violent surface in-drafts near and beyond their perimeter. Crown fires are the most damaging and most difficult to contain. The intensity of crown fires enables the fire to produce its own wind gusts. These so-called *fire whirls* can move embers ahead of the fire front and ignite new fires. Fire whirls are spinning vortex columns of ascending hot air and gases rising from the fire. Large fire whirls have the intensity of a small tornado.

The conditions conducive to the occurrence of wildfires are not distributed equally across the United States. Wildfires have a much greater likelihood of occurring in the western part of the country. Although less frequent than in other areas, wildfires do occur in Louisiana. Wildfire danger can vary greatly season to season and is exacerbated by dry weather conditions. Factors that increase susceptibility to wildfires are the availability of fuel (e.g., litter and debris), topography (i.e., slope and elevation affect various factors like precipitation, fuel amount, and wind exposure), and specific meteorological conditions (e.g., low rainfall, high temperatures, low relative humidity, and winds). The potential for wildfire is often measured by the Keetch–Byram Drought Index (KBDI), which represents the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency in the soil. The KBDI tries to measure the amount of precipitation needed to return soil to its full field capacity, with KBDI values ranging from zero (moist soil) to 800 (severe drought).

According to the State of Louisiana Forestry Division, most forest fires in Louisiana are caused by intentional acts (arson) or carelessness and negligence committed by people, exacerbated by human confrontation with nature. The wildland–urban interface is the area in which development meets wildland vegetation, where both vegetation and the built environment provide fuel for fires. As development near wildland settings continues, more people and property are exposed to wildfire danger. [Figure 2-26](#) displays the areas of wildland-urban interaction in Washington Parish.

The Southern Group of State Foresters developed the Southern Wildfire Risk Assessment Portal to create awareness among the public and government sectors about the threat of wildfires in their areas. The Southern Wildfire Assessment Portal allows users to identify areas that are most prone to wildfires. The following table summarizes the intensity levels assigned to areas in the Southern Wildfire Assessment Portal.

*Table 2-44: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale
(Source: Southern Wildfire Assessment Portal)*

Fire Intensity Scale	
Level	Definition
1	Lowest Intensity: Minimal direct wildfire impacts. Location has a minimal chance of being directly impacted by a wildfire.
2	Low Intensity: Small flames usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress.
3	Moderate Intensity: Flames up to eight feet in length; short-range spotting is possible.
4	High Intensity: Large flames up to 30 feet in length; short-range spotting common; medium range spotting possible.
5	Highest Intensity: Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire induced winds.

Location

Wildfires impact areas that are populated with forests and grasslands. Because every jurisdictional area in Washington Parish has some form of wildland-urban interface or wildland-urban intermix, the entire planning area is equally at risk for wildfires. The figure on the following page displays the areas of wildland-urban interface and intermix in Washington Parish and its jurisdictions.

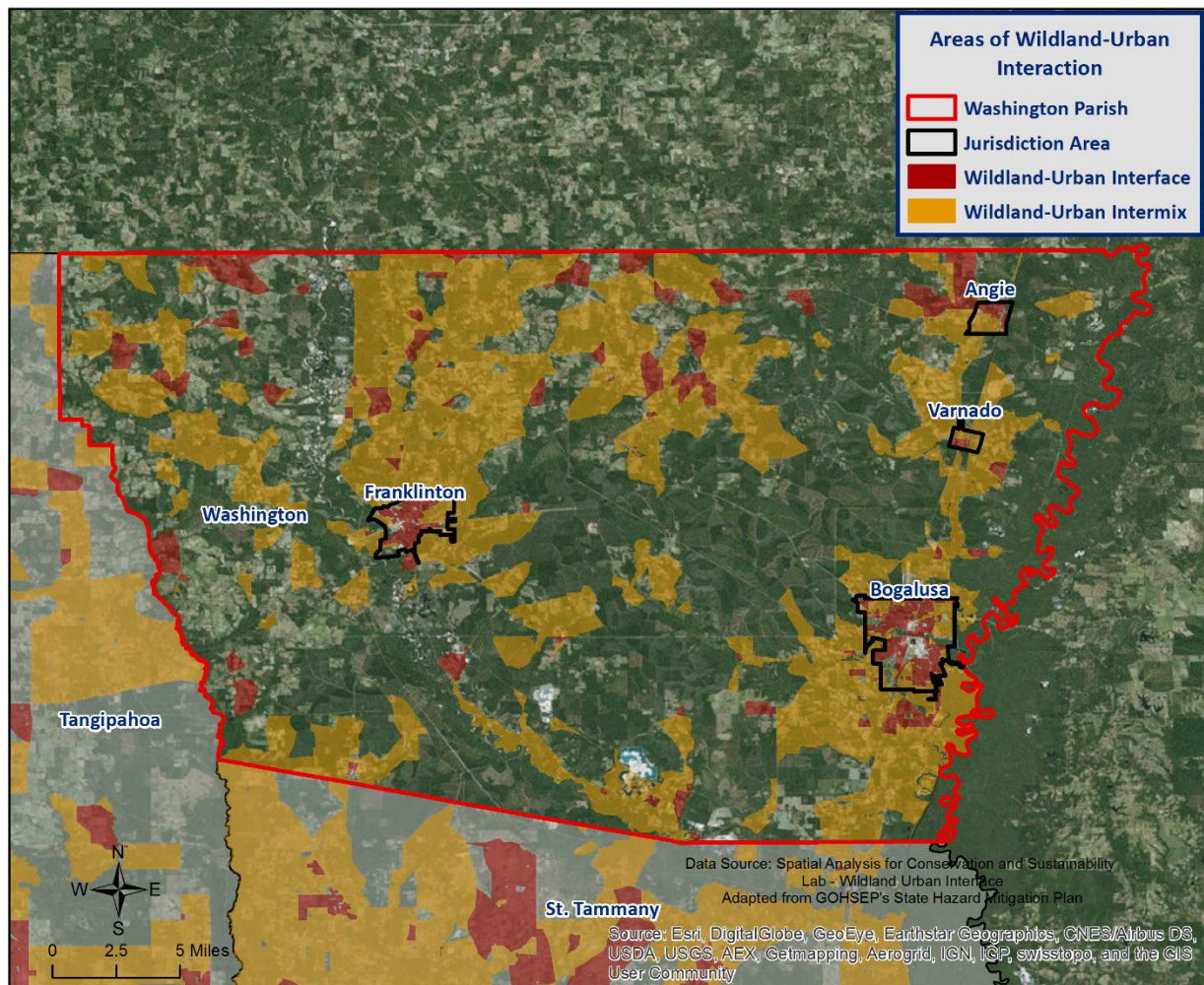


Figure 2-26: Wildland-Urban Interaction in Washington Parish

Previous Occurrences / Extents

Both the SHELUS and National Climatic Data Center (NCDC) datasets report no wildfire events occurring within the boundaries of Washington Parish between the years of 1960-2014. Based on the Southern Group of State Foresters Risk Assessment Portal, the following table outlines the intensity each jurisdictional area within Washington Parish could potential experience due to a wildfire event.

Table 2-45: Potential Wildfire Intensity Levels for Washington Parish
(Source: Southern Wildfire Assessment Portal)

Potential Wildfire Intensity	
Washington Parish (Unincorporated)	Highest Intensity Level 5
Angie	High Intensity Level 4
Bogalusa	Low Intensity Level 2
Franklinton	Moderate Intensity Level 3
Varnado	Moderate Intensity Level 3

Frequency / Probability

There have been no recorded wildfire events within the boundaries of Washington Parish. Based on NCDC and SHEDUS datasets, the annual chance of a wildfire event occurring is calculated at less than 1%.

Estimated Potential Losses

According to the SHELUDS database, there have been no wildfire events that have caused property damage, crop damage, injuries, or fatalities in Washington Parish. In accessing the overall risk to population, the most vulnerable population throughout the parish consists of those residing in areas of wildland-urban interaction.

Using Hazus 2.2 along with wildland-urban interaction areas, the following table presents an analysis of total building exposure that are located within the wildland-urban interaction areas.

*Table 2-46: Total Building Exposure by Wildland-Urban Interaction Areas
(Source: Hazus 2.2)*

Jurisdiction	Estimated Total Building Exposure
Washington Parish (Unincorporated)	\$3,100,661,000
Angie	\$11,757,000
Bogalusa	\$1,662,906,000
Franklinton	\$595,910,000
Varnado	\$41,740,000
Total	\$5,412,974,000

Hazus 2.2 also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. Utilizing this information with the wildland-urban interaction areas allows for identifying the total exposure by jurisdiction. The total exposure for each jurisdiction by sector are listed in the following tables:

*Table 2-47: Estimated Exposure for Unincorporated Washington Parish by Sector
(Source: Hazus 2.2)*

Washington Parish (Unincorporated)	Estimated Total Building Exposure by Sector
Agricultural	\$35,036,000
Commercial	\$189,217,000
Government	\$17,898,000
Industrial	\$105,908,000
Religious / Non-Profit	\$111,782,000
Residential	\$2,618,996,000
Schools	\$21,824,000
Total	\$3,100,661,000

Table 2-48: Estimated Exposure for Angie by Sector
(Source: Hazus 2.2)

Angie	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$906,000
Government	\$4,430,000
Industrial	\$1,456,000
Religious / Non-Profit	\$592,000
Residential	\$3,231,000
Schools	\$1,142,000
Total	\$11,757,000

Table 2-49: Estimated Exposure for Bogalusa by Sector
(Source: Hazus 2.2)

Bogalusa	Estimated Total Building Exposure by Sector
Agricultural	\$1,644,000
Commercial	\$272,019,000
Government	\$14,175,000
Industrial	\$47,658,000
Religious / Non-Profit	\$75,610,000
Residential	\$1,222,986,000
Schools	\$28,814,000
Total	\$1,662,906,000

Table 2-50: Estimated Exposure for Franklinton by Sector
(Source: Hazus 2.2)

Franklinton	Estimated Total Building Exposure by Sector
Agricultural	\$1,146,000
Commercial	\$163,164,000
Government	\$9,869,000
Industrial	\$20,101,000
Religious / Non-Profit	\$29,230,000
Residential	\$353,776,000
Schools	\$18,624,000
Total	\$595,910,000

Table 2-51: Estimated Exposure for Varnado by Sector
(Source: Hazus 2.2)

Varnado	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$1,880,000
Government	\$4,429,000
Industrial	\$0
Religious / Non-Profit	\$9,216,000
Residential	\$26,059,000
Schools	\$156,000
Total	\$41,740,000

Threat to People

The total population within the parish that is located within a wildland-urban interaction area are shown in the table below.

Table 2-52: Populations Located within a Wildland-Urban Interaction Area.
(Source: 2010 U.S. Census Data)

Number of People Located in Wildland-Urban Interaction Areas.			
Location	# in Community	# in Area	% in Area
Washington Parish (Unincorporated)	29,367	18,117	61.7%
Angie	251	240	95.6%
Bogalusa	12,232	12,011	98.2%
Franklinton	3,857	3,828	99.2%
Varnado	1,461	1,459	99.9%
Total	47,168	35,655	75.6%

The 2010 U.S. Census data was also extrapolated to provide an overview of populations located within a wildland-urban interaction area throughout the jurisdictions in the following tables:

Table 2-53: Population in Unincorporated Washington Parish Located within a Wildland-Urban Interaction Area

(Source: 2010 U.S. Census Data)

Washington Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	18,117	61.7%
Persons Under 5 Years	1,159	6.4%
Persons Under 18 Years	4,402	24.3%
Persons 65 Years and Over	2,881	15.9%
White	12,301	67.9%
Minority	5,816	32.1%

Table 2-54: Population in Angie Located within a Wildland-Urban Interaction Area

(Source: 2010 U.S. Census Data)

Angie		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	240	95.6%
Persons Under 5 Years	11	4.4%
Persons Under 18 Years	52	21.5%
Persons 65 Years and Over	37	15.5%
White	165	68.9%
Minority	75	31.1%

*Table 2-55: Population in Bogalusa Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)*

Bogalusa		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	12,011	98.2%
Persons Under 5 Years	985	8.2%
Persons Under 18 Years	2,234	18.6%
Persons 65 Years and Over	1,874	15.6%
White	5,825	48.5%
Minority	6,186	51.5%

*Table 2-56: Population in Franklinton Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)*

Franklinton		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	3,828	99.2%
Persons Under 5 Years	256	6.7%
Persons Under 18 Years	758	19.8%
Persons 65 Years and Over	643	16.8%
White	1,776	46.4%
Minority	2,052	53.6%

*Table 2-57: Population in Varnado Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)*

Varnado		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	1,459	99.9%
Persons Under 5 years	26	1.8%
Persons Under 18 years	55	3.8%
Persons 65 Years and Over	53	3.6%
White	601	41.2%
Minority	858	58.8%

Vulnerability

See Appendix C for parish and municipality facilities that could potentially be exposed to a wildfire hazard. Buildings were determined based on whether or not they fall within the wildfire-urban interface and/or intermix.

3 Capability Assessment

This section summarizes the results of Washington Parish's jurisdictions and other agency efforts to develop policies, programs, and activities that directly or indirectly support hazard mitigation. It also provides information on resources and gaps in the parish's infrastructure, as well as relevant changes in its laws since the last plan update, in order to suggest a mitigation strategy.

Through this assessment, Washington Parish and the participating jurisdictions are able to identify strengths that could be used to reduce losses and reduce risk throughout the community. It also identifies areas where mitigation actions might be used to supplement current capabilities and create a more resilient community before, during and after a hazard event.

Policies, Plans and Programs

Washington Parish capabilities are unique to the parish, including planning, regulatory, administrative, technical, financial, and education and outreach resources. There are a number of mitigation-specific acts, plans, executive orders, and policies that lay out specific goals, objectives, and policy statements which already support or could support pre- and post-disaster hazard mitigation. Many of the ongoing plans and policies hold significant promise for hazard mitigation, and take an integrated and strategic look holistically at hazard mitigation in Washington Parish to continually propose ways to improve it. These tools are valuable instruments in pre and post disaster mitigation as they facilitate the implementation of mitigation activities through the current legal and regulatory framework. Examples of existing documents in Washington Parish and its jurisdictions can be found on the following page.

Table 3-1: Washington Parish Planning and Regulatory Capabilities

Planning and Regulatory						
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.						
	Washington Unincorporated	Bogalusa	Franklinton	Angie	Varnado	Comments
Plans	Yes / No					
Comprehensive / Master Plan	Y	Y	Y	N	N	
Capital Improvements Plan	N	Y	Y	N	N	
Economic Development Plan	N	N	Y	N	N	
Local Emergency Operations Plan	Y	Y	Y	Y	N	
Continuity of Operations Plan	N	N	N	N	N	
Transportation Plan	N	N	N	N	N	
Stormwater Management Plan	Y	N	Y	N	N	
Community Wildfire Protection Plan	N	N	N	N	N	
Other plans (redevelopment, recovery, coastal zone management)	Y	Y	N	N	N	
Building Code, Permitting and Inspections	Yes / No					
Building Code	Y	Y	N	Y	Y	Angie is under the Parish Plan
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	N	N	N	N	
Fire Department ISO/PIAL rating	N	Y	N	Y	N	
Site plan review requirements	N	Y	N	N	N	
Land Use Planning and Ordinances	Yes / No					
Zoning Ordinance	N	Y	Y	Y	N	
Subdivision Ordinance	N	Y	Y	N	N	
Floodplain Ordinance	Y	Y	Y	Y	Y	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	N	N	Y	N	N	
Flood Insurance Rate Maps	Y	Y	Y	Y	Y	
Acquisition of land for open space and public recreation uses	N	Y	Y	N	N	
Other		N	N	N	N	

Washington Parish and its jurisdictions will work to expand their capabilities by adding to these plans, as well as work to create new plans that will address a long-term recovery and resiliency framework. In instances where jurisdictions do not have any plans, there will be a commitment to explore opportunities to create new plans that will address long-term recovery and resiliency framework as parish and local resources allow.

Building Codes, Permitting, Land Use Planning and Ordinances

As of the 2015 update Washington Parish and its jurisdictions ensures that all building codes adopted are enforced and in compliance relating to the construction of any within the boundaries of the parish. Permitting and inspections capabilities in place within the parish and its incorporated jurisdictions through the Washington Parish Permit Office.

While local capabilities for mitigation can vary from community to community, Washington Parish as a whole has a system in place to coordinate and share these capabilities through the OHSEP and through this Parish Hazard Mitigation Plan. Some programs and policies, such as the above described, might use complementary tools to achieve a common end, but fail to coordinate with or support each other. Thus, coordination among local mitigation policies and programs is essential to hazard mitigation.

