

2021 WEST BATON ROUGE PARISH MULTI- JURISDICTIONAL HAZARD MITIGATION PLAN

UNINCORPORATED WEST BATON
ROUGE PARISH, ADDIS, BRUSLY,
PORT ALLEN



WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

Prepared for:

West Baton Rouge Parish



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This 2021 West Baton Rouge Parish Hazard Mitigation Plan Update was coordinated by the West Baton Rouge Parish Hazard Mitigation Plan Update Steering Committee, in collaboration with community stakeholders and the general public. The participating jurisdictions are made up of the following communities:

West Baton Rouge Parish
Town of Addis
Town of Brusly
City of Port Allen

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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 West Baton Rouge 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 West Baton Rouge Parish and its jurisdictions less vulnerable and more disaster resilient. It also includes mitigation project scoping to further identify scopes of work, funding sources, and implementation timing requirements of proposed selected mitigation projects. Information in the plan will be used to help guide and coordinate mitigation and local policy decisions affecting future land use.

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

- West Baton Rouge Parish
- Town of Addis
- Town of Brusly
- City of Port Allen

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 (HMP) and subsequent implementation of recommended projects, measures, and policies is the primary means to achieving these goals. Mitigation planning and project implementation has become even more significant in a post-Katrina/Rita, Gustav/Ike, and Laura/Delta environment in south Louisiana.

This Hazard Mitigation Plan is a comprehensive plan for disaster resiliency in West Baton Rouge 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.

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 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.

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 further described in Section Three: Capability Assessment.

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 West Baton Rouge Parish and its communities with a blueprint for reducing the impacts of these natural hazards on people and property.

Geography, Population and Economy

Geography

West Baton Rouge Parish is located in south-central Louisiana, approximately 35 miles north of the Gulf of Mexico (*Figure 1-1*). At 192.39 square miles, it is the second smallest parish in Louisiana in terms of area, second only to Orleans Parish. Neighboring parishes are Iberville to the south and west, Pointe Coupee to the north and west, and East Baton Rouge to the east. The Mississippi River forms the eastern border between West Baton Rouge and East Baton Rouge Parishes.

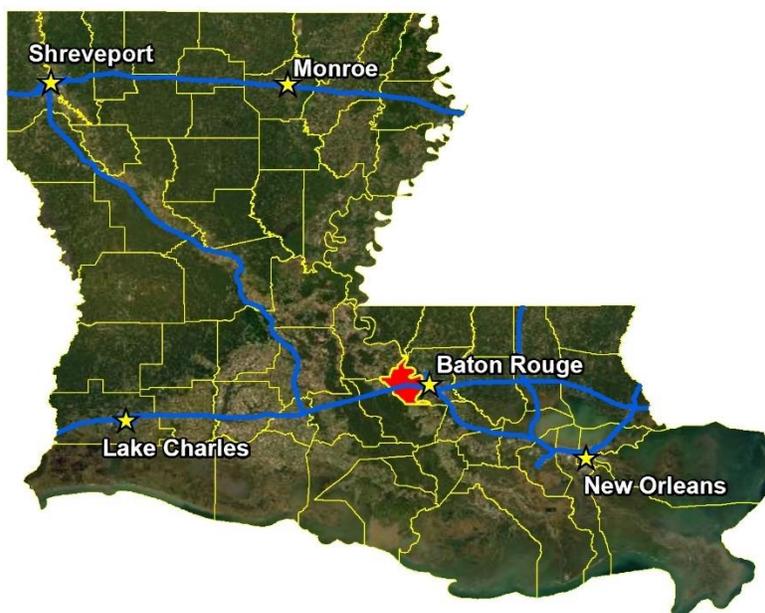


Figure 1-1: Location of West Baton Rouge Parish in the State of Louisiana

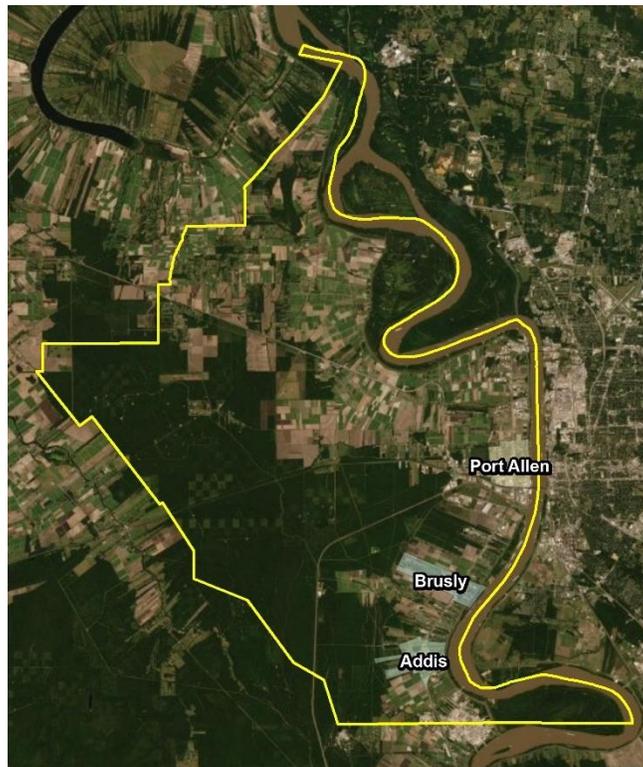


Figure 1-2: Incorporated Jurisdictions within West Baton Rouge Parish

The topography of West Baton Rouge Parish varies significantly from the north and east to the south and west. The northern part of the parish consists of rolling terrain approximately 25-30 feet above sea level. Moving to the southwest, the land submerges into rich cypress forests and marshes. The largest concentration of urban development is found in the far eastern portion of the parish.

West Baton Rouge Parish weather is typically warm and humid. Variations in daily temperature are determined by distance from the Gulf of Mexico and, to a much lesser degree, by differences in elevation. The average annual temperature for the state as a whole is 68°F. January is typically the coldest month for Louisiana, averaging approximately 54°F, while July is typically the warmest at an average of 83°F. Winter months are usually mild with cold spells of short duration. For West Baton Rouge Parish in particular, the summer months are usually quite warm, with an average daily maximum temperature in July and August of 92°F. Winters are typically mild. Snowfall averages less than one inch per year. Average annual rainfall for the area is 61 inches. West Baton Rouge Parish is susceptible to the normal weather dangers, such as thunderstorms and flooding, but due to its location within the state and its proximity to the Gulf of Mexico, the parish is highly susceptible to tropical cyclones. Hurricane season lasts from June 1st to November 30th, with most hurricanes forming in August, September, and October.