Administration, Technical, and Financial

As a community, Washington Parish has administrative and technical capabilities in place that may be utilized in reducing hazard impacts or implementing hazard mitigation activities. Such capabilities include staff, skillset, and tools available in the community that may be accessed to implement mitigation activities and to effectively coordinate resources. The ability to access and coordinate these resources is also important. The following are examples of resources in place in Washington Parish and its jurisdictions:

Table 3-2: Washington Parish Administrative and Technical Capabilities

	Washington Unincorporated	Bogalusa	Franklinton	Angie	Va mado
Administration	Yes / No				
Planning Commission	Y	Y	Y	N	N
Mitigation Planning Committee	Y	Y	Y	N	N
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Y	Y	Y	Y	Y
Staff					
Chief Building Official	Y	Y	Y	N	N
Floodplain Administrator	Y	Y	Y	N	N
Emergency Manager	Y	Y	Y	N	N
Community Planner	N	Y	N	N	N
Civil Engineer	N	N	N	N	N
GIS Coordinator	Y	N	N	N	N
Grant Writer	N	N	N	N	N
Other	N	N	N	N	N
Technical					
Warning Systems / Service (Reverse 911, outdoor warning signals)	Y	Y	Y	N	N
Hazard Data & Information	Y	N	N	N	N
Grant Writing	N	N	N	N	N
Hazus Analysis	N	N	N	N	N
Other	N	N	N	N	N

Financial capabilities are the resources that Washington Parish and its incorporated jurisdictions have access to or are eligible to use in order to fund mitigation actions. Costs associated with implementing

the actions identified by the jurisdictions may vary from little to no cost actions, such as outreach efforts, or substantial action costs such acquisition of flood prone properties. The follow resources are available to fund mitigation actions in Washington Parish and its jurisdictions:

Table 3-3: Washington Parish Financial Capabilities

	Washington Unincorporated	Bogalusa	Franklinton	Angie	Varnado
Funding Resource	Yes / No				
Capital Improvements project funding	Y	Y	Y	Y	Y
Authority to levy taxes for specific purposes	Y	Y	Y	N	N
Fees for water, sewer, gas, or electric services	Y	Y	Y	N	N
Impact fees for new development	N	N	N	N	N
Stormwater Utility Fee	N	N	N	N	N
Community Development Block Grant (CDBG)	Y	Y	Y	Y	Y
Other Funding Programs	Y	N	N	N	Y

Education and Outreach

A key element in hazard mitigation is promoting a safer, more disaster resilient community through education and outreach activities and/or programs. Successful outreach programs provide data and information that improves overall quality and accuracy of important information for citizens to feel better prepared and educated with mitigation activities. These programs enable the individual jurisdictions and parish as a whole to maximize opportunities for implementation of activities through greater acceptance and consensus of the community.

Washington Parish and its jurisdictions have existing education and outreach programs to implement mitigation activities as well as communicate risk and hazard related information to its communities. Specifically focusing on advising repetitive loss property owners of ways they can reduce their exposure to damage by repetitive flooding remains a priority for the entire parish. The existing programs are as follows:

Table 3-4: Washington Parish Education and Outreach Capabilities

	Washington Unincorporated	Bogalusa	Franklinton	Angie	Varnado
Program / Organization	Yes / No				
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Y	Y	N	N
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Y	Y	Y	N	N
Natural Disaster or safety related school program	Y	Y	Y	N	N
Storm Ready certification	N	N	N	N	N
Firewise Communities certification	N	N	N	N	N
Public/Private partnership initiatives addressing disaster-related issues	N	N	N	N	N
Other	N	N	N	N	N

In some cases, the jurisdictions rely on Washington Parish OHSEP and/or Washington Parish Government Agencies for the above listed planning and regulatory, administrative and technical, financial, and education and outreach capabilities. Comments regarding the jurisdictions utilization or intentions to utilize and leverage the capabilities of the parish government can be found in Appendix E in the jurisdictional specific worksheets.

As reflected with above existing regulatory mechanisms, programs and resources within each jurisdiction, Washington Parish and each jurisdiction remains committed to expanding and improving on the existing capabilities within the parish. Each participating jurisdiction will work toward increased participation in funding opportunities and available mitigation programs. Should funding become available, the hiring of additional personnel to dedicate to Hazard Mitigation initiatives and programs, as well as increasing ordinances within the jurisdictions will all enhance and expand risk reduction measures within the parish.

With the sharing of these capabilities, the following municipalities and entities are recognized by Washington Parish under the Hazard Mitigation Plan allowing them to apply for available hazard mitigation funding for as long as these municipalities and entities notify the parish of their intentions and the parish concurs.

- Washington Parish
- City of Bogalusa
- Town of Franklinton
- Village of Angie
- Village of Varnado

Flood Insurance and Community Rating System

Washington Parish is not a participant in the Community Rating System (CRS). Obtaining a CRS rating for the parish and participating jurisdictions was recognized by the steering committee as a future possibility for the parish. Participation in the CRS strengthens local capabilities by lowering flood insurance premiums for jurisdictions that exceed NFIP minimum requirements.

The Federal Emergency Management Agency's National Flood Insurance Program (NFIP) administers the Community Rating System (CRS). Under the CRS, flood insurance premiums for properties in participating communities are reduced to reflect the flood protection activities that are being implemented. This program can have a major influence on the design and implementation of flood mitigation activities, so a brief summary is provided here.

A community receives a CRS classification based upon the credit points it receives for its activities. It can undertake any mix of activities that reduce flood losses through better mapping, regulations, public information, flood damage reduction and/or flood warning and preparedness programs.

There are ten CRS classes: class 1 requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction (see [Figure 3-1](#)). A community that does not apply for the CRS or that does not obtain the minimum number of credit points is a class 10 community.

CLASS	DISCOUNT	CLASS	DISCOUNT
1	45%	6	20%
2	40%	7	15%
3	35%	8	10%
4	30%	9	5%
5	25%	10	—
SFHA (Zones A, AE, A1–A30, V, V1–V30, AO, and AH): Discount varies depending on class.			
SFHA (Zones A99, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO): 10% discount for Classes 1–6; 5% discount for Classes 7–9.*			
Non-SFHA (Zones B, C, X, D): 10% discount for Classes 1–6; 5% discount for Classes 7–9.			

* In determining CRS Premium Discounts, all AR and A99 Zones are treated as non-SFHAs.

Figure 3-1: CRS Discounts by Class

(Source: FEMA)

Emergency Management Agency's National Flood Insurance Program (NFIP). Of these communities, 41 (or 13%) participate in the Community Rating System (CRS). Of the top 50 Louisiana communities, in terms of total flood insurance policies held by residents, 27 participate in the CRS. The remaining 23 communities present an outreach opportunity for encouraging participation in the CRS. In Washington Parish, the following communities participate; including Mandeville (class 7), Slidell (class 7), and Washington Parish (class 7).

The CRS provides an incentive not just to start new mitigation programs, but to keep them going. There are two requirements that "encourage" a community to implement flood mitigation activities.

If Washington Parish moves forward to obtain a CRS rating, the parish will receive CRS credit for this plan when it is adopted. To retain that credit, though, the parish must submit an evaluation report on progress toward implementing this plan to FEMA by October 1 of each year. That report must be made available to the media and the public.

Second, the parish must annually recertify to FEMA that it is continuing to implement its CRS credited activities. Failure to maintain the same level of involvement in flood protection can result in a loss of CRS credit points and a resulting increase in flood insurance rates to residents.

In 2011, the National Flood Insurance Program (NFIP) completed a comprehensive review of the Community Rating System (CRS) that will result in the release of a new CRS Coordinator's Manual.

The changes to the 2013 CRS Coordinator's Manual are the result of a multi-year program evaluation that included input from a broad group of contributors to evaluate the CRS and refine the program to meet its stated goals.

The upcoming changes will drive new achievements in the following six core flood loss reduction areas important to the NFIP: (1) reduce liabilities to the NFIP Fund; (2) improve disaster resiliency and sustainability of communities; (3) integrate a whole community approach to addressing emergency management; (4) promote natural and beneficial functions of floodplains; (5) increase understanding of risk, and; (6) strengthen adoption and enforcement of disaster-resistant building codes.

The 2013 CRS Coordinator's Manual changes will impact each CRS community differently. Some communities will see an increase in the points they receive since points for certain activities have increased (e.g., Activity 420 Open Space Preservation). Other communities will receive fewer points for

During the last update, 38 Louisiana communities participate. Mandeville, Shreveport, and Jefferson and East Baton Rouge Parishes had the best classifications in the state, Class 7. As of the 2015 update, Jefferson, East Baton Rouge, and Terrebonne Parishes all lead the state with best classifications, Class 6.

As of May 2012, 310 communities in the State of Louisiana participate in the Federal

certain activities (e.g., Activity 320 Map Information Service). It is likely that some communities with marginal CRS Class 9 programs will have to identify new CRS credits in order to remain in the CRS.

Typically, CRS communities do not request credit for all the activities they are currently implementing unless it would earn enough credit to advance the community to a higher CRS Class. A community that finds itself losing CRS credit with the 2013 manual could likely identify activities deserving credit they had not previously received.

Due to the changes in both activities and CRS points, community CRS coordinators should speak with their ISO/CRS Specialist to understand how and when the 2013 Manual will impact their community.

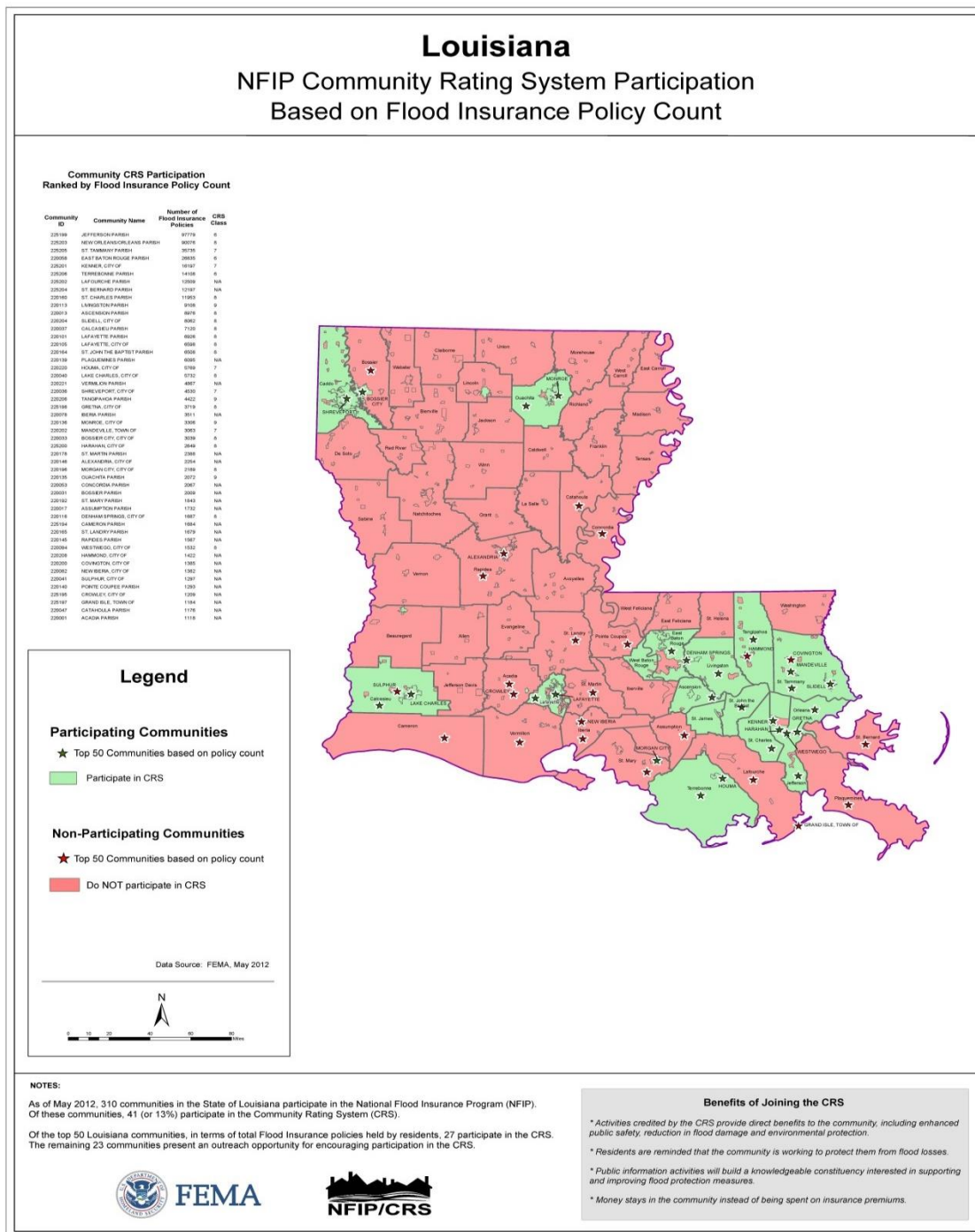


Figure 3-2: Louisiana CRS NFIP Participation
(Source: FEMA²)

² http://www.fema.gov/media-library-data/20130726-2128-31471-9581/ks_ky_la_crs_may_2012_508.zip

In addition to the direct financial reward for participating in the Community Rating System, there are many other reasons to participate in the CRS. As FEMA staff often say, “If you are only interested in saving premium dollars, you’re in the CRS for the wrong reason.” The other benefits that are more difficult to measure in dollars include:

1. The activities credited by the CRS provide direct benefits to residents, including:

- Enhanced public safety;
- A reduction in damage to property and public infrastructure;
- Avoidance of economic disruption and losses;
- Reduction of human suffering; and
- Protection of the environment

2. A community’s flood programs will be better organized and more formal. Ad hoc activities, such as responding to drainage complaints rather than an inspection program, will be conducted on a sounder, more equitable basis.

3. A community can evaluate the effectiveness of its flood program against a nationally recognized benchmark.

4. Technical assistance in designing and implementing a number of activities is available at no charge from the Insurance Services Office.

5. The public information activities will build a knowledgeable constituency interested in supporting and improving flood protection measures.

6. A community would have an added incentive to maintain its flood programs over the years. The fact that its CRS status could be affected by the elimination of a flood related activity or a weakening of the regulatory requirements for new developments would be taken into account by the governing board when considering such actions.

7. Every time residents pay their insurance premiums, they are reminded that the community is working to protect them from flood losses, even during dry years.

**More information on the Community Rating System can be found at www.fema.gov/nfip/crs.shtm

NFIP Worksheets

Parish and participating jurisdiction NFIP worksheets can be found in Appendix E: State Required Worksheets.

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4 Mitigation Strategy

Introduction

Washington Parish's Hazard Mitigation Strategy has a common guiding principle and is the demonstration of the parish and participating jurisdictions commitment to reduce risks from hazards. The strategy also serves as a guide for parish and local decision makers as they commit resources to reducing the effects of hazards.

An online public opinion survey was conducted of Washington Parish residents between August and October 2014. The 25 question survey was completed by 103 parish residents over the age of 18.

The survey was designed to capture public perceptions and opinions regarding natural hazards in Washington Parish. In addition, the survey collected information regarding the methods and techniques preferred by the respondents for reducing the risks and losses associated with local hazards.

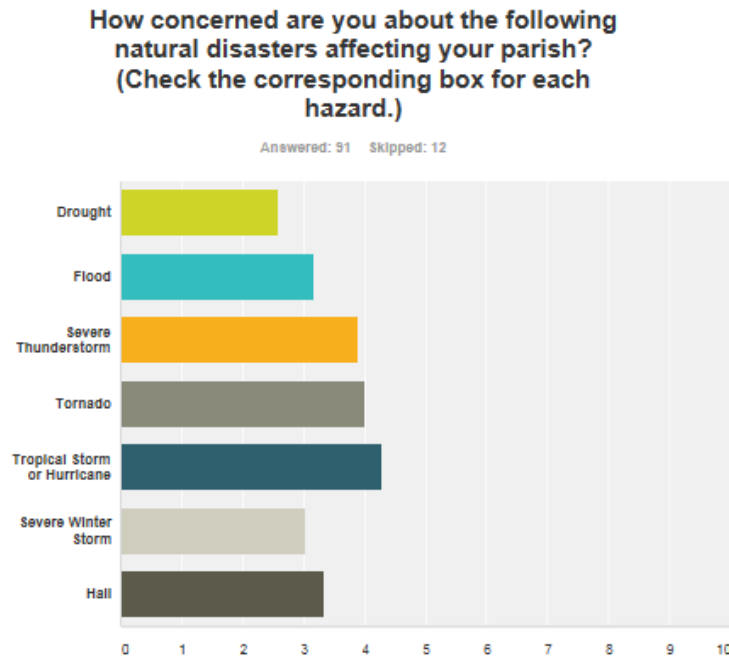
When asked to gage from a list which categories were more susceptible to impacts caused by natural hazards, the top three categories selected were:

1. Human (Loss of life and/or injuries)
2. Economic (Business closures and/or job losses)
3. Infrastructure (Damage or loss of bridges, utilities, schools, etc.)

	1	2	3	4	5	6	Total	Score
Human (Loss of life and/or injuries)	64.38% 47	6.85% 5	10.96% 8	8.22% 6	5.48% 4	4.11% 3	73	5.04
Economic (Business closures and/or job losses)	6.85% 5	20.55% 15	26.03% 19	31.51% 23	10.96% 8	4.11% 3	73	3.68
Infrastructure (Damage or loss of bridges, utilities, schools, etc.)	9.72% 7	34.72% 25	30.56% 22	15.28% 11	9.72% 7	0.00% 0	72	4.19
Cultural/Historic (Damage or loss of libraries, museums, historic sites)	0.00% 0	2.67% 2	6.67% 5	13.33% 10	21.33% 16	56.00% 42	75	1.79
Environmental (Damage or loss of forests, pastureland, waterways, etc.)	17.72% 14	17.72% 14	12.66% 10	17.72% 14	26.58% 21	7.59% 6	79	3.59
Governance (Ability to maintain order and/or provide public amenities and services)	3.80% 3	18.99% 15	16.46% 13	15.15% 12	21.52% 17	24.05% 19	79	2.96

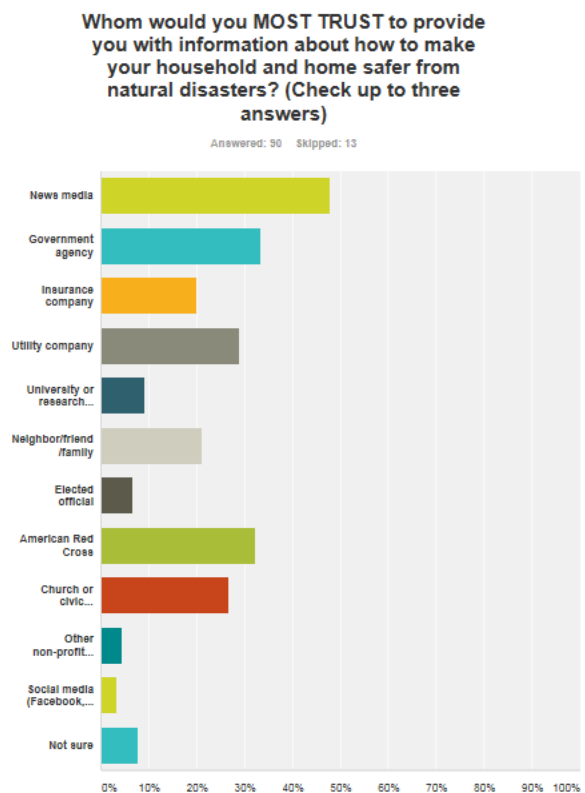
The survey results also indicated which natural disasters citizens were *most concerned* with being affected by in Washington Parish. The top three natural disasters selected were:

1. Hurricane
2. Tornado
3. Severe Thunderstorms



The online survey also showed a level of trust in the parish government and media for disaster related issues, further highlighting the collaborative relationship between citizen and government agencies. This indicated that the strategies and actions being implemented within the communities is trusted and important to citizens.

Washington Parish reviewed the goals, objectives, actions and projects over the period of the hazard mitigation plan update process. The mitigation actions and projects in this 2015 Hazard Mitigation Plan Update are a product of analysis and review of the Washington Parish Hazard Mitigation Plan Steering Committee under the coordination of the Washington Parish Office of Homeland Security and Emergency Preparedness. The Committee was presented a list of projects and actions, new and from the 2009 plan, for review from October 2014 to June 2015.



During the public meeting in July 2015, the committee and participating jurisdictions provided a status of the projects from 2009 and the proposed actions for the 2015 update. Breakout forums were provided for citizens to discuss each project with subject matter experts from the parish and maps were provided for participants.

Committee members then submitted jurisdiction specific projects based on feasibility for funding, ease of completion and other community specific factors. The actions were later prioritized.

This activity confirms that the goals and action items developed by the Washington Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. Full survey results can be found here:

<https://www.surveymonkey.com/r/WashingtonHMPU>

The goals represent the guidelines the parish and its communities want to achieve with this plan update. To help implement the strategy and adhere to the mission of the Hazard Mitigation Plan, the preceding section of the plan update was focused on identifying and quantifying the risks faced by the residents and property owners in Washington Parish from natural and manmade hazards. By articulating goals and objectives based on the previous plans, the risk assessment results, and intending to address those results, this section sets the stage for identifying, evaluating, and prioritizing feasible, cost effective, and environmentally sound actions to be promoted at the parish and municipal level – and to be undertaken by the state for its own property and assets. By doing so, Washington Parish and its jurisdictions can make progress toward reducing identified risks.

For the purposes of this plan update, goals and action items are defined as follows:

- **Goals** are general guidelines that explain what the parish wants to achieve. Goals are expressed as broad policy statements representing desired long-term results.
- **Action Items** are the specific steps (projects, policies, and programs) that advance a given goal. They are highly focused, specific, and measurable.

Goals

The current goals of the Washington Parish Hazard Mitigation Plan Update Steering Committee represent long-term commitments by the parish and its jurisdictions. After assessing these goals, the committee decided that the current six goals remain valid and agreed to the addition of a seventh goal.

The goals are as follows:

- **Goal 1:** Identify and pursue preventative measures that will reduce future damages from hazards including the reduction of repetitive losses in the parish and its municipalities.
- **Goal 2:** Enhance public awareness and understanding of hazard mitigation.
- **Goal 3:** Facilitate sound development in the parish and municipalities so as to reduce or eliminate the potential impact of hazards.
- **Goal 4:** Enhance local capability and improve data collection as it relates to hazard mitigation.

The Mitigation Action Plan focuses on actions to be taken by Washington Parish and its jurisdictions. All of the activities in the Mitigation Action Plan will be focused on helping the parish and its municipalities in developing and funding projects that are not only cost effective but also meet the other DMA 2000 criteria of environmental compatibility and technical feasibility.

The Hazard Mitigation Plan Steering Committee and each jurisdiction reviewed and evaluated the potential action and project lists in which consideration was given to a variety of factors. Such factors include determining a project's eligibility for federal mitigation grants as well as its ability to be funded. This process required evaluation of each project's engineering feasibility, cost effectiveness, and environmental and cultural factors.

2015 Mitigation Actions and Update on Previous Plan Actions

The Washington Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions each identified actions that would reduce and/or prevent future damage within Washington Parish and their respective communities. In that effort, each jurisdiction focused on a comprehensive range of specific mitigation actions. These actions were identified in thorough fashion by the consultant team, the committee and the individual jurisdictions by way of frequent and open communications and meetings held throughout the planning process.

As outlined in the Local Mitigation Planning Handbook the following are eligible types of Mitigation Actions:

- **Local Plans and Regulations** – These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.
- **Structure and Infrastructure Projects** – These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area, and also includes projects to construct manmade structures to reduce the impact of hazards.
- **Natural System Protection** – These actions minimize the damage and losses and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs** – These actions inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.

The established and agreed upon parish and jurisdiction actions relative to the parish-wide goals are below. Additionally, action updates from the previous plan updates can be found at bottom of each table.

Washington Parish Mitigation Action Update

Previous Plan Mitigation Action Update for Washington Parish				
Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Status
Transfer Switch Installation	Installation of automatic transfer switches at 3 fire stations, Washington Parish Public Works, Parish Government, Franklinton Town Hall, WPOHSEP Office. Mounting of six customer owned generators on trailers	HMPG	Washington Parish	Ongoing
Wind Retrofitting	Wind retrofit of six schools in Washington Parish	HMPG	Washington Parish	Ongoing
Phase 1 Wind Retrofit	Phase 1 of wind retrofitting for four Bogalusa City Schools	HMPG	Washington Parish	Ongoing
Generator	Purchase of generator for new Emergency operations center	HMPG	Washington Parish	Complete
Wind Retrofitting	Wind retrofit of four schools in Washington Parish	HMPG	Washington Parish	Ongoing
Hardening Project	Hardening of Washington Parish Government Building and Courthouse	HMPG	Washington Parish	Ongoing
Elevations	Elevation of one severe repetitive loss property	HMPG	Washington Parish	Complete
Elevations	Elevation of eight severe repetitive loss properties	HMPG	Washington Parish	Ongoing
Culvert work	Bridge to culvert (47)	HMPG	Washington Parish	Ongoing
Radios	Purchase of Alert FM radio receivers for emergency warning capabilities	HMPG	Washington Parish	Complete
Drainage	Drainage Improvements - Phase 1	HMPG	Washington Parish	Ongoing

Washington Unincorporated

Washington Unincorporated Mitigation Actions							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
W1: Hardening of buildings	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish	Tropical Cyclone, Tornado	1	New
W2: Drainage - flood relief projects	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Initially identified projects include projects within the unincorporated areas, and other potential sites. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish	Flooding, Tropical Cyclone	1,3	New
W3: Residential elevations and acquisitions for repetitive loss and severe repetitive loss properties	Elevation or acquisition-demolition of repetitive loss and severe repetitive properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	HMGP	October 2015 through December, 2018	Washington Parish	Flooding	1,3	New
W4: Safe Room Projects	Construction of a safe room for first responders located in unincorporated Washington parish Other locations will be identified based on funding availability.	HMGP and Parish	April 2016 - December 2018	Washington Parish	Tornado, tropical cyclone	1	New

Washington Unincorporated Mitigation Actions							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
W5: Mitigation Public Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, tropical cyclone, tornadoes and wildfire hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	HMPG and Parish	January 2016 through December, 2018	Washington Parish	Flooding, Tropical Cyclone, tornados, wildfire	1,2,3,4	New
W6: Emergency Shelters	Construct emergency shelters to provide shelter to the public for natural hazard events	HMPG and Parish	January 2017 - January 2019	Washington Parish	Tornado, tropical cyclone	1	New
W7: Emergency Generators for Critical Facilities	Acquire and install emergency generators with transfer switches at identified critical facilities within the unincorporated areas of the parish.	HMPG and Parish	January 2017 - January 2019	Washington Parish	Tornado, tropical cyclone, wildfire	1	New
W8: Wildfire mitigation	Identify and implement wildfire vegetation management strategies	HMPG and Parish	January 2017- January 2019	Washington Parish	Wildfire	1	New

City of Bogalusa

Mitigation Actions for City of Bogalusa							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
B1: Hardening of buildings	Retrofit city public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and City of Bogalusa	Tropical Cyclone, Tornado	1	New
B2: Drainage - flood relief projects	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Initially identified projects include projects within the City of Bogalusa, and other potential sites. Benefits: Relieves local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and City of Bogalusa	Flooding, Tropical Cyclone	1,3	New
B3: Residential elevations and acquisitions for repetitive loss and severe repetitive loss properties	Elevation or acquisition-demolition of repetitive loss and severe repetitive loss properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	HMGP	October 2015 through December, 2018	Washington Parish OHSEP and City of Bogalusa	Flooding	1,3	New
B4: Safe Room Projects	Construction of a safe room for first responders located in the City of Bogalusa. Other locations will be identified based on funding availability.	HMGP and Parish	April 2016 - December 2018	Washington Parish OHSEP and City of Bogalusa	Tornado, tropical cyclone	1	New

Mitigation Actions for City of Bogalusa							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
B5: Mitigation Public Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, tropical cyclone, tornadoes and wildfire hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	HMPG and Parish	January 2016 through December, 2018	Washington Parish OHSEP and City of Bogalusa	Flooding, Tropical Cyclone, tornados, wildfire	1,2,3,4	New
B6: Emergency Shelters	Construct emergency shelters to provide shelter to the public for natural hazard events	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and City of Bogalusa	Tornado, tropical cyclone	1	New
B7: Emergency Generators for Critical Facilities	Acquire and install emergency generators with transfer switches at identified critical facilities within the City of Bogalusa.	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and City of Bogalusa	Tornado, tropical cyclone, wildfire	1	New
B8: Wildfire mitigation	Identify and implement wildfire vegetation management strategies	HMPG and Parish	January 2017- January 2019	Washington Parish OHSEP and the City of Bogalusa	Wildfire	1	New

Town of Franklinton

Mitigation Actions for Town of Franklinton							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
F1: Hardening of buildings	Retrofit city public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Town of Franklinton	Tropical Cyclone, Tornado	1	New
F2: Drainage - flood relief projects	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Initially identified projects include projects within the Town of Franklinton, and other potential sites. Benefits: Relieves local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Town of Franklinton	Flooding, Tropical Cyclone	1,3	New
F3: Residential elevations and acquisitions for repetitive loss and severe repetitive properties	Elevation or acquisition-demolition of repetitive loss and severe repetitive loss properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	HMGP	October 2015 through December, 2018	Washington Parish OHSEP and Town of Franklinton	Flooding	1,3	New
F4: Safe Room Projects	Construction of a safe room for first responders located in the Town of Franklinton. Other locations will be identified based on funding availability.	HMGP and Parish	April 2016 - December 2018	Washington Parish OHSEP and Town of Franklinton	Tornado, tropical cyclone	1	New

Mitigation Actions for Town of Franklinton							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
F5: Mitigation Public Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, tropical cyclone, tornadoes and wildfire hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	HMPG and Parish	January 2016 through December, 2018	Washington Parish OHSEP and Town of Franklinton	Flooding, Tropical Cyclone, tornados, wildfire	1,2,3,4	New
F6: Emergency Shelters	Construct emergency shelters to provide shelter to the public for natural hazard events	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Town of Franklinton	Tornado, tropical cyclone	1	New
F7: Emergency Generators for Critical Facilities	Acquire and install emergency generators with transfer switches at identified critical facilities within the Town of Franklinton.	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Town of Franklinton	Tornado, tropical cyclone, wildfire	1	New
F8: Wildfire mitigation	Identify and implement wildfire vegetation management strategies	HMPG and Parish	January 2017- January 2019	Washington Parish OHSEP and Town of Franklinton	Wildfire	1	New

Village of Varnado

Mitigation Actions for Village of Varnado							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
V1: Hardening of buildings	Retrofit city public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Village of Varnado	Tropical Cyclone, Tornado	1	New
V2: Drainage - flood relief projects	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Initially identified projects include projects within the Village of Varnado, and other potential sites. Benefits: Relieves local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Village of Varnado	Flooding, Tropical Cyclone	1,3	New
V3: Residential elevations and acquisitions for repetitive loss and severe repetitive loss properties	Elevation or acquisition-demolition of repetitive loss and severe repetitive loss properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	HMGP	October 2015 through December, 2018	Washington Parish OHSEP and Village of Varnado	Flooding	1,3	New
V4: Safe Room Projects	Construction of a safe room for first responders located in the Village of Varnado. Other locations will be identified based on funding availability.	HMGP and Parish	April 2016 - December 2018	Washington Parish OHSEP and Village of Varnado	Tornado, tropical cyclone	1	New

Mitigation Actions for Village of Varnado							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
V5: Mitigation Public Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, tropical cyclone, tornadoes and wildfire hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	HMPG and Parish	January 2016 through December, 2018	Washington Parish OHSEP and Village of Varnado	Flooding, Tropical Cyclone, tornados, wildfire	1,2,3,4	New
V6: Emergency Shelters	Construct emergency shelters to provide shelter to the public for natural hazard events	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Village of Varnado	Tornado, tropical cyclone	1	New
V7: Emergency Generators for Critical Facilities	Acquire and install emergency generators with transfer switches at identified critical facilities within the Village of Varnado.	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Village of Varnado	Tornado, tropical cyclone, wildfire	1	New
V8: Wildfire mitigation	Identify and implement wildfire vegetation management strategies	HMPG and Parish	January 2017- January 2019	Washington Parish OHSEP and Village of Varnado	Wildfire	1	New

Village of Angie

Mitigation Actions for Village of Angie							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
A1: Hardening of buildings	Retrofit city public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Village of Angie	Tropical Cyclone, Tornado	1	New
A2: Drainage - flood relief projects	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Initially identified projects include projects within the Village of Angie, and other potential sites. Benefits: Relieves local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	HMGP and Parish funding	October 2015 through December, 2018	Washington Parish OHSEP and Village of Angie	Flooding, Tropical Cyclone	1,3	New
A3: Residential elevations and acquisitions for repetitive loss and severe repetitive loss properties	Elevation or acquisition-demolition of repetitive loss and severe repetitive loss properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	HMGP	October 2015 through December, 2018	Washington Parish OHSEP and Village of Angie	Flooding	1,3	New
A4: Safe Room Projects	Construction of a safe room for first responders located in the Village of Angie. Other locations will be identified based on funding availability.	HMGP and Parish	April 2016 - December 2018	Washington Parish OHSEP and Village of Angie	Tornado, tropical cyclone	1	New

Mitigation Actions for Village of Angie							
Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
A5: Mitigation Public Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, tropical cyclone, tornadoes and wildfire hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	HMPG and Parish	January 2016 through December, 2018	Washington Parish OHSEP and Village of Angie	Flooding, Tropical Cyclone, tornados	1,2,3,4	New
A6: Emergency Shelters	Construct emergency shelters to provide shelter to the public for natural hazard events	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Village of Angie	Tornado, tropical cyclone	1	New
A7: Emergency Generators for Critical Facilities	Acquire and install emergency generators with transfer switches at identified critical facilities within the Village of Angie.	HMPG and Parish	January 2017 - January 2019	Washington Parish OHSEP and Village of Angie	Tornado, tropical cyclone, wildfire	1	New
A8: Wildfire mitigation	Identify and implement wildfire vegetation management strategies	HMPG and Parish	January 2017- January 2019	Washington Parish OHSEP and Village of Varnado	Wildfire	1	New

Action Prioritization

During the prioritization process, each jurisdiction and the Steering Committee considered the costs and relative benefits of each new action. Costs can usually be listed in terms of dollars, although at times it involves staff time rather than the purchase of equipment or services that can be readily measured in dollars. In most cases, benefits, such as lives saved or future damage prevented, are hard to measure in dollars, many projects were prioritized with these factors in mind.

In all cases, the jurisdictions concluded that the benefits (in terms of reduced property damage, lives saved, health problems averted and/or economic harm prevented) outweighed the costs for the recommended action items.

The Steering Committee met internally for mitigation action meetings to review and approve Washington Parish and jurisdiction mitigation actions. On-going actions, as well as actions which can be undertaken by existing parish staff without need for additional funding were given high priority. The actions with high benefit and low cost, political support, and public support but require additional funding from parish or external sources were given medium priority. The actions that require substantial funding from external sources with relatively longer completion time were given low priority.

Washington Parish and participating jurisdictions will implement and administer the identified actions based off of the proposed timeframes and priorities for each reflected in the portions of this section where actions are summarized. The inclusion of any specific action item in this document does not commit the parish to implementation. Each action item will be subject to availability of staff and funding. Certain items may require regulatory changes or other decisions that must be implemented through standard processes, such as changing regulations. This plan is intended to offer priorities based on an examination of hazards.

Appendix A: Planning Process

Purpose

The Hazard Mitigation Plan Update process prompts local jurisdictions to keep their hazard mitigation plan current and moving toward a more resilient community. The plan update builds on the research and planning efforts of previous plans while reviewing recent trends. The Steering Committee followed FEMA's hazard mitigation planning process per the FEMA Local Mitigation Planning Handbook. This planning process assured public involvement and the participation of interested agencies and private organizations. Documentation of the planning process for the updated plan is addressed in this section.