West Baton Rouge Parish is located in Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 2 (Figure 1-3).

As noted above, West Baton Rouge Parish is located in the southeastern region of Louisiana.



Figure 1-3: Louisiana Homeland Security Regions

Population

The population of West Baton Rouge Parish is estimated at 244,390 (2019 estimate) with a population percent change from April 1, 2010 – April 1, 2020 of 12.55%.

Table 1-1: West Baton Rouge Parish Population (Source: US Census)

	2010 Census	2013 Estimate	2020 Census	Percent Change 2010 - 2020
Total Population	23,785	24,555	27,199	12.55%
Population Density (Pop/Sq. Mi.)	123.6	-----	-----	-----
Total Households	8,820	8,820	9,643	8.53%
Persons Per Household	-----	-----	2.61	-----

Economy

West Baton Rouge Parish is primarily a rural parish with a population of 27,199. Residents enjoy the tranquil setting of country living, yet have all the benefits of close proximity to metropolitan areas, business and industry. There are some 157 farmers growing agronomic crops on 23,744 acres. There has been substantial development in the petrol-chemical industry, and four major plants line the Mississippi River. Situated on the west bank of the river, West Baton Rouge Parish has unique competitive advantages, such as The Port of Greater Baton Rouge, rail, industrial land zoning, proximity to interstates and a major metropolitan region. West Baton Rouge is in a state of positive, deliberate growth that continues to attract more and more interest from industry sectors relocating or expanding. Industry data for business patterns in West Baton Rouge Parish can be found in the table on the next page.

Table 1-2: West Baton Rouge Parish Business Patterns
(Source: US Census, CBP)

Business Description	Number of Establishments	Number of Employees	Annual Payroll (\$1,000)
Retail Trade	85	1,208	28,290
Manufacturing	46	2,545	171,643
Health Care and Social Assistance	26	477	11,550
Transportation and Warehousing	55	1,384	76,433
Construction	67	2,993	160,174
Administration/Support and Waste Management/Remediation Services	24	362	15,674
Real Estate and Rental and Leasing	13	121	6,569
Wholesale Trade	41	814	43,719
Other Services (except Public Administration)	57	545	28,083
Accommodation and Food Services	63	994	13,819
Financial and Insurance	27	122	6,452
Professional, Scientific, and Technical Services	31	302	21,872
Arts, Entertainment, and Recreation	9	169	4,859
Educational Services	5	94	2,135
Information	4	17	600

Hazard Mitigation

To fully understand hazard mitigation efforts in West Baton Rouge 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 in advance of 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 1-4 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 1-4* 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, post-disaster revision is a vital component of improving mitigation. Each hazardous event affords an opportunity to reduce the consequences of future occurrences.

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.

More recently, the historically impactful 2020 hurricane season reinforced the need for proper planning and mitigation strategies.

The catastrophic tropical events of 2005 and 2020, coupled with the unprecedented flooding events of 2016 have 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 to 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



Figure 1-4: The Four Phases of Emergency Management and their Relation to Future Hazard Mitigation (Source: Louisiana State Hazard Mitigation Plan 2014)



strategies are internally consistent. As each of these documents has been adopted by various agencies within the state, the SHMT has worked to incorporate this information into the decision process.

Part of the ongoing integration process is that the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) encourages the parishes and the local communities 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 2021 West Baton Rouge Parish Hazard Mitigation Plan (HMP) maintains much of the information from the 2016 plan version, but it now incorporates the order and methodologies of the 2019 Louisiana State Hazard Mitigation Plan.

The sections in the 2016 West Baton Rouge Parish HMP were as follows:

- Section One Introduction
- Section Two Hazard Identification and Parish-Wide Risk Assessment
- Section Three Capability Assessment
- Section Four Mitigation Strategy
- Appendix A Planning Process
- Appendix B Plan Maintenance
- Appendix C Essential Facilities
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

This plan update 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 West Baton Rouge Parish Hazard Mitigation Steering Committee recognized the benefits from the successful analysis and mitigation planning executed in previous plan updates, as well as improvements to be made in the 2021 update. This plan update remains coherent with those documents, retaining language and content when needed, deleting it when appropriate, and augmenting it when constructive.

2021 Plan Update

This 2021 plan update proceeds with the previous goals of the West Baton Rouge Parish Hazard Mitigation Plan. The current goals are as follows:

1. Minimize human, economic, and environmental disruption from natural hazards
2. Protect life and property from the impacts of natural disasters
3. Enhance preparedness and emergency response to natural disasters
4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions

6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas

This plan update makes a number of textual changes throughout, but the most obvious changes are data related and structural edits. First, the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information's (NCEI) Storm Events Database was used in the analysis, which provides historical hazard data from 1950 to 2020. The steering committee was also instrumental in providing detailed data where appropriate to more accurately reflect hazard impacts on the parish and jurisdictions. Furthermore, all of the sections were updated to reflect the most current information and the most current vision of the plan update. 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 2021 plan update is organized in the same format as the 2016 update as outlined below:

- 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 Critical Facilities
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

Table 1-3: 2021 Plan Update Crosswalk

Plan Update Crosswalk	
2016 Update	2021 Update
Section 1: Introduction	Section 1: Introduction
Section 2: Hazard Identification and Parish-Wide Risk Assessment	Section 2: Hazard Identification and Parish-Wide Risk Assessment
Section 3: Capability Assessment	Section 3: Capability Assessment
Section 4: Mitigation Strategy	Section 4: Mitigation Strategy
Appendix A: Planning Process	Appendix A: Planning Process
Appendix B: Plan Maintenance	Appendix B: Plan Maintenance
Appendix C: Essential Facilities	Appendix C: Critical Facilities
Appendix D: Plan Adoptions	Appendix D: Plan Adoptions
Appendix E: State Required Worksheets	Appendix E: State Required Worksheets

Despite numerous changes in this plan update, the plan remains consistent in its emphasis on the types of hazards that pose the most risk to loss of life, injury, and property in West Baton Rouge Parish and its communities. The extent of this risk is dictated primarily by its geographic location. Most significantly, West Baton Rouge Parish remains at high risk of water inundation from various sources, including flooding and tropical cyclone activity. The entire parish is also at high risk of damages from high winds and wind-

borne debris. The 2016 flooding events, along with the 2020 hurricane season were both felt heavily in all parts of West Baton Rouge Parish. Other hazards threaten the parish and/or its communities, although 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 West Baton Rouge 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 provides an overview of the hazards that had been previously profiled in the West Baton Rouge Parish Hazard Mitigation Plan published in 2016, as well as the hazards that were identified in the state's 2019 Hazard Mitigation Plan that were 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 Previous Plan	Considered Medium or High Risk in the State's HM Plan	Profiled in the 2021 Update
Drought	X		X
Earthquakes	*		
Extreme Heat	*		
Flooding	X	X	X
Land Subsidence	*		
Sinkholes	X		X
Thunderstorms (Hail, Lightning, & Wind)	X	X	X
Tornadoes	X	X	X
Tropical Cyclones	X	X	X
Wildfires	X		X
Winter Storms	X		X

*Discounted in last HMP Update.