The Washington Parish Hazard Mitigation Plan Update

The Washington Parish Hazard Mitigation Plan Update process began in February 2015 with a series of meetings and collaborations between the contractor (SDMI) and the participating jurisdictions. Update activities were intended to give each jurisdiction the opportunity to shape the plan to best fit their community's goals. Community stakeholders and the general public were invited to attend and contribute information to the planning process during specific time periods or meetings.

Washington Parish includes four incorporated municipalities: the villages of Angie and Varnado, the Town of Franklinton, and the City of Bogalusa. All four municipalities participated in the plan update process. Washington Parish OHSEP invited communities' representatives to meetings, where they supplied critical infrastructure data and reviewed work-in-progress for the plan update.

Similar to the development of the original hazard mitigation plan, the role of the steering committee members during the plan update was to attend the planning meetings and provide valuable information on the parish, develop parts of the plan update, and review the results of research conducted by SDMI. Tasks completed by the steering committee include:

- Reviewing and revising the list of potential hazards included in the plan update.
- Assembling a list of critical facilities, such as hospitals, police stations, and shelters.
- Updating mitigation goals and objectives.
- Determining prudent mitigation measures.
- Prioritization of identified mitigation measures.

The table below details the meeting schedule and purpose for the planning process:

Date	Meeting or Outreach	Location	Public Invited	Purpose
9/04/14	Coordination Conference Call	Telephone	No	Discuss with Parish HM coordinator and any steering committee members expectations and requirements of the project.
10/23/14	Kick-Off Meeting	Washington OHSEP, Franklinton, LA	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
6/24/14	Risk Assessment overview	Washington OHSEP, Franklinton, LA	No	Discuss and review the risk assessment with the steering committee discuss and review expectations for public meeting.
6/24/14	Public Meeting	Franklinton Fire Department, Franklinton LA	Yes	The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the Washington parish communities were provide for the meeting attendees to identify specific areas where localized hazards occur.
Ongoing	Public Survey Tool	Online	Yes	This survey asked participants about public perceptions and opinions regarding natural hazards in Washington Parish. In addition, we asked about the methods and techniques preferred for reducing the risks and losses associated with these hazards. Survey Results: https://www.surveymonkey.com/r/WashingtonHMP U
2 Week Period	Public Plan Review (Digital)		Yes	Parish Website and Washington Parish OHSEP

Planning

The Plan Update process consisted of several phases:

	Month 1-4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Plan Revision								
Data Collection								
Risk Assessment								
Public Input								
Mitigation Strategy and Actions								
Plan Review by GOHSEP and FEMA								
Plan Adoption								
Plan Approval								

Coordination

The Washington Parish Office of Homeland Security and Emergency Preparedness (OHSEP) oversaw the coordination of the 2015 Hazard Mitigation Plan Update Steering Committee during the update process. The Parish OHSEP and participating jurisdictions were responsible for identifying members for the committee.

The Parish Director and SDMI were jointly responsible for inviting the steering committees and key stakeholders to planned meetings and activities. SDMI assisted the Parish Director with press releases and social media statements for notification to the media and general public for public meetings and public outreach activities.

SDMI was responsible for facilitating meetings and outreach efforts during the update process.

Neighboring Community, Local and Regional Planning Process Involvement

From the outset of the planning process, the Hazard Mitigation Team encouraged participation from a broad range of jurisdictional entities. The involvement of representatives from the city, state, and regional agencies provided diverse perspectives and mitigation ideas.

Formal participation in this plan includes but is not limited to the following activities:

- Participation in Hazard Mitigation Team meetings at the local and parish level
- Sharing local data and information
- Local action item development
- Plan document draft review
- Formal adoption of the Hazard Mitigation Plan document by each jurisdiction following provisional approval by The State of Louisiana and FEMA

The 2015 Hazard Mitigation Plan Update Steering Committee consisted of representatives from the following parish, municipal or community stakeholders:

- Washington Parish Government
- Washington Office of Homeland Security and Emergency Preparedness
- City Bogalusa
- Town of Franklinton
- Village of Angie
- Village of Varnado

The Parish Director of Tangipahoa OHSEP was invited by the Washington Parish OHSEP to participate in all meetings and activities through phone calls and other Regional meetings in an effort to collaborate with neighboring communities. The participation of the GOHSEP Region 9 Coordinator during the process also contributed to neighboring community representation. As Washington Parish worked on their mitigation strategies for the 2015 update, neighboring community needs were taken into consideration as they developed specific mitigation actions.

As part of the coordination and planning process, each jurisdiction was provided the State Required Hazard Mitigation Plan Update Worksheet. Jurisdictions with the capability to complete and return these worksheets returned them to assist with the 2015 update. The completed worksheets can be found in Appendix E – State Required Plan Update Worksheets

Below is a detailed list of the 2015 HAZARD MITIGATION PLAN Steering Committee:

Name	Title	Agency	Address	Email
Thomas P Thiebaud	Director	WP Homeland Security	803 Pearl St Franklinton la 70438	tthiebaud@wpgov.org
Bobbi Jo Breland	Emergency Management Specialist	WP Homeland Security	803 Pearl St Franklinton la 70438	bjbreland@wpgov.org
JoAnna Thomas	Chairman	WP Communication District	54100 Dollar Road, Franklinton LA 70438	jthomas@wpcde-911.com
Stacy Smith	Director of Administration	City of Bogalusa	214 Arkansas Ave, Bogalusa LA 70427	stacy.smith@bogalusa.org
James Hall	Director Public Works	City of Bogalusa	100 Okechobee Ave, Bogalusa LA 70427	james.hall@bogalusa.org
Leo Lucchesi	Director Public Works	Washington Parish	909 Pearl St, Franklinton LA 70438	llucchesi@wpgov.org
Wendy Oquin-Perrett	Mayor	City of Bogalusa	202 Arkansas Ave, Bogalusa LA 70427	wendyo22@hotmail.com
John Dawsey	Mayor	Village of Angie	64475 Cherry St, Angie, LA 70426	angiecityhall@bellsouth.net
Wayne Fleming	Mayor	Town of Franklinton	301 11th Ave, Franklinton LA 70438	mayor@townoffranklinton.com
Paris Sumrall	Mayor	Village of Varnado	63095 Main St, Varnado LA	pariscs@netzero.com
Richard Moody	Fire Chief	Bogalusa Fire Department	200 Arkansas Ave, Bogalusa LA 70427	bfd_ram@yahoo.com
Joe Culpepper	Police Chief	Bogalusa Police Department	111 Memphis St, Bogalusa LA 70427	chiefbpd@bellsouth.net
Donald Folse	Police Chief	Franklinton Police Department	409 11th Ave, Franklinton LA 70438	dona dfolse@townoffranklinton.com
Reginald McMasters	Director Public Works	Town of Franklinton	301 11th Ave, Franklinton LA 70438	rmcmasters@townoffranklinton.com
Paula Wood		International Paper	401 Avenue U Bogalusa LA 70427	paula.carden@ipaper.com
Ed Jordon	Emergency Management	Our Lady of the Angels Hospital	433 Plaza St, Bogalusa LA 70427	edwardjordan@oloah.org
Shad Jenkins		Riverside Medical Center	1900 Main st, Franklinton LA 70438	sjenkins@rmchospital.com
Nancy McBeth	Director	Council on Aging	1025 Dobson St, Franklinton LA 70438	nmbeth@bellsouth.net
Randy Seal	Sheriff	Washington Parish Sheriff Office	1002 Main St, Franklinton LA 70438	rseal@wpsol.la.gov
Ryal Seal		Washington Economic Development	526 Georgia Ave, Bogalusa LA 70428	rseal@wedf.com
Richard Breedlove	Fire Chief	WP Fire District #7	17380 Bill Booty Road, Bogalusa LA 70427	wpfdchief7@yahoo.com
Willie Breaux	Superintendent	Bogalusa City Schools	1705 Sullivan Dr, Bogalusa LA 70427	wbreaux@bogschools.org
Richard Kennedy	Asst Superintendent	Washington Parish School Board	800 Main St, Franklinton LA 70438	rkennedy@wpsb.org

Program integration

Local governments are required to describe how their mitigation planning process are integrated with other ongoing local and area planning efforts. This subsection describes Washington Parish programs and planning.

A measure of integration and coordination is achieved through the Hazard Mitigation Plan Update participation of steering committee members and community stakeholders who administer programs such as: floodplain management under the National Flood Insurance Program (NFIP) and parish planning and zoning and building code enforcement.

Opportunities to integrate the requirements of this Hazard Mitigation Plan into other local planning mechanisms will continue to be identified through future meetings of the parish and jurisdictions and through the five-year review process described in the Plan Maintenance Section. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update and implementation of each jurisdiction's individual city/town plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.).

The members of the Washington Parish Hazard Mitigation steering committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability in Parish. Existing plans, studies, and technical information were incorporated in the planning process. Examples include flood data from FEMA, the

U.S. Army Corps of Engineers (USACE or Corps), and the U.S. Geological Survey. Much of this data was incorporated into the risk assessment component of the plan relative to plotting historical events and the magnitude of damages that occurred. The parish's 2005 Hazard Mitigation Plan was also used in the planning process. Other existing parish and jurisdiction data and plans reviewed and/or incorporated into the planning process include those listed below.

- Floodplain Ordinances (Parish and Jurisdictions)
- Emergency Operations Plan (Parish and Jurisdictions)
- Envision Washington 2020 Plan (previously the Comprehensive Plan)
- Debris Removal Plan
- Economic Plan (Parish and Town of Franklinton)
- Stormwater Management Plan
- Flood Insurance Rate Maps

Further information on other plans and capabilities reviewed can be found in the Capabilities Assessment, section 3.

Meeting Documentation and Public Outreach Activities

The following pages contain information from the meetings and public outreach activities conducted during this hazard mitigation Plan Update for Washington Parish. For each meeting held, agendas were distributed, sign-in sheets were collected to record attendance, and PowerPoint presentations were given. For each meeting involving the public, notification was given via social media, press releases, and/or public notices.

Meeting #1: Coordination Conference Call

Date: September 4, 2014

Location: Teleconference

Purpose: Discuss with the hazard mitigation lead for the parish (OHSEP director) the expectations and requirements of the Hazard Mitigation Plan Update process and to establish an initial project timeline.

Public Initiation: No

Invitees included:

SDMI, Project Lead – Margaret Pierce

Washington Parish OHSEP – Tommy Thiebaud, Bobbi Jo Brieland

Meeting #2: Hazard Mitigation Plan Update Kick-Off

Date: October 23, 2014**Location:** Franklinton, Louisiana

Purpose: Discuss the expectations and requirements of the Hazard Mitigation Plan Update process and to establish and initial project timeline with the Parish's Hazard Mitigation Plan Steering Committee. Assign each individual jurisdiction and the parish data collection for the plan update.

Public Initiation: No**Invitees Included:**

Name	Title	Agency	Address	Email
Thomas P Thiebaud	Director	WP Homeland Security	803 Pearl St Franklinton la 70438	tthiebaud@wpgov.org
Bobbi Jo Breland	Emergency Management Specialist	WP Homeland Security	803 Pearl St Franklinton la 70438	bjbreland@wpgov.org
JoAnna Thomas	Chairman	WP Communication District	54100 Dollar Road, Franklinton LA 70438	jthomas@wpcde-911.com
Stacy Smith	Director of Administration	City of Bogalusa	214 Arkansas Ave, Bogalusa LA 70427	stacy.smith@bogalusa.org
James Hall	Director Public Works	City of Bogalusa	100 Okechobee Ave, Bogalusa LA 70427	james.hall@bogalusa.org
Leo Lucchesi	Director Public Works	Washington Parish	909 Pearl St, Franklinton LA 70438	llucchesi@wpgov.org
Wendy Oquin-Perrett	Mayor	City of Bogalusa	202 Arkansas Ave, Bogalusa LA 70427	wendyo22@hotmail.com
John Dawsey	Mayor	Village of Angie	64475 Cherry St, Angie, LA 70426	angiecityhall@bellsouth.net
Wayne Fleming	Mayor	Town of Franklinton	301 11th Ave, Franklinton LA 70438	mayor@townoffranklinton.com
Paris Sumrall	Mayor	Village of Varnado	63095 Main St, Varnado LA	pariscs@netzero.com
Richard Moody	Fire Chief	Bogalusa Fire Department	200 Arkansas Ave, Bogalusa LA 70427	bfd_ram@yahoo.com
Joe Culpepper	Police Chief	Bogalusa Police Department	111 Memphis St, Bogalusa LA 70427	chiefbpd@bellsouth.net
Donald Folse	Police Chief	Franklinton Police Department	409 11th Ave, Franklinton LA 70438	donaldfolse@townoffranklinton.com
Reginald McMasters	Director Public Works	Town of Franklinton	301 11th Ave, Franklinton LA 70438	rmcmasters@townoffranklinton.com
Paula Wood		International Paper	401 Avenue U Bogalusa LA 70427	paula.carden@ipaper.com
Ed Jordon	Emergency Management	Our Lady of the Angels Hospital	433 Plaza St, Bogalusa LA 70427	edwardjordan@oloah.org
Shad Jenkins		Riverside Medical Center	1900 Main st, Franklinton LA 70438	sjenkins@rmchospital.com
Nancy McBeth	Director	Council on Aging	1025 Dobson St, Franklinton LA 70438	nmcbeth@bellsouth.net
Randy Seal	Sheriff	Washington Parish Sheriff Office	1002 Main St, Franklinton LA 70438	rseal@wpsa.la.gov
Ryal Seal		Washington Economic Development	526 Georgia Ave, Bogalusa LA 70428	rseal@wedf.com
Richard Breedlove	Fire Chief	WP Fire District #7	17380 Bill Booty Road, Bogalusa LA 7042	wfpdchief7@yahoo.com
Willie Breaux	Superintendent	Bogalusa City Schools	1705 Sullivan Dr, Bogalusa LA 70427	wbreaux@bogschools.org
Richard Kennedy	Asst Superintendent	Washington Parish School Board	800 Main St, Franklinton LA 70438	rkennedy@wpsb.org

Meeting #3: Risk Assessment Overview

Date: June 24, 2014**Location:** Franklinton Fire Station, Franklinton, LA, Louisiana

Purpose: Members of the Hazard Mitigation Plan Update Steering Committee were invited and were presented the results of the most recent risk assessment and an overview of the public meeting presentation during this overview. The assessment was conducted based on hazards identified during previous plans.

Public Initiation: No**Invitees Included:**

Name	Title	Agency	Address	Email
Thomas P Thiebaud	Director	WP Homeland Security	803 Pearl St Franklinton la 70438	tthiebaud@wpgov.org
Bobbi Jo Breland	Emergency Management Specialist	WP Homeland Security	803 Pearl St Franklinton la 70438	bjbreland@wpgov.org
JoAnna Thomas	Chairman	WP Communication District	54100 Dollar Road, Franklinton LA 70438	jthomas@wpcde-911.com
Stacy Smith	Director of Administration	City of Bogalusa	214 Arkansas Ave, Bogalusa LA 70427	stacy.smith@bogalusa.org
James Hall	Director Public Works	City of Bogalusa	100 Okechobee Ave, Bogalusa LA 70427	james.hall@bogalusa.org
Leo Lucchesi	Director Public Works	Washington Parish	909 Pearl St, Franklinton LA 70438	llucchesi@wpgov.org
Wendy Oquin-Perrett	Mayor	City of Bogalusa	202 Arkansas Ave, Bogalusa LA 70427	wendyo22@hotmail.com
John Dawsey	Mayor	Village of Angie	64475 Cherry St, Angie, LA 70426	angiecityhall@bellsouth.net
Wayne Fleming	Mayor	Town of Franklinton	301 11th Ave, Franklinton LA 70438	mayor@townoffranklinton.com
Paris Sumrall	Mayor	Village of Varnado	63095 Main St, Varnado LA	pariscs@netzero.com
Richard Moody	Fire Chief	Bogalusa Fire Department	200 Arkansas Ave, Bogalusa LA 70427	bfd_ram@yahoo.com
Joe Culpepper	Police Chief	Bogalusa Police Department	111 Memphis St, Bogalusa LA 70427	chiefbpd@bellsouth.net
Donald Folse	Police Chief	Franklinton Police Department	409 11th Ave, Franklinton LA 70438	donaldfolse@townoffranklinton.com
Reginald McMasters	Director Public Works	Town of Franklinton	301 11th Ave, Franklinton LA 70438	rmcmasters@townoffranklinton.com
Paula Wood		International Paper	401 Avenue U Bogalusa LA 70427	paula.carden@ipaper.com
Ed Jordon	Emergency Management	Our Lady of the Angels Hospital	433 Plaza St, Bogalusa LA 70427	edwardjordan@oloah.org
Shad Jenkins		Riverside Medical Center	1900 Main st, Franklinton LA 70438	sjenkins@rmchospital.com
Nancy McBeth	Director	Council on Aging	1025 Dobson St, Franklinton LA 70438	nmcbeth@bellsouth.net
Randy Seal	Sheriff	Washington Parish Sheriff Office	1002 Main St, Franklinton LA 70438	rseal@wpso.la.gov
Ryal Seal		Washington Economic Development	526 Georgia Ave, Bogalusa LA 70428	rseal@wedf.com
Richard Breedlove	Fire Chief	WP Fire District #7	17380 Bill Booty Road, Bogalusa LA 70427	wfpdchief7@yahoo.com
Willie Breaux	Superintendent	Bogalusa City Schools	1705 Sullivan Dr, Bogalusa LA 70427	wbreaux@bogschools.org
Richard Kennedy	Asst Superintendent	Washington Parish School Board	800 Main St, Franklinton LA 70438	rkennedy@wpsb.org
Dawson Primes	Director	Tangipahoa OHSEP	Hammond, LA	dawson.primes@tangipahoa.org

Meeting #4: Public Meeting

Date: June 24, 2015, Franklinton Fire Station, Franklinton, LA.