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

- a) Drought
- b) Flooding
- c) Sinkholes
- d) Thunderstorms (Hail, Lightning, & Wind)
- e) Tornadoes
- f) Tropical Cyclones
- g) Wildfires
- h) Winter Storms

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

- Flooding from rivers and waterways, rain storms, tropical cyclones, and hurricanes in the following forms:
 - a) Riverine
 - b) Stormwater
 - c) Surge
 - d) Backwater flooding (as the result of river flooding and surge)
 - e) Coastal
- High wind damage most commonly resulting from hurricanes, thunderstorms, and tornadoes
- Property damage resulting from all profiled natural hazards

The potential destructive power of tropical cyclones was determined to be the most prevalent hazard to the parish. Thirteen of the twenty-one disaster declarations West Baton Rouge 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 destructive potential, the risk assessment will also assess non-storm surge flooding as well. Flooding can also occur from non-hurricane events, as flash floods are a common occurrence due to heavy rainfall.

Hurricanes, tropical storms, and heavy storms are 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 West Baton Rouge Parish is included in the tropical cyclone risk assessment.

West Baton Rouge Parish is also susceptible to tornadoes. Tornadoes can spawn from tropical cyclones or severe weather systems that pass-through West Baton Rouge Parish. High winds produced by tornadoes have the potential to destroy residential and commercial buildings, as well as create wind-borne objects from the debris produced by the destruction of the natural and human environment, such as building materials and trees.

Previous Occurrences

On the next page, *Table 2-2* summarizes federal disaster declarations for West Baton Rouge Parish since 1965. Information includes names, dates, and types of disaster.

Table 2-2: West Baton Rouge Parish Major Disaster Declarations.

Disaster Number	Year	Declaration
208	9/10/1965	Tropical Cyclone – Hurricane Betsy
315	10/13/1971	Tropical Cyclone – Hurricane Edith
374	4/27/1973	Severe Storm, Flood
833	6/16/1989	Severe Storm, Tornado
956	8/26/1992	Tropical Cyclone – Hurricane Andrew
1380	6/11/2001	Tropical Cyclone – TS Allison
1437	10/3/2002	Tropical Cyclone – Hurricane Lili
3172	2/1/203	Loss of Space Shuttle Columbia
1521	6/8/2004	Severe Storm, Flood
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
3322	5/6/2011	Severe Storm, Flood
4015	8/18/2011	Severe Storm, Flood
4080	8/29/2012	Tropical Cyclone – Hurricane Isaac
4277	8/14/2016	Severe Storm, Flood
3416	7/11/2019	Tropical Cyclone – Tropical Storm Barry
4484	3/24/2020	COVID-19 Pandemic
3527	6/7/2020	Tropical Cyclone – Tropical Storm Cristobal
3538	8/23/2020	Tropical Cyclone – Tropical Storms Laura and Marco
4559	8/28/2020	Tropical Cyclone – Hurricane Laura

Probability of Future Hazard Events

The probability of a hazard event occurring in West Baton Rouge Parish is estimated in the table 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 assess 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 National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information’s (NCEI) Storm Events Database, which provides historical hazard data from 1950 to 2020. In staying consistent with the state plan, the Storm Events Database was evaluated for the last thirty years (1990 – 2020) to determine future probability of a hazard occurring. While the 30-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 70-year record was used when Hazus was not available to determine losses. This full record was used to provide a more extensive record to determine losses. All assessed damages were adjusted for inflation in order to reflect the equivalent amount of damages with the value of the U.S. dollar today.

The following table shows the annual probability for each hazard occurring across the parish:

Table 2-3: Probability of Future Hazard Reoccurrence.

Hazard	Probability			
	West Baton Rouge Parish (Unincorporated)	Addis	Brusly	Port Allen
Drought	7%	7%	7%	7%
Flooding	24%	12%	16%	12%
Sinkholes	< 1%	< 1%	< 1%	< 1%
Thunderstorms - Hail	53%	53%	53%	53%
Thunderstorms - Lightning	< 1%	< 1%	< 1%	< 1%
Thunderstorms - Winds	100%	100%	100%	100%
Tornadoes	10%	10%	10%	10%
Tropical Cyclones	56%	56%	56%	56%
Wildfires	< 1%	< 1%	< 1%	< 1%
Winter Storms	10%	10%	10%	10%

As shown in the table above, high winds have the highest chance of occurrence in the parish (100%). These are followed by tropical cyclones (56%), hailstorms (53%), flooding for the unincorporated area of the parish (24%), flooding for the incorporated area of Brusly (16%), flooding for the incorporated areas of Addis and Port Allen (12%), tornadoes and winter storms (10%), and drought (7%). Sinkholes, lightning, and wildfires all have an annual chance of occurrence calculated at less than 1%.

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 (GOHSEP) on critical infrastructure from a previous hazard mitigation project.

Within the entire planning area, there is an estimated value of \$2,174,975,000 in structures throughout the parish. The table below provides the total estimated value for each type of structure by occupancy.

Table 2-4: Estimated Total of Potential Losses throughout West Baton Rouge Parish.