Purpose: The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the Washington Parish communities were provided for the meeting attendees to identify specific areas where localized hazards occur.

Public Initiation: Yes

Invitees Included:

Name	Title	Agency	Address	Email
Thomas P Thiebaud	Director	WP Homeland Security	803 Pearl St Franklinton la 70438	tthiebaud@wpgov.org
Bobbi Jo Breland	Emergency Management Specialist	WP Homeland Security	803 Pearl St Franklinton la 70438	bjbreland@wpgov.org
JoAnna Thomas	Chairman	WP Communication District	54100 Dollar Road, Franklinton LA 70438	jthomas@wpcde-911.com
Stacy Smith	Director of Administration	City of Bogalusa	214 Arkansas Ave, Bogalusa LA 70427	stacy.smith@bogalusa.org
James Hall	Director Public Works	City of Bogalusa	100 Okechobee Ave, Bogalusa LA 70427	james.hall@bogalusa.org
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Wendy Oquin-Perrett	Mayor	City of Bogalusa	202 Arkansas Ave, Bogalusa LA 70427	wendyo22@hotmail.com
John Dawsey	Mayor	Village of Angie	64475 Cherry St, Angie, LA 70426	angiecityhall@bellsouth.net
Wayne Fleming	Mayor	Town of Franklinton	301 11th Ave, Franklinton LA 70438	mayor@townoffranklinton.com
Paris Sumrall	Mayor	Village of Varnado	63095 Main St, Varnado LA	pariscs@netzero.com
Richard Moody	Fire Chief	Bogalusa Fire Department	200 Arkansas Ave, Bogalusa LA 70427	bfd_ram@yahoo.com
Joe Culpepper	Police Chief	Bogalusa Police Department	111 Memphis St, Bogalusa LA 70427	chiefbpd@bellsouth.net
Donald Folse	Police Chief	Franklinton Police Department	409 11th Ave, Franklinton LA 70438	donaldfolse@townoffranklinton.com
Reginald McMasters	Director Public Works	Town of Franklinton	301 11th Ave, Franklinton LA 70438	rmcmasters@townoffranklinton.com
Paula Wood		International Paper	401 Avenue U Bogalusa LA 70427	paula.carden@ipaper.com
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Shad Jenkins		Riverside Medical Center	1900 Main st, Franklinton LA 70438	sjenkins@rmchospital.com
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Willie Breaux	Superintendent	Bogalusa City Schools	1705 Sullivan Dr, Bogalusa LA 70427	wbreaux@bogschools.org
Richard Kennedy	Asst Superintendent	Washington Parish School Board	800 Main St, Franklinton LA 70438	rkennedy@wpsb.org
Dawson Primes	Director	Tangipahoa OHSEP	Hammond, LA	dawson.primes@tangipahoa.org

****Subject Matter Experts from parish government were present to answer specific questions about proposed projects from any citizens.**

Meeting Public Notices

The public meeting was published through the Washington Parish Government and Washington Parish OHSEP Facebook pages twice prior to the meeting, as well as a posted hard copy at government buildings along with other public meeting notices.



FOR IMMEDIATE RELEASE
June 17, 2015

Washington Parish to hold Public Meeting for Hazard Mitigation Plan Update

Baton Rouge, LA - A Washington Parish Hazard Mitigation Plan Update public meeting will be held on, Wednesday, June 24th from 2:00-3:00 p.m. at the Franklinton Fire Department, 415 11th Avenue, Franklinton, LA 70438

Natural hazards have the potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. While an important aspect of emergency management deals with disaster recovery (the actions that a community takes to repair damages), an equally important aspect of emergency management involves hazard mitigation - sustained actions taken to reduce long-term risk to life and property. They are things we do today to be more protected in the future. For example, elevating buildings in flood hazard areas, installing hurricane clips and storm shutters, relocating critical facilities out of hazard areas, using fire-resistant construction materials in wildfire hazard areas, etc. Hazard mitigation actions are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, they can be long-term, cost-effective means of reducing risk and helping to create a more sustainable and disaster-resilient community.

A hazard mitigation plan describes an area's vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. While natural disasters cannot be prevented from occurring, the continued implementation of mitigation strategies identified in the plan will gradually, but steadily, make our communities more sustainable and disaster-resilient.

The Disaster Mitigation Act of 2000 (DMA 2000) requires all states and local governments to have a hazard mitigation plan in order to be eligible to apply for certain types of federal hazard mitigation project grants. Hazard mitigation plans must be: (a) implemented on an ongoing basis, and (b) updated every five years to ensure that they remain applicable representations of local risk and locally-preferred risk reduction strategies.

Washington Parish, in collaboration with the incorporated areas of Angie, Bogalusa, Franklinton, and Varnado, is updating its hazard mitigation plan. A public meeting will be held on Wednesday, June 24th from 2:00-3:00 p.m at the Franklinton Fire Department, 415 11th Avenue, Franklinton, LA 70438 for all citizens interested in learning about and participating in discussions concerning the Washington Parish Hazard Mitigation Plan.

Residents of Washington Parish and its incorporated jurisdictions are asked to participate in a survey about public perceptions and opinions regarding natural hazards in the parish. The survey results will be used in the development of the plan. This short web-based survey can be found at <https://www.surveymonkey.com/r/WashingtonHMPU>.

For more information, please contact: Tommy Thiebaud, Washington Parish Director of Homeland Security at (985) 839-0434.

Media Contact: Brant Mitchell- SDMI at LSU- (225) 578-5939 – bmitch9@lsu.edu.



Washington Parish Office of Homeland Security and Emergency Preparedness

16 mins · *

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<https://www.surveymonkey.com/r/WashingtonHMPU>

For more information, please contact: Tommy Thiebaud, Washington Director of Homeland Security and Emergency Preparedness at 985-839-0434.



Washington Parish HMPU Survey

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Washington Parish HM Public Meeting Social Media Post #1

**Washington Parish Office of Homeland Security and Emergency Preparedness**▼

Published by Bobbi Jo Pigott Breland [?] · June 11 at 10:10am · *

Washington Parish to hold Public Meeting for Hazard Mitigation Plan Update

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A hazard mitigation plan describes an area's vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. While natural disaste... [See More](#)



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160 people reached Boost Unavailable

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Washington Parish Social Media Post #2

Outreach Activity #1: Public Opinion Survey

Date: Ongoing throughout planning process**Location:** Web survey**Public Initiation:** Yes**SURVEY INFORMATION**

You have been asked to participate in this survey about public perceptions and opinions regarding natural hazards in Washington Parish. In addition, we would like information regarding the methods and techniques you prefer for reducing the risks and losses associated with these hazards. The questionnaire should be completed by an adult, preferably the head of household. The information you provide will be used to help improve public/private coordination, mitigation, and risk reduction efforts in your parish. The survey should take less than 30 minutes to complete.

This is a public opinion survey, the results of which will inform local natural hazard mitigation planning in Louisiana.

This survey is being conducted by a division of Louisiana State University on behalf of the Washington Parish government.

CONSENT INFORMATION

This survey has 25 questions and should take about 30 minutes to complete.

Results of this study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

This study has been approved by the LSU IRB. For questions concerning participants rights, please contact the LSU Institutional Review Board Chair, Dr. Dennis Landin at 225-578-8692 or irb@lsu.edu. The Principal Investigator for this survey, Mr. Brant Mitchell, SDMI, can be reached at or bmitch9@lsu.edu

I agree to participate in the study described above and do so by continuing to the survey by clicking the "Next" button below. I acknowledge that I may request from the investigators a hard copy of this consent form for my signature.

1. Are you EIGHTEEN (18) years old or older?

☐ Yes

☐ No

2. Do you live in Washington Parish?☐ Yes☐ No

3. Do you live within the incorporated city limits of:

- ☐ Angle
- ☐ Bogalusa
- ☐ Franklinton
- ☐ Varnado
- ☐ I do not live within an incorporated jurisdiction.
- ☐ Not sure

NATURAL HAZARD INFORMATION

First we would like to know about your experiences involving natural hazards and your exposure to preparedness information.

4. During the past five years in the parish you currently reside in, have you or someone in your household directly experienced a natural disaster such as a severe windstorm, flood, tropical storm or other type of natural disaster?

- ☐ Yes
☐ No

5. Which of these natural disasters have you or someone in your household experienced in the past five years? (Check all that apply)

- ☐ Drought ☐ Tropical Storm or Hurricane
☐ Flood ☐ Severe Winter Storm
☐ Severe Thunderstorm ☐ Hall
☐ Tornado

Other (please specify)

6. How concerned are you about the following natural disasters affecting your parish? (Check the corresponding box for each hazard.)

	Not Concerned	Not Very Concerned	Neutral	Somewhat Concerned	Very Concerned
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severe Thunderstorm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tornado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tropical Storm or Hurricane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severe Winter Storm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

7. Have you ever received information about how to make members of your household and your home safer from natural disasters?

- ☐ Yes
☐ No

8. How recently?

- ☐ Within the last 6 months
- ☐ Between 6 and 12 months
- ☐ Between 1 and 2 years
- ☐ Between 2 and 5 years
- ☐ 5 years or more

9. From whom did you LAST receive information about how to make members of your household and your home safer from natural disasters? (Check only one)

- | | |
|----------------------------------------------------------|-----------------------------------------------------|
| <input type="radio"/> News media | <input type="radio"/> Elected official |
| <input type="radio"/> Government agency | <input type="radio"/> American Red Cross |
| <input type="radio"/> Insurance company | <input type="radio"/> Church or civic association |
| <input type="radio"/> Utility company | <input type="radio"/> Other non-profit organization |
| <input type="radio"/> University or research institution | <input type="radio"/> Social media (Facebook, etc.) |
| <input type="radio"/> Neighbor/friend/family | <input type="radio"/> Not sure |

Other (please specify)

10. Whom would you MOST TRUST to provide you with information about how to make your household and home safer from natural disasters? (Check up to three answers)

- | | |
|-------------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> News media | <input type="checkbox"/> Elected official |
| <input type="checkbox"/> Government agency | <input type="checkbox"/> American Red Cross |
| <input type="checkbox"/> Insurance company | <input type="checkbox"/> Church or civic association |
| <input type="checkbox"/> Utility company | <input type="checkbox"/> Other non-profit organization |
| <input type="checkbox"/> University or research institution | <input type="checkbox"/> Social media (Facebook, etc.) |
| <input type="checkbox"/> Neighbor/friend/family | <input type="checkbox"/> Not sure |

Other (please specify)

11. What is the MOST EFFECTIVE way for you to receive information about how to make your household and home safer from natural disasters? (Check up to three answers)

- | | | |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|
| <input type="checkbox"/> Newspaper stories | <input type="checkbox"/> Online news outlets | <input type="checkbox"/> Fact sheet/brochure |
| <input type="checkbox"/> Newspaper ads | <input type="checkbox"/> Social media (Facebook, etc.) | <input type="checkbox"/> Chamber of Commerce |
| <input type="checkbox"/> TV news | <input type="checkbox"/> Schools | <input type="checkbox"/> Library |
| <input type="checkbox"/> TV ads | <input type="checkbox"/> Billboards | <input type="checkbox"/> Public workshops/meetings |
| <input type="checkbox"/> Radio news | <input type="checkbox"/> Books | <input type="checkbox"/> Displays in public places (mall, grocery, etc.) |
| <input type="checkbox"/> Radio ads | <input type="checkbox"/> Mail | <input type="checkbox"/> University or research institution |
| <input type="checkbox"/> Email newsletters | <input type="checkbox"/> Fire department | |

Other (please specify)

12. Prior to taking this survey, were you aware of your parish's Hazard Mitigation Plan (HMP)?

- ☐ Yes
- ☐ No

13. Prior to taking this survey, were you aware that the Federal Emergency Management Agency (FEMA) requires your parish to update the hazard mitigation plan every five years in order for your parish to be eligible for federal pre- and post-disaster hazard mitigation funds?

- ☐ Yes
- ☐ No

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

In order to assess community risk, we need to understand which community assets may be vulnerable to natural hazards in the region. Vulnerable assets are those community features, characteristics, or resources that may be impacted by natural hazards (e.g. populations with functional or special needs, economic components, environmental resources, etc.). The next set of questions focuses on vulnerable assets in your community and your preferred strategies to mitigate risk to those assets.

14. Community assets are features, characteristics, or resources that either make a community unique or allow the community to function. In your opinion, which of the following CATEGORIES are most susceptible to the impacts caused by natural hazards in your parish?

(Rank the community assets in order of vulnerability, 1 being most vulnerable and 6 being least vulnerable)

<input type="text"/>	Human (Loss of life and/or Injuries)
<input type="text"/>	Economic (Business closures and/or job losses)
<input type="text"/>	Infrastructure (Damage or loss of bridges, utilities, schools, etc.)
<input type="text"/>	Cultural/Historic (Damage or loss of libraries, museums, historic sites)
<input type="text"/>	Environmental (Damage or loss of forests, pastureland, waterways, etc.)
<input type="text"/>	Governance (Ability to maintain order and/or provide public amenities and services)

15. Next we would like to know what specific types of COMMUNITY ASSETS are most important to you.

(Check the corresponding box for each asset)

	Not Important	Not Very Important	Neutral	Somewhat Important	Very Important
Nursing homes/Assisted-living facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schools (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major bridges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire/Police stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Museums/Historic buildings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major employers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
College/Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parish or City Buildings (City Hall, Courthouse, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

17. Natural hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities regarding planning for natural disasters in your parish.

(Tell us how important each one is to you.)

	Not Important	Not Very Important	Neutral	Somewhat Important	Very Important
Protecting private property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting critical facilities (transportation networks, hospitals, fire stations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventing development in hazard areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhancing the function of natural features (bayous, rivers and wetlands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting historical and cultural landmarks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting and reducing damage to utilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strengthening emergency services (police, fire, EMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disclosing natural hazard risks during real estate transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promoting cooperation among public agencies, citizens, non-profits and businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. What specific mitigation projects do you think would make your property and/or the parish more disaster resilient?

(ANSWER ALL THAT APPLY)

- ☐ Home elevation
- ☐ Property acquisition
- ☐ Protecting critical facilities (government buildings, hospitals, etc.)
- ☐ Improved drainage
- ☐ Additional levees or levee raising
- ☐ Safe rooms (for high wind, not tropical systems)
- ☐ Community education
- ☐ Purchase of equipment (radios, etc.)
- ☐ Harbors of refuge for commercial fishing vessels
- ☐ Sea level monitoring systems
- ☐ GIS survey of parish properties

Other (please specify)

MITIGATION AND PREPAREDNESS ACTIVITIES IN YOUR HOUSEHOLD

Households can mitigate and prepare for natural hazards in order to prevent damage to property, injuries, and loss of life. The precautions you take and training you receive can make a big difference in your ability to recover from a natural disaster or emergency. Access to basic services, such as electricity, gas, water, telephones and emergency care can be cut off temporarily, or you may have to evacuate at a moment's notice. The following questions focus on your household's preparedness for disaster events.

19. In the following list, please check those activities that you HAVE DONE in your household, PLAN TO DO in the near future, HAVE NOT DONE, or are UNABLE TO DO.

(Check one answer for each preparedness activity)

	Have Done	Plan to Do	Not Done	Unable to Do
Attended meetings or received written information on natural disasters or emergency preparedness?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked with members in your household about what to do in case of a natural disaster or emergency?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared a "Disaster Supply Kit" (stored extra food, water, batteries or other emergency supplies)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed or created a utility shutoff procedure in the event of a natural disaster?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

GENERAL HOUSEHOLD INFORMATION

Finally, we would appreciate any information you are willing to share with us about you and your household. This information will remain confidential and is for survey comparison purposes only.

20. Gender

☐ Female

☐ Male

Other (please specify)

21. How much total combined money did all members of your HOUSEHOLD earn last year?

☐ \$0 to \$9,999

☐ \$10,000 to \$24,999

☐ \$25,000 to \$49,999

☐ \$50,000 to \$74,999

☐ \$75,000 to \$99,999

☐ \$100,000 to \$124,999

☐ \$125,000 to \$149,999

☐ \$150,000 to \$174,999

☐ \$175,000 to \$199,999

☐ \$200,000 and up

☐ Prefer not to answer

22. In what ZIP code is your home located? (enter 5-digit ZIP code; for example, 00544 or 94305)**23. Do you rent or own the place where you live?**

☐ Own

☐ Rent

☐ Neither (please specify)

24. Which category below includes your age?

- ☐ 17 or younger
- ☐ 18-20
- ☐ 21-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60 or older

25. Does anyone in your household own a business or a farm?

- ☐ Yes
- ☐ No

26. Which race/ethnicity best describes you? (Please choose only one.)

- ☐ American Indian or Alaskan Native
- ☐ Asian / Pacific Islander
- ☐ Black or African American
- ☐ Hispanic American
- ☐ White / Caucasian
- ☐ Multiple ethnicity / Other (please specify)

27. Please feel free to provide any additional comments in the space provided:

Outreach Activity #2: Incident Questionnaire

Date: Public Meeting Activity**Location:** Public Meeting**Public Initiation:** Yes

**Public Meeting
Incident/Issue Questionnaire**

1. Hazard Type(s):
 - a. Flooding
 - i. Riverine
 - ii. Storm Surge
 - iii. Street
 - iv. Other (describe):
 - b. High winds (not tropical)
 - c. Coastal
 - i. Saltwater Intrusion
 - ii. Erosion
 - iii. Other (describe):
 - d. Tropical Systems
 - e. Winter Weather
 - f. Other: _____
2. Describe incident or issue:

3. Location:
 - a. City: _____
 - b. Address or Area: _____
 - c. Localized or dispersed: _____
4. Intensity:
 - a. Depth (flooding) or Size (hail, etc.) _____
 - b. Wind strength
5. Re-occurring or one-time
 - a. If re-occurring, how often? _____
6. What type of interruptions does/did the incident or issue cause? (business closure, damage, evacuation, etc.) _____

7. How long was the interruption (hours, days, weeks, etc.)? _____
8. How could this problem or impact be prevented, fixed or alleviated?

9. Can we contact you if we have further questions about this incident? Yes/No
10. Contact Information (optional)
 - a. Name: _____
 - b. City: _____
 - c. Phone: (_____) _____
 - d. Email: _____

Outreach Activity #3 Mapping Activities

Public meeting attendees were asked to identify areas on jurisdictional maps provided that were “problem areas”. They were also asked to indicate any areas of new development. This activity gave the public an opportunity to interact with SDMI’s GIS Mapping section to as well as provide valuable input on areas that may flood repeatedly during rain events that may not get reported to local emergency managers a significant events.



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DRAFT

Appendix B: Plan Maintenance

Purpose

The section of the Code of Federal Regulations (CFR) pertaining to Local Mitigation Plans lists five required components for each plan: a description of the planning process; risk assessments; mitigation strategies; a method and system for plan maintenance; and documentation of plan adoption. This section details the method and system for plan maintenance, following the CFR's guidelines that the plan update must include (1) "a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle," (2) "a process by which local governments incorporated the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans" and (3) "discussion on how the community will continue public participation in the plan maintenance process."

Monitoring, Evaluating, and Updating the Plan

By law, the plan must be updated every five years prior to re-submittal to the Federal Emergency Management Agency (FEMA) for re-approval. The first part of this subsection describes the whole update process, including the responsible parties, methods to be used, evaluation criteria to be applied, and scheduling for monitoring and evaluating the plan. These descriptions are followed by an explanation of how and when the plan will be periodically updated. The Plan must be updated every five years prior to re-submittal to the Federal Emergency Management Agency (FEMA) for re-approval. The first part of this subsection describes the whole update process, including sections on the following:

- Responsible parties
- Methods to be used
- Evaluation criteria to be applied
- Scheduling for monitoring and evaluating the plan

Responsible Parties

Washington Parish has developed a method to ensure that a regular review and update of the Hazard Mitigation Plan occurs. This will be the responsibility of the Steering Committee which consists of representatives from governmental organizations, local businesses, and private citizens, who will be involved in the process of monitoring, evaluating and updating the plan. All jurisdictions participating in this plan will remain active in the Steering Committee. Each of the jurisdictions are listed below:

- Washington Parish (Unincorporated)
- City of Franklinton
- Town of Bogalusa
- Village of Varnado
- Village of Angie

Although the people filling the positions may change from year to year, each jurisdiction will have a representative on the Steering Committee. The future Steering Committee will continue to be comprised of the same job functions as currently evident in the Steering Committee. However, the decision of specific job duties will be left to the Parish Emergency Manager to be assigned as deemed appropriate.

Methods for Monitoring and Evaluating the Plan and Plan Evaluation Criteria

Review and revision of the plan will be directed by the emergency manager within the Washington Parish Office of Homeland Security and Emergency Preparedness (OHSEP). Progress on the Mitigation Action Plan will be monitored and evaluated by the Parish Emergency Manager. The responsible party for each action item, identified in the Mitigation Strategy (Section 4), will complete an annual Progress Report and submit them to the Washington Parish OHSEP for review.

This Progress Report is designed to monitor the state of the projects and evaluate the success of each mitigation item. The report should list each action item and answers several very important questions, such as has the project begun? If not, why not? The status of project; is it complete? If so, did it eliminate the problem? Are there changes needed to better implement the mitigation actions? These questions serve to address the progress being made on each of the mitigation action items.

Copies of the Annual Progress Reports will also be sent to the mayors of each jurisdiction. If during this process of reviewing the Annual Progress Report, the Parish Emergency Manager determines that the Steering Committee should be reconvened for discussion, he or she has the option of doing so. He or she will use the following criteria to determine if a meeting needs to be held:

- Are there any changes in mitigation plan requirements for federal mitigation grant funding programs?
- Are any changes or revision required to the Mitigation Action Plan? (i.e. Have any action items been completed? Are there any new specific mitigation action items? Have any new specific mitigation action items been identified?)
- Are there any changes within the Steering Committee membership?

Although not required, FEMA recommends an annual meeting of the Steering Committee. If the Emergency Manager determines that this annual meeting needs to be conducted, he is responsible for contacting committee members, organizing the meeting and providing public notification for the meeting to solicit public input.

In addition to monitoring the progress of projects, the plan update is required to be evaluated, then revised or updated at least every five years from the date of FEMA approval. If a disaster occurs or as action items are completed, the plan update will be reviewed, revised, and updated sooner than the required five years, using the process outlined in this section.

Once approval from FEMA is received for an updated plan, the above process will begin again starting a new 5-year cycle. This will ensure that the plan is continually updated on a 5-year cycle. This new cycle will begin upon the date of FEMA approval. This process is further discussed in the below sub-section entitled "Updating the Plan".

The Steering Committee will be reconvened approximately one year before the five-year deadline and begin evaluating the Hazard Mitigation Plan. The above criteria and the following key topics and questions below will be addressed at the meeting.

- ID Hazard – Are there new hazards that affect your community? Has a disaster occurred?
- Profile Hazard Events – Are additional maps or new hazard studies available? Have chances of future events changed? Have recent and future development in the community been checked for their exposure to hazards?
- Inventory Assets – Have inventories of existing structures in hazard areas been updated? Are there any new special high risk populations? Is future land development accounted for in the inventories?
- Estimate Losses – Have losses been updated to account for recent changes?

If the answer to any of the above questions is a “Yes”, then the hazard mitigation plan will be updated accordingly. The hazard mitigation plan review and update will be accomplished by reviewing each goal and action item to determine their relevance to changing situations in the parish and in each municipality, as well as changes to state or federal policy, and to ensure that they are addressing current and expected conditions. The Steering Committee will also review the risk assessment portion and determine if this information should be updated or modified.

The Steering Committee will work together as a team, with each member sharing responsibility for completing the evaluation and updates. Each member of the Steering Committee is an equal member of the process. It will be the responsibility of the representative from each community to ensure that their section of this plan is updated to meet the required deadline.

The Parish Emergency Manager is responsible for including all changes into the hazard mitigation plan after the Steering Committee has met and decided on the changes. All necessary revisions will be completed at least three months prior to the end of the five year period to allow the Steering Committee time to review the updated plan. During the revision process, the Parish Emergency Manager will send a status report (meeting minutes) to the Parish Council and Mayors of the incorporated communities after each Steering Committee meeting. Any required revisions will be implemented into existing plans, as applicable, within six months following the review process. This process will be repeated for each five year review of the plan.

After the update process is completed, the final plan will be submitted to GOHSEP’s Hazard Mitigation Officer for review and then on to FEMA for review and approval to remain eligible for continued HMGP funding.

FEMA, LA DOTD, and GOHSEP have the authority to evaluate the progress of existing mitigation plans to determine if the plan is fulfilling program requirements.

The following basic schedule will be undertaken for monitoring, evaluating and updating the plan:

- At a minimum, monitoring activities by the Washington Parish OHSEP should be done every six months;
- Best practice is that the update should start a year and a half prior to plan expiration date, taking into consideration one year of development and six months to receive plan approval. Notices regarding annual evaluations should be sent by the Washington Parish OHSEP to the Washington Parish Hazard Mitigation Coordination Committee.

Updating the Plan

Updates will follow the original planning process outlined in Appendix A. The update process will entail a detailed and structured re-examination of all aspects of the original plan, followed by recommended updates. The update process will be undertaken by the Washington Parish OHSEP in coordination with the Washington Parish Hazard Mitigation Steering Committee. The recommendations will be presented to the Washington Parish Hazard Mitigation Steering Committee for consideration and approval. It is expected that the parish and each jurisdiction's administration will issue a letter of adoption for each update of the plan.

At a minimum, the plan will be updated and re-submitted to FEMA for re-approval every five years, as required by DMA 2000. The five-year update for FEMA re-approval requires that all the original steps outlined in Appendix A be revisited to make sure the plan assumptions and results remain valid as a basis for further decision-making and priority-setting.

The plan will also be subject to amendments as significant changes or new information is identified in the periodic evaluations described above. The degree to which the entire process is repeated will depend on the circumstances that precipitate the update.

Washington Parish Steering Committee, led by the Washington Parish OHSEP will initiate, coordinate and lead all plan updates in collaboration with each jurisdiction.

2015 Plan Version Plan Method and Schedule Evaluation

For the current plan update, the previously approved plan's method and schedule were evaluated to determine if the elements and processes involved in the required 2015 update. Based on this analysis, the method and schedule were deemed to be acceptable, and nothing was changed for this update.

Incorporation into Existing Planning Programs

The project requirements from the Hazard Mitigation Plan shall be incorporated into other planning mechanisms, as applicable, during the routine re-evaluation and update of the parish and jurisdictional plans. Any changes or updates to the floodplain ordinances, Emergency Operations Plan, FIRMs, Comprehensive Plan, or any other applicable plans will be reflected in this HMP during its updates.

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the Washington Parish Hazard Mitigation Steering Committee and through the five-year review process described herein. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update and implementation of each jurisdiction's individual plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.). The members of the Steering Committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Washington Parish Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability within the Parish.

During the planning process for new and updated local planning documents at the parish and jurisdiction level, such as a risk assessment, comprehensive plan, capital improvements plan, or emergency

operations plan, the jurisdictions will provide a copy of the Parish Hazard Mitigation Plan to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Parish Hazard Mitigation Plan and will not contribute to increased hazards.

Although it is recognized that there are many possible benefits to integrating components of this plan into other parish and jurisdiction planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the Steering Committee to be the most effective and appropriate method to ensure implementation of parish and local hazard mitigation actions.

On behalf of the jurisdictions of Bogalusa, Franklinton, Angie and Varnado, Washington Parish has the authority to incorporate the contents of the Hazard Mitigation Plan into the parish's existing regulatory mechanisms. Agreements are currently in place with jurisdictions to allow for the parish incorporation mechanisms to take place. The members of the Washington Parish Hazard Mitigation steering committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability in parish.

The following parish and local plans incorporate requirements of this HMP Update as follows through steering committee member and jurisdiction representation throughout the planning process as described above:

Washington Unincorporated

Comprehensive Master Plan/Updated as needed/Washington Parish Government

Local Emergency Operations Plan/Updated every 5 years/Parish OHSEP

Transportation Plan/Updated as needed/Parish OHSEP

Stormwater Management Plan/Updated As needed/Parish Department of Public Works

City of Franklinton

Comprehensive Master Plan (Washington Parish)/Updated as needed/Washington Parish Government

Capital Improvement Plan/Updated as needed/Town of Franklinton

Economic Development Plan/Updated as needed/Washington Economic Development Foundation

Local Emergency Operations Plan/Updated as needed/Town of Franklinton and Parish OHSEP

Stormwater Management Plan/Updated as needed/Parish Department of Public Works

Town of Bogalusa

Comprehensive Master Plan (Washington Parish)/Updated as needed/Washington Parish Government

Capital Improvement Plan/Updated Annually/Town of Bogalusa

Local Emergency Operations Plan/Updated as needed/Town of Bogalusa and Parish OHSEP

Village of Varnado

The Village of Varnado has no plans within the jurisdiction for the Hazard Mitigation Plan to be integrated.

Village of Angie

Local Emergency Operations Plan/Updated as needed/Village of Angie and Parish OHSEP

Continued Public Participation

Public participation is an integral component of the mitigation planning process and will continue to be essential as this plan evolves over time. Significant changes or amendments to the plan require a public hearing prior to any adoption procedures. Other efforts to involve the public in the maintenance, evaluation, and revision process will be made as necessary. These efforts may include:

- Advertising meetings of the Mitigation Committee in the local newspaper, public bulletin boards, and/or city and county office buildings
- Designating willing and voluntary citizens and private sector representatives as official members of the Mitigation Committee
- Utilizing local media to update the public of any maintenance and/or periodic review activities taking place
- Utilizing city and Parish web sites to advertise any maintenance and/or periodic review activities taking place
- Keeping copies of the Plan in appropriate public locations

Appendix C: Essential Facilities

Washington Parish Unincorporated

Washington Unincorporated Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Fire and Rescue	Hackley Station		X	X	
	Hays Creek Station		X	X	
	Mt Hermon Fire Department		X	X	
	Pine Fire Station		X	X	
	Stateline Department	X	X	X	
	Thomas Fire Department		X	X	
	Washington Parish Clifton Station		X	X	
	Washington Parish Fire District #1		X	X	
	Washington Parish Fire District #7		X	X	
	Washington Parish Fire District #7		X	X	
	Washington Parish Fire District #7	X	X	X	
	Washington Parish Fire District #7	X	X	X	
	Washington Parish Fire District #8	X	X	X	
	Washington Parish Fire District #8	X	X	X	
	Washington Parish Fire District #9 Alford Station		X	X	
	Washington Parish Fire District 2 Richardson Station		X	X	
	Washington Parish Fire District 6		X	X	
	Washington Parish Fire District 7		X	X	
	Washington Parish Fire Protection District 2 Stony Point Station		X	X	
	Washington Parish Fire Protection District 2 Vernon Station		X	X	

Washington Unincorporated Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Government	Ben's Creek Wildlife Management Area		X	X	
	DOTD Project Engineers		X	X	
	Franklinton Maintenance Unit		X	X	
	Louisiana Secretary of State		X	X	
	Louisiana Department of Motor Vehicles	X	X	X	
	PDI Parish Disposal Inc	X	X	X	
	Policing Booth 5th Ward		X	X	
	U.S. Army Reserve		X	X	
	United States Post Office		X	X	
	Washington Parish Landfill		X	X	
Law Enforcement	Sheriff's Office	X	X	X	
Corrections	B.B. Sixty Rayburn Correctional Center	X	X	X	
Public Health	Riverside Medical Center (HMP)	X	X	X	
Schools	Ben Ford's Christian School		X	X	
	Deep South Bible College		X	X	
	Enon High School	X	X	X	
	Franklinton Elementary School		X	X	
	Mt Hermon School		X	X	
	Northshore Technical College		X	X	
	Pine Jr/Sr High School		X	X	
	Thomas Elementary		X	X	
	Varnado Elementary School	X	X	X	
	Vernon School (vacant)		X	X	
	Wesley Ray Elementary		X	X	

Town of Franklinton

Franklinton Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Fire and Rescue	Franklinton Fire Dept		X	X	X
Government	Economic Development Foundation		X	X	X
	F A C C Supported Independent Living		X	X	X
	Franklinton Animal Shelter		X	X	X
	Franklinton Municipal Building		X	X	X
	Franklinton Police Dept		X	X	X
	Franklinton Rural Water Co-Op		X	X	X
	Franklinton Sewage Treatment Plant	X	X	X	X
	Louisiana National Guard	X	X	X	X
	Town Of Franklinton Public Works		X	X	X
	U S Department of Agriculture Marketing		X	X	X
	Washington Parish President & Council		X	X	X
	Warren Montgomery District Attorney	X	X	X	X
	Washington Parish Activity Center		X	X	X
	Washington Parish Building & Planning		X	X	X
	Washington Parish Court House	X	X	X	X
	Washington Parish Government Equipment Yard	X	X	X	X
	Washington Parish School Board		X	X	X
	Washington Parish Sheriff's Dept And Jail	X	X	X	X
	Washington Parish Tourism Commission	X	X	X	X
Schools	Bowling Green School	X	X	X	X

Franklinton Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
	Franklinton Head Start		X	X	X
	Franklinton High School	X	X	X	X
	Franklinton Junior High School		X	X	X
	Franklinton Primary School		X	X	X
Public Health	Riverside Medical Center (HMP)		X	X	X
Nursing Home	Heritage Manor		X	X	X
	Good Samaritan Living Center		X	X	X

City of Bogalusa

Bogalusa Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Fire and Rescue	Bogalusa Fire - Anthony J. Florenza Station		X	X	X
Government	Bogalusa School Board		X	X	X
	Bogalusa Senior Center		X	X	X
	Housing Authority of the City of Bogalusa		X	X	X
	Louisiana Workforce Commission	X	X	X	X
	Office of Community Services		X	X	X
	Warren Montgomery - District Attorney		X	X	X
	Youth Service Bureau	X	X	X	X
Law Enforcement	Bogalusa Police Department		X	X	X
	Washington Parish Sheriff's Sub-Station		X	X	X
Corrections	Bogalusa City Jail		X	X	X
Schools	Abandoned		X	X	X

Bogalusa Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
	Bogalusa Head Start	X	X	X	X
	Bogalusa High School		X	X	X
	Central Elementary		X	X	X
	Byrd Avenue Elementary School		X	X	X
	Denhamtown Elementary School		X	X	X
	Youthbuild Bogalusa Program - NTC Sullivan Campus		X	X	X
	Our Lady Of Angels	X	X	X	X
Public Health	Washington Parish Health Unit		X	X	X
	Resthaven Living Center		X	X	X
Nursing Home					

Village of Angie

Angie Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Fire and Rescue	Washington Parish District 5 Fire Department		X	X	X
Schools	Angie Jr High School		X	X	X

Village of Varnado

Varnado Essential Facilities					
Type	Name	Floods	Tornado	Tropical Cyclone	Wildfire
Fire and Rescue	Washington Parish Fire District 6		X	X	X
Law Enforcement	Village of Varnado Police Department		X	X	X
Schools	Varnado High School	X	X	X	X

Appendix D: Plan Adoption

VILLAGE OF VARNADO

P.O. Box 200
Varnado, LA 70467

VILLAGE OF VARNADO
VARNADO, LOUISIANA
RESOLUTION 01-2015
A RESOLUTION ADOPTING THE

WASHINGTON PARISH HAZARD MITIGATION PLAN 2015

WHEREAS the VILLAGE OF VARNADO has prepared a multi-hazard mitigation plan hereby known as the WASHINGTON PARISH HAZARD MITIGATION PLAN 2015 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the VILLAGE OF VARNADO has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, the VILLAGE OF VARNADO is participating in the Hazard Mitigation Plan prepared by the Washington Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, Washington Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

THEREFORE BE IT RESOLVED, the VILLAGE OF VARNADO does hereby adopt the Washington Parish Hazard Mitigation Plan 2015.