Occupancy	West Baton Rouge Parish	Unincorporated Area	Addis	Brusly	Port Allen
Agricultural	\$10,920,000	\$9,665,000	\$954,000	\$71,000	\$230,000
Commercial	\$266,726,000	\$149,642,000	\$23,349,000	\$12,781,000	\$80,954,000
Government	\$15,888,000	\$9,058,000	\$1,056,000	\$684,000	\$5,090,000
Industrial	\$119,831,000	\$84,922,000	\$20,253,000	\$1,061,000	\$13,595,000
Religion	\$41,779,000	\$23,820,000	\$2,154,000	\$2,272,000	\$13,533,000
Residential	\$1,702,161,000	\$810,795,000	\$264,232,000	\$243,991,000	\$383,143,000
Education	\$17,670,000	\$9,707,000	\$0	\$2,000,000	\$5,963,000
Total	\$2,174,975,000	\$1,097,609,000	\$311,998,000	\$262,860,000	\$502,508,000

Essential Facilities of the Parish

The following figures show the locations and names of the essential facilities within the parish:

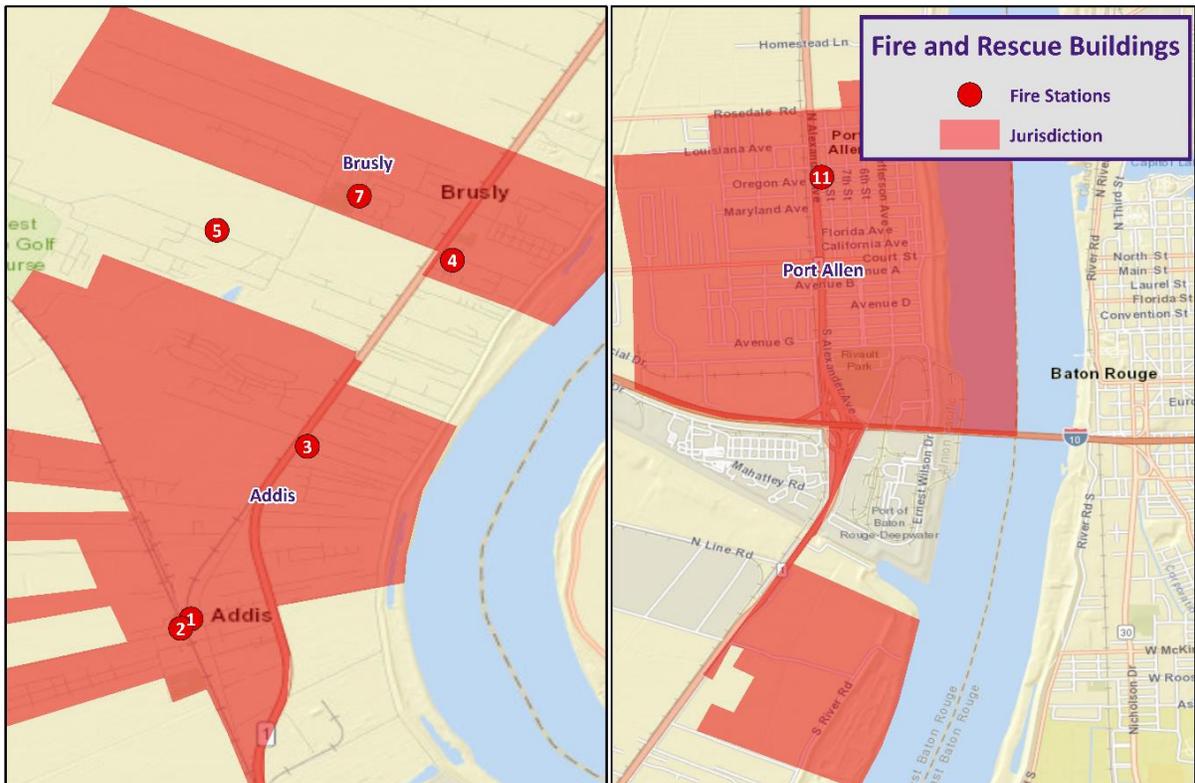
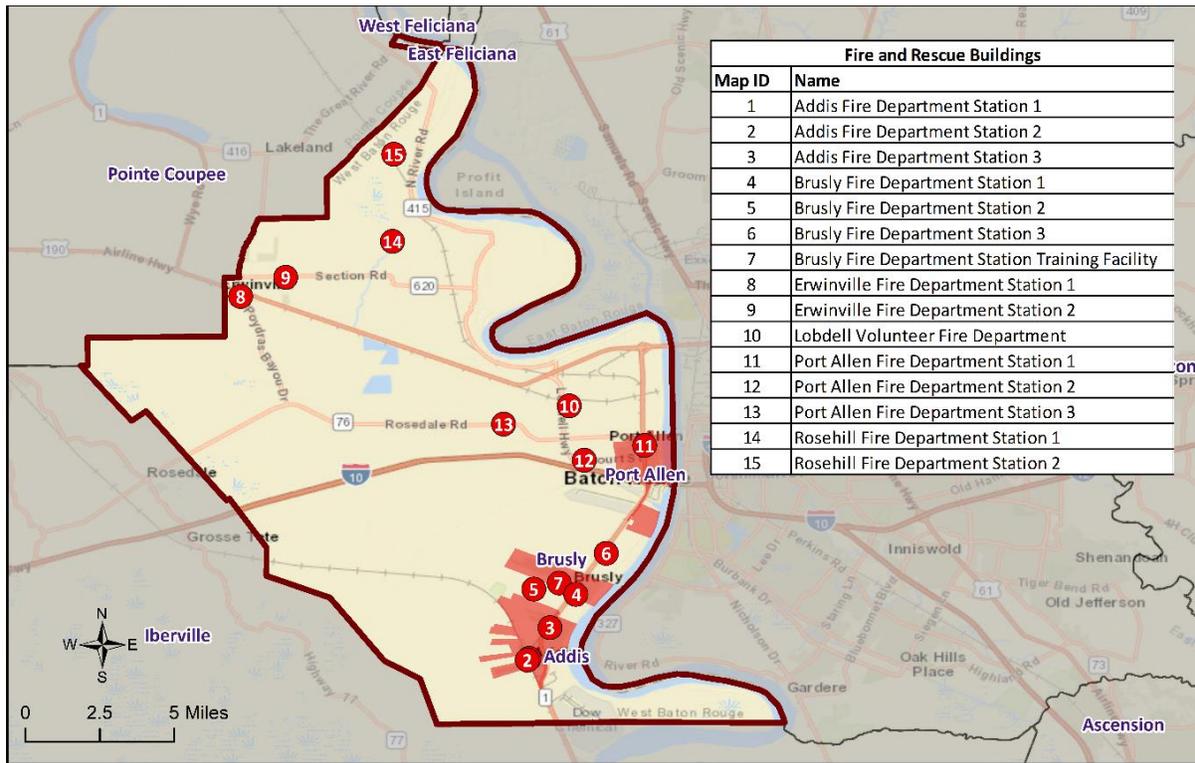


Figure 2-1: Fire and Rescue Facilities in West Baton Rouge Parish.