Having been submitted to a vote, the vote resulted as follows:

YEAS: 2
Nays: 0
ABSENT: 1
ABSTAINED: 0

The resolution was declared adopted on the 10th day of December, 2015.



Paris C. Sumrall, Mayor

TOWN OF FRANKLINTON

301 Eleventh Avenue
Franklinton, Louisiana 70438
985-839-3569
Fax: 985-839-3552

M. Wayne Fleming, Mayor

Aldermen:

T.J. Butler, Jr.
John L. Daniel
Richard Dillon
Brad Orman
Heath Spears

**TOWN OF FRANKLINTON
FRANKLINTON, LOUISIANA
RESOLUTION NO 11-10-15
A RESOLUTION ADOPTING THE
WASHINGTON PARISH HAZARD MITIGATION PLAN 2015**

WHEREAS, the TOWN OF FRANKLINTON has prepared a multi-hazard mitigation plan hereby known as the WASHINGTON PARISH HAZARD MITIGATION PLAN 2015 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, TOWN OF FRANKLINTON has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, TOWN OF FRANKLINTON is participating in the Hazard Mitigation Plan prepared by the Washington Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, Washington Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

THEREFORE BE IT RESOLVED, the TOWN OF FRANKLINTON does hereby adopt the Washington Parish Hazard Mitigation Plan 2015.

Having been submitted to a vote, the vote resulted as follows:

YEAS: 5

Nays: 0

ABSENT: 0

ABSTAINED: 0

The resolution was declared adopted on the 10th day of November, 2015


M. Wayne Fleming, Mayor

I HEREBY CERTIFY THE ABOVE TO BE A TRUE AND CORRECT COPY OF RESOLUTION 11-10-15 UNANIMOUSLY ADOPTED BY THE BOARD OF ALDERMEN AT TOWN OF FRANKLINTON, LA. REGULAR MEETING HELD ON NOVEMBER 10, 2015.


Merty G. Fitzmorris, Municipal Clerk

Town of Franklinton is an equal opportunity employer and provider

RESOLUTION NO. 2143
 CITY OF BOGALUSA
NOVEMBER 17, 2015
 DATE

The following ordinance was offered for final adoption by Vice-President White and seconded by Councilwoman Kates.

RESOLUTION
A RESOLUTION ADOPTING THE WASHINGTON PARISH
HAZARD MITIGATION PLAN 2015.

WHEREAS, the CITY OF BOGALUSA has prepared a multi-hazard mitigation plan hereby known as the WASHINGTON PARISH HAZARD MITIGATION PLAN 2015 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the CITY OF BOGALUSA has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, the CITY OF BOGALUSA is participating in the Hazard Mitigation Plan prepared by the Washington Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, Washington Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

THEREFORE BE IT RESOLVED, the CITY OF BOGALUSA does hereby adopt the Washington Parish Mitigation Plan 2015.

This Resolution having been submitted to a vote, the vote thereon was as follows:

<u>Member</u>	<u>Aye</u>	<u>Nay</u>	<u>Absent</u>	<u>Abstain</u>
Teddy Drummond, At-Large	<u>X</u>			
Doug Ritchie, At-Large			<u>X</u>	
Gloria Kates, District A	<u>X</u>			
Tamira Smith, District B	<u>X</u>			
Brian McCree, District C	<u>X</u>			
Malinda B. White, District D	<u>X</u>			
Sherry Fortenberry, District E	<u>X</u>			

And the Resolution was declared adopted at a public meeting held on this, the 17th day of November, 2015.

STATE OF LOUISIANA

PARISH OF WASHINGTON

WASHINGTON PARISH COUNCIL

RESOLUTION NO. 15-703

**A RESOLUTION ADOPTING THE WASHINGTON PARISH HAZARD
MITIGATION PLAN 2015**

WHEREAS, the WASHINGTON PARISH GOVERNMENT has prepared a multi-hazard mitigation plan hereby known as the WASHINGTON PARISH HAZARD MITIGATION PLAN 2015 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, WASHINGTON PARISH has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, WASHINGTON PARISH is participating in the Hazard Mitigation Plan prepared by the Washington Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, Washington Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

THEREFORE BE IT RESOLVED, the WASHINGTON PARISH COUNCIL does hereby adopt the Washington Parish Hazard Mitigation Plan 2015.

The above and foregoing having been submitted to a vote, the vote thereupon resulted as follows:

YEAS: (7) Wheat, Fussell, Nassauer, Johnson, Thomas, Route and Posey

NAYS: (0)

ABSENT: (0)

ABSTAINED: (0)

The resolution was declared adopted on the 9th day of November, 2015.

WASHINGTON PARISH COUNCIL

By: Michael Fussell

Michael Fussell, Chairman

VILLAGE OF ANGIE*Incorporated May 25, 1908***VILLAGE OF ANGIE****ANGIE, LOUISIANA**

64475 Cherry Street

Angie, LA 70426

(985) 986-2444

Fax (985) 986-2889

angiecityhall@bellsouth.net

RESOLUTION #16-02-16-01**A RESOLUTION ADOPTING THE
WASHINGTON PARISH HAZARD MITIGATION PLAN 2015**

WHEREAS the VILLAGE OF ANGIE has prepared a multi-hazard mitigation plan hereby known as the WASHINGTON PARISH HAZARD MITIGATION PLAN 2015 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the VILLAGE OF ANGIE has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, the VILLAGE OF ANGIE is participating in the Hazard Mitigation Plan prepared by the Washington Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, Washington Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program
-

THEREFORE BE IT RESOLVED, the VILLAGE OF ANGIE does hereby adopt the Washington Parish Hazard Mitigation Plan 2015.

Having been submitted to a vote, the vote resulted as follows:

YEAS: 3

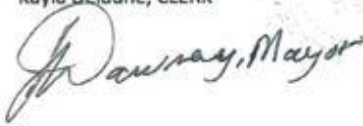
GILBERT BALL
Alderman

BRYON STOGER
Alderman

ROXIE FORNEA
Alderman

GILBERT HARTZOG, JR.
Police Chief

JOHN DAWSEY, JR.
Mayor

NAYS: 0ABSENT: 0ABSTAINED: 0The resolution was declared adopted on the 16th day of Feb., 2016.
Kayla DeJaune, CLERK
Mayor

Appendix E: State Required Worksheets

During the planning process (Appendix A) the Hazard Mitigation Plan Update Steering Committee was provided state-required plan update process worksheets to be filled out by each jurisdiction. The worksheets were presented at the kickoff meeting by the contractor as tools for assisting in the update of the Hazard Mitigation Plan. The plan update worksheets allowed for collection of information such as planning team members, community capabilities, critical infrastructure and vulnerable populations and NFIP information. The following pages contain documentation of the worksheets.

Mitigation Planning Team

Name	Title	Agency
Thomas P Thiebaud	Director	WP Homeland Security
Bobbi Jo Breland	Emergency Management Specialist	WP Homeland Security
JoAnna Thomas	Chairman	WP Communication District
Stacy Smith	Director of Administration	City of Bogalusa
James Hall	Director Public Works	City of Bogalusa
Leo Lucchesi	Director Public Works	Washington Parish
Wendy Oquin-Perrett	Mayor	City of Bogalusa
John Dawsey	Mayor	Village of Angie
Wayne Fleming	Mayor	Town of Franklinton
Paris Sumrall	Mayor	Village of Varnado
Richard Moody	Fire Chief	Bogalusa Fire Department
Joe Culpepper	Police Chief	Bogalusa Police Department
Donald Folse	Police Chief	Franklinton Police Department
Reginald McMasters	Director Public Works	Town of Franklinton
Paula Wood		International Paper
Ed Jordon	Emergency Management Coordinator	Our Lady of the Angels Hospital
Shad Jenkins		Riverside Medical Center
Nancy McBeth	Director	Council on Aging
Randy Seal	Sheriff	Washington Parish Sheriff Office
Ryal Seal		Washington Economic Development Foundation
Richard Breedlove	Fire Chief	WP Fire District #7
Willie Breaux	Superintendent	Bogalusa City Schools
Richard Kennedy	Asst Superintendent	Washington Parish School Board

Capability Assessment

Washington Unincorporated

Worksheet 4.1

Capability Assessment Worksheet
Washington Parish

Local mitigation capabilities are existing authorities, policies and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Plans	Yes / No	How often is the plan updated?
Comprehensive / Master Plan	yes	
Capital Improvements Plan	no	
Economic Development Plan	no	
Local Emergency Operations Plan	Yes	5 years
Continuity of Operations Plan	no	
Transportation Plan	no	
Stormwater Management Plan	yes	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone)		
Building Code, Permitting and Inspections	Yes / No	Are the codes adequately enforced?
Building Code	yes	
Building Code Effectiveness Grading Schedule (BCEGS)	no	Score
Fire Department ISO rating	no	
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes / No	Is the ordinance adequately administered and enforced?
Zoning Ordinance	no	Yes
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep)	No	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public	No	
Other		

How can these capabilities be expanded and improved to reduce risk?

continue to seek funding opportunities to enhance mitigation programs within the parish.

Administration and Technical

Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes / No	Comments
Planning Commission	yes	
Mitigation Planning Committee	yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	yes	
Mutual Aid Agreements	yes	
Staff	Yes / No	Percentage of time spent on hazard mitigation
Chief Building Official	yes	
Floodplain Administrator	yes	
Emergency Manager	yes	
Community Planner	no	
Civil Engineer	no	
GIS Coordinator	yes	
Grant Writer	no	
Other	no	
Technical	Yes / No	Describe capability
Warning Systems / Service	yes	
Hazard Data & Information	yes	
Grant Writing	no	
Hazus Analysis	no	
Other	no	
How can these capabilities be expanded and improved to reduce risk?		
continue to seek funding for hazard mitigation programs to enhance mitigation programs in the parish		

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes / No	Could the resource be used to fund future mitigation activities?
Capital Improvements project funding	yes	
Authority to levy taxes for specific purposes	yes	
Fees for water, sewer, gas, or electric services	yes	
Impact fees for new development	no	
Stormwater Utility Fee	no	
Community Development Block Grant (CDBG)	yes	
Other Funding Programs	yes	

How can these capabilities be expanded and improved to reduce risk?

continue to see funding to enhance mitigation capabilities within the parish

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs	yes	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	yes	
Natural Disaster or safety related school program	yes	
Storm Ready certification	no	
Firewise Communities certification	no	
Public/Private partnership initiatives addressing disaster-related issues	no	
Other	no	

How can these capabilities be expanded and improved to reduce risk?

continue to seek funding opportunities to enhance education and outreach programs throughout the parish.

City of Bogalusa

Worksheet 4.1

Capability Assessment Worksheet -
City of Bogalusa

Local mitigation capabilities are existing authorities, policies and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Plans	Yes / No	How often is the plan updated?
Comprehensive / Master Plan	Yes	As needed
Capital Improvements Plan	Yes	annually
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	Under the Parish Plan
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone)	Yes	Under Parish Plan
Building Code, Permitting and Inspections	Yes	Are the codes adequately enforced? Yes
Building Code	Yes	IBC 2006 Yes
Building Code Effectiveness Grading Schedule (BCEGS) Score		
Fire Department ISO rating	Yes	Rating 3
Site plan review requirements	Yes	
Land Use Planning and Ordinances	Yes / No	Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	Yes
Subdivision Ordinance	Yes	Yes
Floodplain Ordinance	Yes	Yes
Natural Hazard Specific Ordinance (stormwater, steep slope,	No	
Flood Insurance Rate Maps	Yes	Yes
Acquisition of land for open space and public recreation uses	Yes	Yes
Other		

How can these capabilities be expanded and improved to reduce risk?

Bogalusa is in the process of completing a Comprehensive Resiliency Plan and Zoning Ordinance with Land Use Plan.

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes / No	Could the resource be used to fund future mitigation actions?
Capital Improvements project funding	Yes	Depends on the priority of the project.
Authority to levy taxes for specific purposes	Yes	Subject to voter ratification.
Fees for water, sewer, gas, or electric services	Yes	No
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	Depends on the priority of the project.
Other Funding Programs		

How can these capabilities be expanded and improved to reduce risk?

Implement stormwater utility fee and impact fees for new development.

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	Yes	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other		

How can these capabilities be expanded and improved to reduce risk?

Improve frequency of meetings and communications among various entities.

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	Yes / No	Comments
Planning Commission	Yes	
Mitigation Planning Committee	Yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Mutual Aid Agreements	Yes	
Staff	Yes / No	Percentage of time spent on hazard mitigation
Chief Building Official	Yes	22%
Floodplain Administrator	Yes	10%
Emergency Manager	Yes	20%
Community Planner	Yes	15
Civil Engineer	No	Outsourced
GIS Coordinator	No	Outsourced
Grant Writer	No	Some by department
Other		
Technical	Yes / No	Describe capability
Warning Systems / Service	Yes	Texting and emailing to subscribers
Hazard Data & Information	No	
Grant Writing	No	Some by department
Hazus Analysis	No	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Improve GIS capabilities. Outreach to have citizens sign up for texts and email notices.		

Town of Franklinton

Worksheet 4.1

Capability Assessment Worksheet -
Town of Franklinton

Local mitigation capabilities are existing authorities, policies and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Plans	Yes / No	How often is the plan updated?
Comprehensive / Master Plan	Y	
Capital Improvements Plan	Y	
Economic Development Plan	Y	
Local Emergency Operations Plan	Y	
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan	Y	
Community Wildfire Protection Plan		
Other plans (redevelopment, recovery, coastal zone)		
Building Code, Permitting and Inspections	Yes / No	Are the codes adequately enforced?
Building Code	N	Version / Year
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	Score
Fire Department ISO rating		Rating
Site plan review requirements		
Land Use Planning and Ordinances	Yes / No	Is the ordinance adequately administered and enforced?
Zoning Ordinance	Y	
Subdivision Ordinance	Y	
Floodplain Ordinance	Y	
Natural Hazard Specific Ordinance (stormwater, steep slope,	Y	
Flood Insurance Rate Maps	Y	
Acquisition of land for open space and public recreation uses	Y	
Other		

How can these capabilities be expanded and improved to reduce risk?

Continue to seek funding to improve capabilities at the local level

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes / No	Could the resource be used to fund future mitigation actions?
Capital Improvements project funding	Y	
Authority to levy taxes for specific purposes	Y	
Fees for water, sewer, gas, or electric services	Y	
Impact fees for new development	N	
Stormwater Utility Fee	N	
Community Development Block Grant (CDBG)	Y	
Other Funding Programs	N	

How can these capabilities be expanded and improved to reduce risk?

Continue to see funding to improve capabilities at the local level

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Y	
Natural Disaster or safety related school program	Y	
Storm Ready certification	N	
Firewise Communities certification	N	
Public/Private partnership initiatives addressing disaster-related issues	N	
Other		

How can these capabilities be expanded and improved to reduce risk?

continue to collaborate with the parish government and surrounding parishes on mitigation education campaigns.

Administration and Technical

Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes / No	Comments
Planning Commission	Y	parish
Mitigation Planning Committee	Y	parish
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Y	parish
Mutual Aid Agreements	Y	
Staff	Yes / No	Percentage of time spent on hazard mitigation
Chief Building Official	Y	
Floodplain Administrator	Y	
Emergency Manager	Y	
Community Planner	N	
Civil Engineer	N	
GIS Coordinator	N	
Grant Writer	N	
Other	N	
Technical	Yes / No	Describe capability
Warning Systems / Service	Y	parish
Hazard Data & Information	N	
Grant Writing	N	
Hazus Analysis	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		

Continue to seek funding to improve capabilities at the local level

Village of Varnado

Worksheet 4.1

Capability Assessment Worksheet -
Village of Varnado

Local mitigation capabilities are existing authorities, policies and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Plans	Yes / No	How often is the plan updated?
Comprehensive / Master Plan	no	
Capital Improvements Plan	no	
Economic Development Plan	no	
Local Emergency Operations Plan	no	
Continuity of Operations Plan	no	
Transportation Plan	no	
Stormwater Management Plan	no	
Community Wildfire Protection Plan	no	
Other plans (redevelopment, recovery, coastal zone)	no	
Building Code, Permitting and Inspections	Yes / No	Are the codes adequately enforced?
Building Code	yes	yes
Building Code Effectiveness Grading Schedule (BCEGS) Score	no	Score
Fire Department ISO rating		Rating
Site plan review requirements	no	
Land Use Planning and Ordinances	Yes / No	Is the ordinance adequately administered and enforced?
Zoning Ordinance	no	
Subdivision Ordinance	no	
Floodplain Ordinance	yes	yes
Natural Hazard Specific Ordinance (stormwater, steep	no	
Flood Insurance Rate Maps	yes	yes
Acquisition of land for open space and public recreation uses	no	
Other		
How can these capabilities be expanded and improved to reduce risk?		
We consider our risk as minimal and feel that additional steps and/or expansion of capabilities is not needed at this time.		

Administration and Technical

Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes / No	Comments
Planning Commission	no	Parish resources available
Mitigation Planning Committee	no	Parish resources available
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	yes	
Mutual Aid Agreements	yes	
Staff	Yes / No	Percentage of time spent on hazard mitigation
Chief Building Official	no	
Floodplain Administrator	no	
Emergency Manager	no	
Community Planner	no	
Civil Engineer	no	
GIS Coordinator	no	
Grant Writer	no	
Other		
Technical	Yes / No	Describe capability
Warning Systems / Service	no	
Hazard Data & Information	no	
Grant Writing	no	
Hazus Analysis	no	
Other		
How can these capabilities be expanded and improved to reduce risk?		

See above

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes / No	Could the resource be used to fund future mitigation actions?
Capital Improvements project funding	yes	yes
Authority to levy taxes for specific purposes	no	
Fees for water, sewer, gas, or electric services	no	
Impact fees for new development	no	
Stormwater Utility Fee	no	
Community Development Block Grant (CDBG)	yes	yes
Other Funding Programs	yes	yes
How can these capabilities be expanded and improved to reduce risk?		
See above		
Education and Outreach		
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.		
Program / Organization	Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	no	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	no	
Natural Disaster or safety related school program	no	
Storm Ready certification	no	
Firewise Communities certification	no	
Public/Private partnership initiatives addressing disaster-related issues	no	
Other		
How can these capabilities be expanded and improved to reduce risk?		

Village of Angie

Worksheet 4.1		
Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Plans	Yes / No	How often is the plan updated?
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	As needed
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone)		
Building Code, Permitting and Inspections	Yes / No	Are the codes adequately enforced?
Building Code	Yes	under Parish Plan
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score
Fire Department ISO rating	Yes	5?
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes / No	Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	Yes
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep	No	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	No	
Other		
How can these capabilities be expanded and improved to reduce risk?		
N/A		

Administration and Technical

Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes / No	Comments
Planning Commission	N	
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Y	
Mutual Aid Agreements	Y	
Staff	Yes / No	Percentage of time spent on hazard mitigation
Chief Building Official	N	
Floodplain Administrator	N	
Emergency Manager	N	
Community Planner	N	
Civil Engineer	N	
GIS Coordinator	N	
Grant Writer	N	
Other	N	
Technical	Yes / No	Describe capability
Warning Systems / Service	Y	Parish
Hazard Data & Information	N	
Grant Writing	N	
Hazus Analysis	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		

N/A

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes / No	Could the resource be used to fund future mitigation actions?
Capital Improvements project funding	Y	
Authority to levy taxes for specific purposes	N	
Fees for water, sewer, gas, or electric services	Y	
Impact fees for new development	N	
Stormwater Utility Fee	N	
Community Development Block Grant (CDBG)	N	
Other Funding Programs	N	

How can these capabilities be expanded and improved to reduce risk?

N/A

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Y	
Natural Disaster or safety related school program	Y	Parish
Storm Ready certification	N	
Firewise Communities certification	N	
Public/Private partnership initiatives addressing disaster-related issues	N	
Other	N	

How can these capabilities be expanded and improved to reduce risk?

N/A

Building Inventory

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
Washington Unincorporated									
X	Washington Parish Courthouse	Government	Washington & Main St	Franklinton	30.844409	-90.15579	\$ 8,282,000.00	1960	Concrete
X	Bogalusa Health Unit	healthcare	626 Carolina Ave	Bogalusa	30.78973	0.89854288	\$ 1,050,998.00	1970	Steel
X	Franklinton Health Unit	healthcare	120 11th Street	Franklinton	30.854669	-90.158042	\$ 1,901,278.00	2010	Concrete
X	Washington Parish Government	parish government	909 Pearl Street	Franklinton	30.843922	-90.155055	included in #1	1940	Concrete
X	Choctaw Landfill	waste disposal	22249 Choctaw Road	Franklinton	30.763281	-90.023022	\$ 126,957.00	1987	Reinforced Masonry
X	Washington Parish E911/EOC Center	911 /EOC	54100 Dollar Road	Franklinton	30.870226	-89.992896	\$ 1,400,735.00	2012	Reinforced Masonry
X	Parish Office of Homeland Security and Emergency Preparedness	emergency management	803 Pearl Street	Franklinton	30.843255	-90.155699	\$ 192,029.00	1955	Reinforced Masonry
X	Washington Parish Sheriff Office	law enforcement	1002 Main Street	Franklinton	30.844409	-90.15579	\$ 2,977,700.00	1982	Concrete
X	Washington Parish Permit Office	parish government	203 11th Avenue - Suite 1	Franklinton	30.855723	-90.15864	\$ 849,394.00	2010	Reinforced Masonry
X	Washington Parish Library	public library	825 Free St	Franklinton	30.848764	-90.15951	\$ 772,081.00		Wood
X	Bogalusa Branch Library	public library	304 Avenue F	Bogalusa	30.7800	-89.8700	\$ 1,516,159.00	1967	Reinforced Masonry
X	Washington Parish Library	public library	14140 Highway 16	Enon	30.7272	-90.0854	\$ 58,000.00	2004	Wood
X	Washington Parish Library	public library	30369 Hwy 424	Thomas	30.9675	-90.029	\$ 36,000.00	2003	Wood
X	Washington Public Works #1	maintenance	801 Pearl St	Franklinton	30.843242	-90.155711	\$ 50,000.00	1975	Reinforced Masonry
X	Washington Public Works #2	maintenance	Seven Mile Rd / Hwy 10	Franklinton	30.8522	-89.9501	\$ 164,695.00	1979	Reinforced Masonry
X	Washington Public Works #3	maintenance	End of Pearl St	Franklinton	30.842283	-90.156939	\$ 366,032.00	2009	Wood
Northshore Technical Community College									
	Enon Elementary	school	1710 Sullivan Drive	Franklinton	30.7593	-89.8469	N/A	N/A	Reinforced Masonry
	Pine Jr/Sr High	school	14058 Hwy 16	Franklinton	30.7275	-90.0857	\$ 6,880,635.00	1955	Reinforced Masonry
	Thomas Elementary	school	1 Raider Drive	Franklinton	30.924922	-90.014207	\$ 14,869,701.00	2006	Reinforced Masonry
	Varnado High	school	30341 Hwy 424	Franklinton	30.848501	-90.149983	\$ 6,497,530.00	N/A	Wood
	Wesley Ray Elementary	school	25543 Washington St	Angie	30.501548	-90.09292	\$ 8,411,186.00	1995	Reinforced Masonry
	Bogalusa High	school	30523 Wesley Ray Drive	Angie	30.581878	-89.502115	\$ 4,776,266.00	1955	Reinforced Masonry
	Central Elementary	school	100 M J Israel Drive	Bogalusa	30.779645	-89.866092	\$ 19,759,600.00	1958	Reinforced Masonry
	Byrd Avenue Elementary	school	420 Spartans Ave	Bogalusa	30.770567	-89.853211	\$ 10,436,581.00	1954	Reinforced Masonry
	Denamtown Elementary	school	1600 Byrd Avenue	Bogalusa	30.76264	-89.86035	\$ 2,818,767.00	1960	Reinforced Masonry
	Annunciation Catholic School	school	1101 Avenue M	Bogalusa	30.76948	-89.87833	\$ 2,818,767.00	1960	Reinforced Masonry
	Bens Ford Christian School	school	511 Avenue C	Bogalusa	30.777	-89.8679	\$ 5,000,000.00	1955/1980/1996	Reinforced Masonry
	Bowling Green School	school	59253 Mount Pleasant Road	Bogalusa	30.738345	-89.903089	\$ 5,462,000.00	1968-2004	Reinforced Masonry
		school	700 Varnado Street	Franklinton	30.840075	-90.156051	\$ 5,868,180.00	1972	Reinforced Masonry
Bogalusa									
X	City Hall	Municipal Government	214 Arkansas Avenue	Bogalusa	30.786335	-89.860226	\$ 3,000,000.00	1906	Wood
X	Central Fire Station	Fire Protection	202 Arkansas Avenue	Bogalusa	30.786191	-89.860545	\$ 900,000.00	1949	Unreinforced Masonry
X	Bogalusa Police Headquarters/Jail	Law Enforcement/Corrections	111 Memphis Street	Bogalusa	30.786182	-89.861336	\$ 2,000,000.00	1980	Reinforced Masonry
X	Anthony Fiorenza Fire Station	Fire Protection	505 W. 8th Street	Bogalusa	30.772819	-89.871989	\$ 800,000.00	1960	Reinforced Masonry
X	Southside Fire Station	Fire Protection	E. 5th Street at Avenue U	Bogalusa	30.774634	-89.855633	\$ 600,000.00	1948	Unreinforced Masonry
	Senior Citizen Center	Community Programs	603 Willis Avenue	Bogalusa	30.783209	-89.870090	\$ 900,000.00	2002	Reinforced Masonry
X	Bogalusa Airport Terminal and Hangar	Aviation	401 Walker Street	Bogalusa	30.805155	-89.861011	\$ 2,300,000.00	1960	Steel
X	Bogalusa Industrial Park Complex	Economic Development	Industrial Parkway	Bogalusa	30.808060	-89.858462	\$ 22,300,000.00	1971-2006	Metal
	Milltown Building	Storage	660 Willis Avenue	Bogalusa	30.782078	-89.871530	\$ 500,000.00	1975	Metal
	Sewer Treatment Plant	Sewer Treatment	101 Memphis	Bogalusa	30.784946	-89.602390	\$ 12,000,000.00	1957	Concrete
	City of Bogalusa Maintenance Bldgs	Maintenance	Memphis Street	Bogalusa	30.785018	-89.861540	\$ 600,000.00	1960	Steel
	Water Treatment Plant	Water Treatment	150 Sycamore Street	Bogalusa	30.781522	-89.867113	\$ 1,200,000.00	1950	Concrete
	Welcome Center Building	under renovation	Louisiana Avenue	Bogalusa	30.791939	-89.841085	\$ 100,000.00	1930	Wood

Angie									
	No public buildings in Angie								
Franklinton									
	Washington Parish Activity Center	Specical Upward Challenge	2008 Main St	Franklinton	30.83245	90.15109		1975	Concrete
X	Fire Department	Fire	415 11th	Franklinton	30.85302	90.15664	\$ 630,000.00	2004	Metal
X	Police Department	Police	409 11th	Franklinton	30.85322	90.15704	\$ 1,141,000.00	2004	Concrete
X	Public Works Departmet	Town Management	1108 Lenora St	Franklinton	30.85244	90.15578	\$ 674,000.00	1978	Steel
X	City Hall	Mayor Office	301 11th Ave	Franklinton	30.85439	90.1578	\$ 1,290,000.00	1974	Concrete
	Franklinton Little Theater	Store	Taft St.	Franklinton	30.84079	90.12764	\$ 30,000.00	2012	Metal
X	Sewer Plant	Waste Water Treatment Lab	506 Riverside Drive	Franklinton	30.83232	90.15627	\$ 8,830,208.00	1985	Concrete
	Franklinton Lions Club	Police Department Store	Boat Ramp Rd	Franklinton	30.83241	90.16138	\$ 30,000.00	1990	Wood
	Bene St Well	Water well	Bene St	Franklinton	30.85558	90.15944	\$ 2,794,716.00	1957	Metal
	Mason Well	Water well	2007 Mason St.	Franklinton	30.84975	90.14035	combined w/ above	1972	Metal
	Chess Jones Well	Water well	Chess Jones	Franklinton	30.82946	90.14714	combined w/ above	1997	Metal
	Animal Shelter	Animal Shelter	1637 Desmare St.	Franklinton	30.84937	90.14632	\$ 75,000.00	1990	Concrete
	Franklinton Elementary	school	345 Jaquar Drive	Franklinton	30.854061	-90.124217	\$ 10,146,770.00	2006	Reinforced Masonry
	Franklinton High	school	1 Demon Circle	Franklinton	30.859467	-90.126023	\$ 18,723,270.00	1986-2006	Reinforced Masonry
	Franklinton Jr High	school	617 Main St	Franklinton	30.505868	-90.092934	\$ 13,169,505.00	1938	Reinforced Masonry
	Franklinton Primary	school	610 T. W. Barker Drive	Franklinton	30.511863	-90.084467	\$ 12,580,855.00	1955	Reinforced Masonry
	Mt Hermon	school	36119 Hwy 38	Mt Hermon	30.928032	-90.295904	\$ 11,521,009.00	1984	Reinforced Masonry
	Grand Isle Shipyard Bldg	Fabrication Facility	1212 Taft St	Franklinton	30.8433	-90.1277	\$ 273,000.00	2008	Reinforced Masonry
Varnado									
X	Varnado Town Hall	Government	63097 Main Street	Varnado	30.894246	-89.830984	\$ 65,000.00	2012	wood

National Flood Insurance Program (NFIP)

Washington Parish

ELEMENT F: STATE REQUIREMENT					
National Flood Insurance Program (NFIP)					
Jurisdiction: Washington Parish					
	Washington Parish	Bogalusa	Franklinton	Angie	Varnado
Insurance Summary					
How many NFIP policies are in the community? What is the total premium and coverage?	576 NFIP Policies, Total Annual Premiums \$ 393,951; Total Coverage Value \$	Policies: 136; Premium: \$84,862; Coverage:	Policies: 59 Total Coverage: \$10,833,7000	Policies: 2 Total Coverage: \$264,000	policies: 2 Total Coverage: \$385,000
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	Total Claims Paid Since 1978 – 451; Total Amount of Claims Paid \$ 5,265,137; 12 substantial damaged structures	Paid Losses: 74; Paid Claims: \$1,126,226; Substantial damage: 37	Claims: 87 Total paid: \$1,031,958	Claims: 0	Claims: 0
How many structures are exposed to flood risk with in the community?	The SFHA of Washington Parish are designated as Zones "A" and "AE" –there is no known data as to how many structures are situated in these risk areas	A or AE: 49 policies	Unknown	The SFHA of Washington Parish are designated as Zones "A" and "AE" – there is no known data as to how many structures are situated in these risk areas	The SFHA of Washington Parish are designated as Zones "A" and "AE" – there is no known data as to how many structures are situated in these risk areas
Describe any areas of flood risk with limited NFIP policy coverage.	Flood risks with limited NFIP policy coverage includes areas below the lowest elevated floor depending on the flood zone and construction dates – i.e. basements, crawlspaces under an Elev. Building & Elev. Bldgs. w/enclosures	None	Unknown	Flood risks with limited NFIP policy coverage includes areas below the lowest elevated floor depending on the flood zone and construction dates – i.e. basements, crawlspaces under an Elev. Building & Elev. Bldgs.	Flood risks with limited NFIP policy coverage includes areas below the lowest elevated floor depending on the flood zone and construction dates – i.e. basements, crawlspaces under an Elev. Building & Elev. Bldgs. w/enclosures

Staff Resources					
Is the Community FPA or NFIP Coordinator certified?	Assigned and Certified by Washington Parish Ordinance 09-507 Effective 12/1/2009	unknown	no	Assigned and Certified by Washington Parish Ordinance 09-507 Effective 12/1/2009	Assigned and Certified by Washington Parish Ordinance 09-507 Effective 12/1/2009
Is flood plain management an auxiliary function?	Washington Parish Director of Public Works is responsible for floodplain administration with assistance from Washington Parish Building & Permit Department	yes	yes	Washington Parish Director of Public Works is responsible for floodplain administration with assistance from Washington Parish Building & Permit Department	Washington Parish Director of Public Works is responsible for floodplain administration with assistance from Washington Parish Building & Permit Department
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Washington Parish Director of Public Works provides full service administration which includes permit / floodplain review, GPS identification, community education, site inspections, and BFE survey certifications	permit review	outreach, inspections	Washington Parish Director of Public Works provides full service administration which includes permit / floodplain review, GPS identification, community education, site inspections, and BFE	Washington Parish Director of Public Works provides full service administration which includes permit / floodplain review, GPS identification, community education, site inspections, and BFE survey certifications
What are the barriers to running an effective NFIP program in the community, if any?	The main challenge is keeping the public informed.	resources, increased cost of insurance	resources, staffing.	resources, staffing	resources, staffing

Compliance History					
Is the community in good standing with the NFIP?	YES	Yes	Yes	yes	yes
Are there any outstanding compliance issues(i.e., current violations)?	NO	No	No	no	no
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact(CAC)?	Washington Parish is in compliance with NFIP floodplain management criteria as per April 10, 2014 letter from FEMA Region VI Administrative Office,	September, 2014	Unknown	unknown	unknown
Is a CAV or CAC scheduled or needed? If so when?	None scheduled at this time	No	Unknown	unknown	unknown
Regulation					
When did the community enter the NFIP?	4-May-88	1987	9/28/1979	12/3/2009	4/5/1989
Are the FIRMs digital or paper?	both	Paper and digital	Paper	unknown	unknown
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	FEMA & State of Louisiana regulations are met and enforced	Meet	Unknown	meet	meet
Community Rating System (CRS)					
Does the community participate in CRS?	Yes	No	no - parish	no - parish	no - parish
What is the community's CRS Class Ranking?	Class 10	No	no	no	no
Does the plan include CRS planning requirements?	Yes	yes	yes	yes	yes

DRAFT