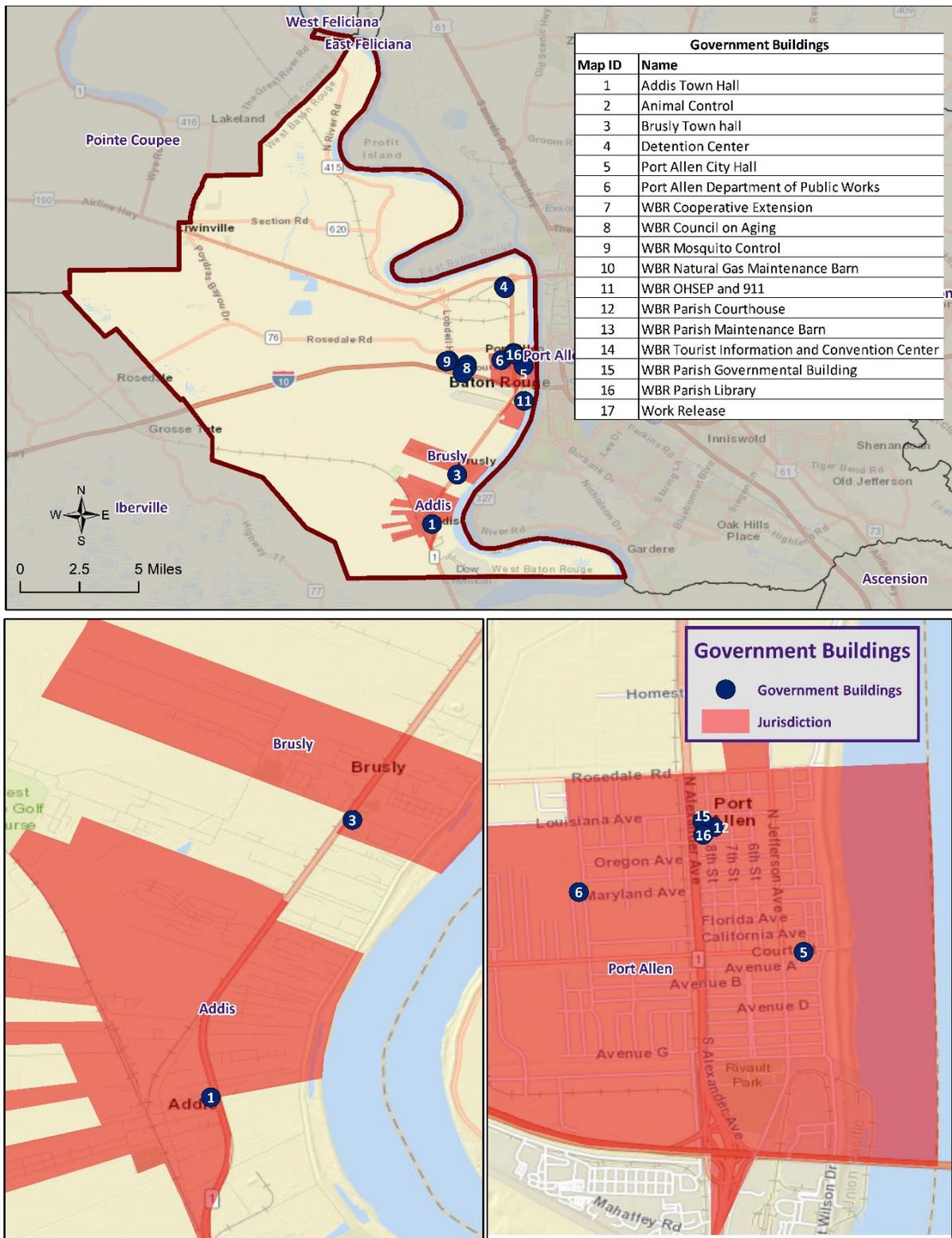


Figure 2-2: Government Buildings in West Baton Rouge Parish.

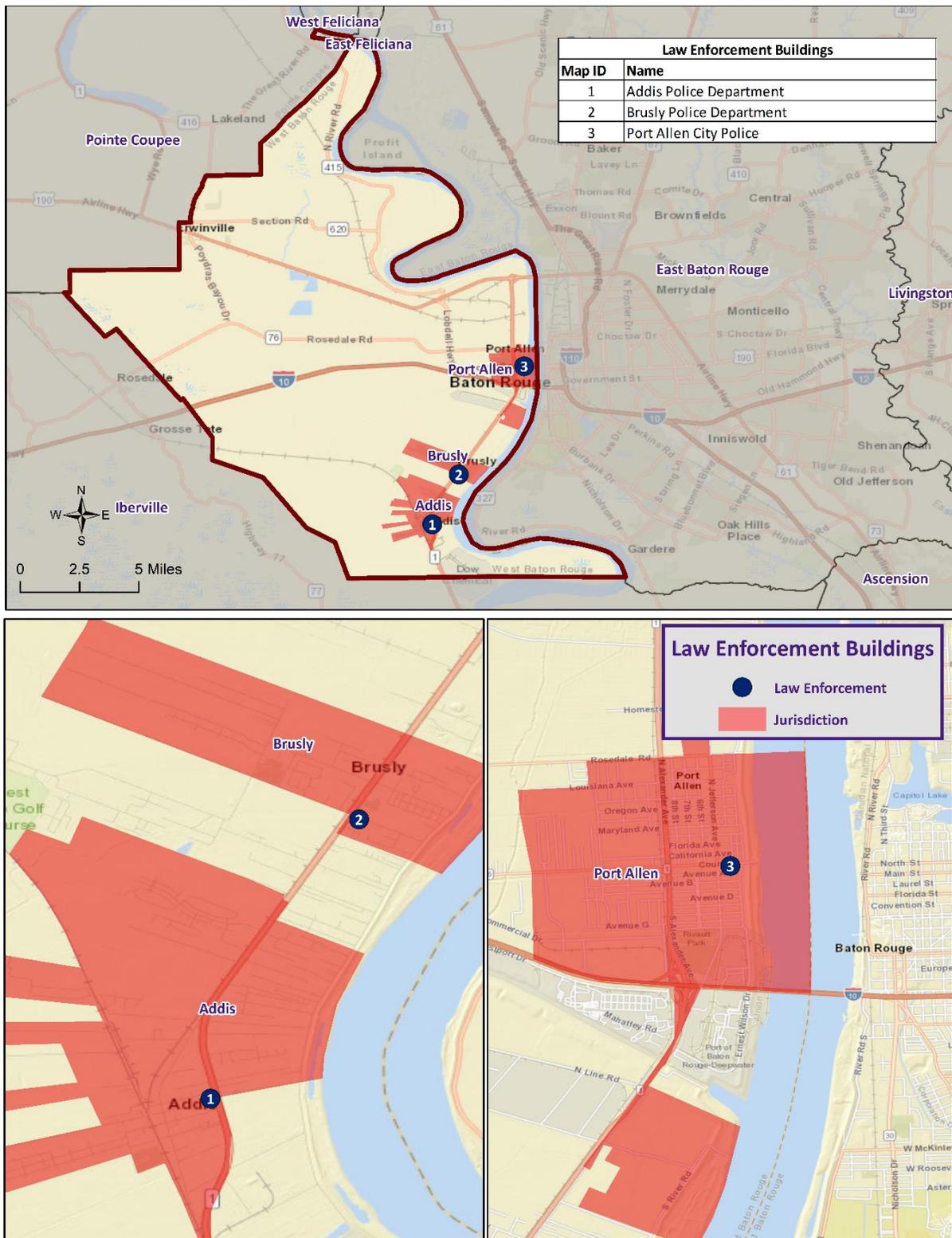


Figure 2-3: Law Enforcement in West Baton Rouge Parish.

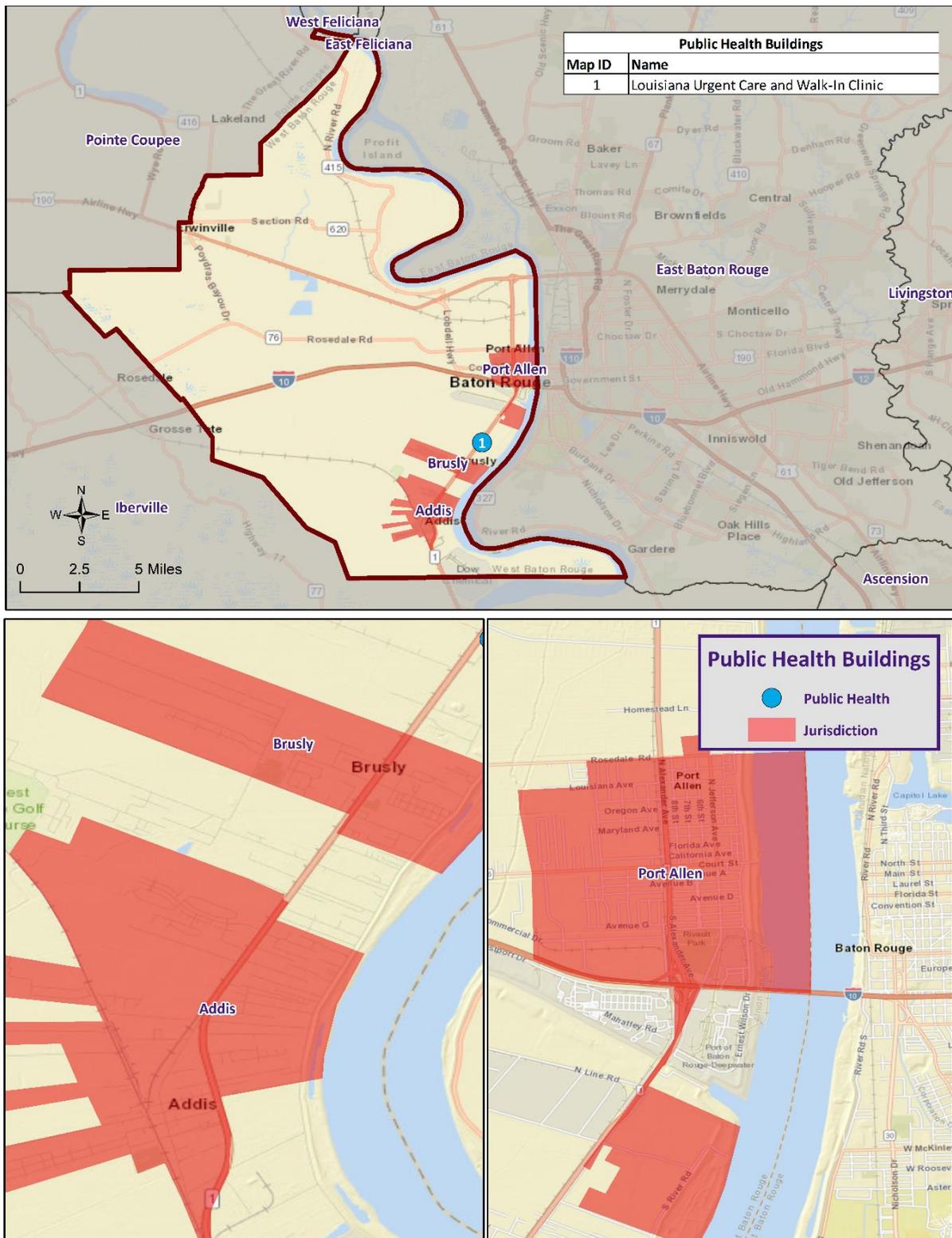


Figure 2-4: Public Health Facilities in West Baton Rouge Parish.

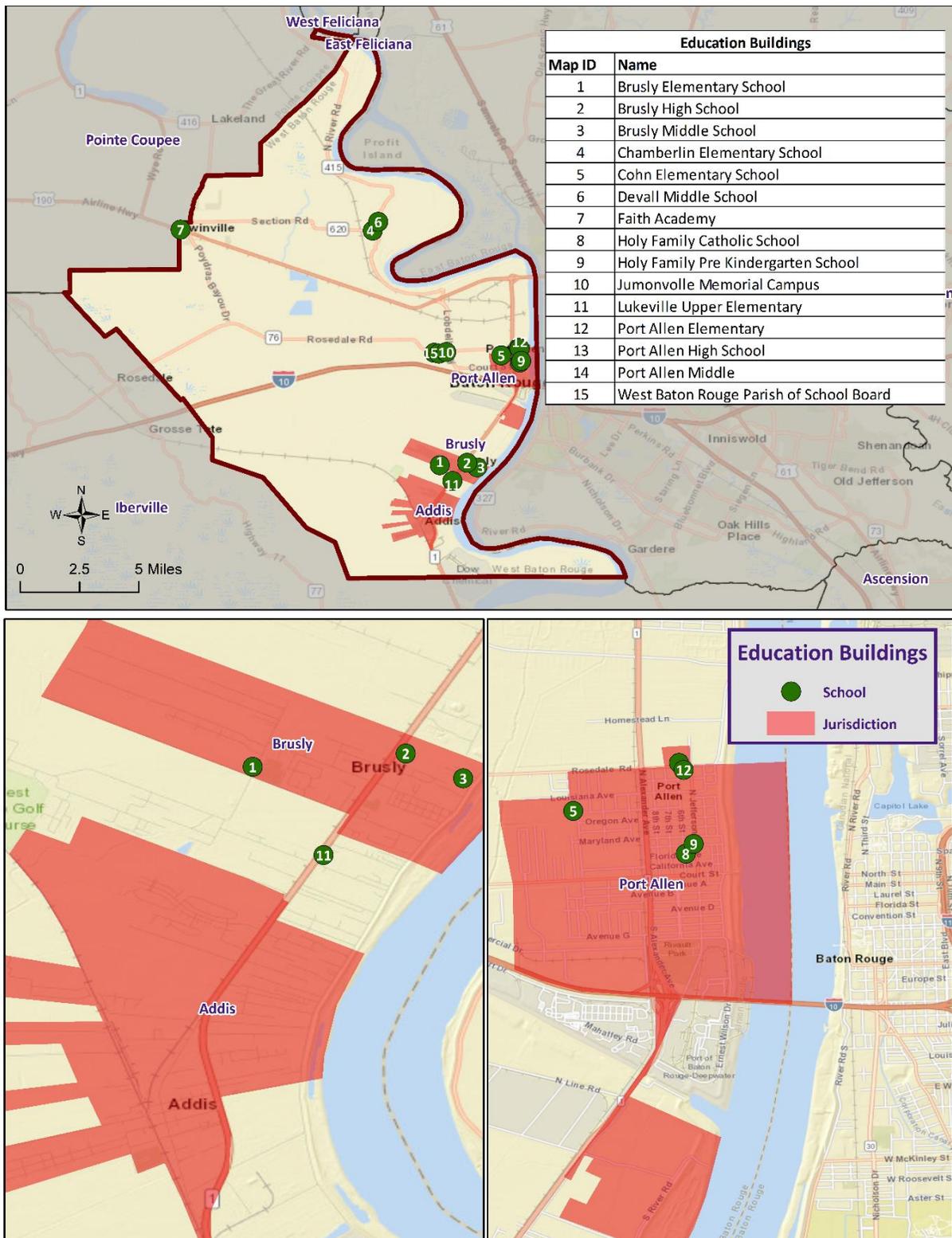


Figure 2-5: Educational Facilities in West Baton Rouge Parish.

Future Development Trends

West Baton Rouge Parish experienced a growth in population and housing between the years of 2000 and 2019, growing from a population of 21,601 with 8,370 housing units in the year 2000 to a population of 26,465 with 11,752 housing units in the year 2019. Addis experienced the largest growth in population within the parish growing from a populace of 3,593 in 2010 to 6,221 in 2019 (73.1% overall growth). This is followed by the unincorporated area of West Baton Rouge Parish at 3.7% overall growth and Brusly with a 1.1% overall growth. The incorporated area of Port Allen experienced a decline in population during the same time period.

The incorporated area of Addis also experienced the largest growth of housing units from 2010 to 2019 growing from 1,441 in 2010 to 1,956 in 2019. The unincorporated area of West Baton Rouge Parish experienced the second largest growth in housing units during this time period with a 3.8% annual growth rate, followed by the incorporated area of Brusly with a 1.5% annual growth rate, and the incorporated area of Port Allen with a 1% annual growth rate. 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 2019:

Table 2-5: Population Growth Rate for West Baton Rouge Parish.

Total Population	West Baton Rouge Parish	Unincorporated Area	Addis	Brusly	Port Allen
1-Apr-00	21,601	12,065	2,238	2,020	5,278
1-Apr-10	23,788	12,426	3,593	2,589	5,180
1-Jul-19	26,465	12,884	6,221	2,617	4,743
Population Growth between 2000 – 2010	10.1%	3.0%	60.5%	28.2%	-1.9%
Average Annual Growth Rate between 2000 – 2010	1.0%	0.3%	6.1%	2.8%	-0.2%
Population Growth between 2010 – 2019	11.3%	3.7%	73.1%	1.1%	-8.4%
Average Annual Growth Rate between 2010 – 2019	1.25%	0.41%	8.13%	0.12%	-0.94%

Table 2-6: Housing Growth Rate for West Baton Rouge Parish.

Total Housing Units	West Baton Rouge Parish	Unincorporated Area	Addis	Brusly	Port Allen
1-Apr-00	8,370	4,565	864	783	2,158
1-Apr-10	9,324	4,688	1,441	989	2,206
1-Jul-19	11,752	6,274	1,956	1,121	2,401
Housing Growth between 2000 – 2010	11.4%	2.7%	66.8%	26.3%	2.2%
Average Annual Growth Rate between 2000 – 2010	1.1%	0.3%	6.7%	2.6%	0.2%
Housing Growth between 2010 – 2019	26.0%	33.8%	35.7%	13.3%	8.8%
Average Annual Growth Rate between 2010 – 2019	2.9%	3.8%	4.0%	1.5%	1.0%

Future Hazard Impacts

Hazard impacts were estimated for five years and ten years in the future (2025 and 2030). 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, it is assumed that population and housing units will grow within West Baton Rouge Parish from the present until 2030. A summary of estimated future impacts is shown in the table below. Dollar values are expressed in future costs and assume an annual rate of inflation of 1.02%.

Table 2-7: Estimated Future Impacts, 2018-2030.

(Source: Hazus, US Census Bureau)

Hazard / Impact	Total in Parish (2019)	Hazard Area (2019)	Hazard Area (2025)	Hazard Area (2030)
Flood Damage				
Structures	11,752	3,178	3,665	4,349
Value of Structures	\$2,260,731,696	\$594,074,064	\$720,799,310	\$909,039,774
# of People	26,465	7,041	7,493	8,073
Tropical Cyclone Damage				
Structures	11,752	11,752	13,946	16,549
Value of Structures	\$2,260,731,696	\$2,260,731,696	\$2,742,980,960	\$3,459,324,611
# of People	26,465	26,465	28,514	30,721

Assessing Vulnerability Overview

The purpose of assessing vulnerability is to quantify and/or qualify exposure and determine how various threats and hazards impact life, property, the environment, and critical operations in West Baton Rouge Parish. Vulnerability can be defined as the manifestation of the inherent states of the system (e.g., physical, technical, organizational, cultural) that can be exploited to adversely affect (cause harm or damage to) that system. For example, identifying areas in the parish that suffer disproportional damages from flooding compared with other areas, or overall exposure of an entire town to flooding. Identifying and understanding vulnerability to each threat and hazard provides a strong foundation for developing and pursuing mitigation actions.

The Vulnerability Assessment section for each hazard builds upon the information provided in the Risk Assessment by assessing the potential impact and amount of damage that each hazard has on the parish and each jurisdiction location. To complete the assessment, best available data were collected from a variety of sources, including local, state, and federal agencies, and multiple analyses were performed qualitatively and quantitatively. The estimates provided in the Vulnerability Assessment should be used to understand relative risk from each hazard and the potential losses that may be incurred; however, uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning specific hazards and their effects on the built environment, as well as incomplete datasets from approximations and simplifications that are necessary to provide a meaningful and complete analysis. Further, most datasets used in this assessment contain relatively short periods of records, which increases the uncertainty of any statistically based analysis.

Quantitative Methodology

The quantitative methodology consists of utilizing a detailed GIS-based approach informed through the development of comprehensive hazard and infrastructure databases. This data-centric approach forms the foundation for our quantitative vulnerability assessment. GIS technology allowed for the identification and analysis of potentially at-risk community assets such as people and infrastructure. This analysis was completed for hazards that can be spatially defined in a meaningful manner (i.e., hazards with an official and scientifically determined geographic extent) and for which GIS data were readily available.

Qualitative Methodology

The qualitative assessment relies less on technology, but more on historical and anecdotal data regarding expected hazard impacts. The qualitative assessment completed for West Baton Rouge Parish is based on the Priority Risk Index (PRI). The purpose of the PRI is to prioritize all potential hazards, and then group them into three categories of high, moderate, or low risk to identify and prioritize mitigation opportunities. The PRI is a good practice to use when prioritizing hazards because it provides a standardized numerical value for hazards to be compared. PRI scores were calculated using five categories:

- Probability
- Impact
- Spatial Extent
- Warning Time
- Duration

Each degree of risk is assigned a value (1-4) and a weighting factor. To calculate the Risk Factor for a given hazard, the assigned risk value for each category is multiplied by the weighted factor, and the sum of all six categories is totaled together to determine the final Risk Factor. The highest possible Risk Factor is 4.0.

$$\text{Risk Factor} = [(\text{Probability} * 0.25) + (\text{Impact} * 0.25) + (\text{Spatial Extent} * 0.20) + (\text{Warning Time} * 0.15) + (\text{Duration} * 0.15)]$$

Priority Risk Index and Hazard Risk

Hazard risk is determined by calculating the Risk Factor for each hazard impacting West Baton Rouge Parish. A summary of the PRI is found in the table on the following page. The conclusions drawn from the qualitative and quantitative assessments are fitted into three categories based on High, Moderate, or Low designations. Hazards identified as high risk have risk factors of 2.5 or greater. Risk Factors ranging from 2.0 to 2.4 are deemed moderate risk hazards. Hazards with Risk Factors less than 2.0 are considered low risk.

Table 2-8: Summary of the Priority Risk Index.

PRI Category	Degree of Risk			Assigned Weighting Factor
	Level	Criteria	Index Value	
Probability	Unlikely	Less than 1% annual probability	1	25%
	Possible	Between 1 and 10% annual probability	2	
	Likely	Between 10 and 100% probability	3	
	Highly Likely	100% annual probability	4	
Impact	Minor	Very few injuries, if any. Only minor property damage and minimal disruption on quality of life. Temporary shutdown of critical facilities.	1	25%
	Limited	Minor injuries only. More than 10% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day.	2	
	Critical	Multiple deaths/injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than a week.	3	
	Catastrophic	High number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.	4	
Spatial Extent	Negligible	Less than 1% of area affected	1	20%
	Small	Between 1 and 10% of area affected	2	
	Moderate	Between 10 and 50% of area affected	3	
	Large	Between 50 and 100% of area affected	4	
Warning Time	More than 24 hours	Self-explanatory	1	15%
	12 to 24 hours	Self-explanatory	2	
	6 to 12 hours	Self-explanatory	3	
	Less than 6 hours	Self-explanatory	4	
Duration	Less than 6 hours	Self-explanatory	1	15%
	Less than 24 hours	Self-explanatory	2	
	Less than one week	Self-explanatory	3	
	More than one week	Self-explanatory	4	

Table 2-9: Associated Risk Factor with PRI Value Range.

Risk Factor	PRI Range
High Risk	2.5 to 4.0
Moderate Risk	2.0 to 2.4
Low Risk	0 to 1.9

Table 2-10: Risk Assessment for West Baton Rouge Parish.

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Overall Risk
Drought	2	2	4	2	3	2.55
Flooding	3	4	3	4	3	3.4
Sinkholes	1	2	1	4	2	1.85
Thunderstorms - Hail	3	2	3	3	1	2.45
Thunderstorms - Lightning	1	2	2	3	1	1.75
Thunderstorms - Wind	4	2	3	3	1	2.7
Tornadoes	2	3	2	4	3	2.7
Tropical Cyclones	3	4	4	1	4	3.3
Wildfires	1	3	3	1	2	2.05
Winter Storms	2	3	3	1	2	2.3

Land Use

The West Baton Rouge Parish Land Use table is provided below. Residential, commercial, and industrial areas account for only 11% of the parish's land use. Wetlands at 63,738 acres is the largest category accounting for 49% of land in the parish. The parish also consists of agricultural land (32%), water areas (6%), and forested land (2%).

Table 2-11: West Baton Rouge Parish Land Use.

(Source: USGS Land Use Map)

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	42,195	32%
Wetlands	63,738	49%
Forested Land (Not including forested wetlands)	3,039	2%
Urban/Development	14,105	11%
Water	7,370	6%

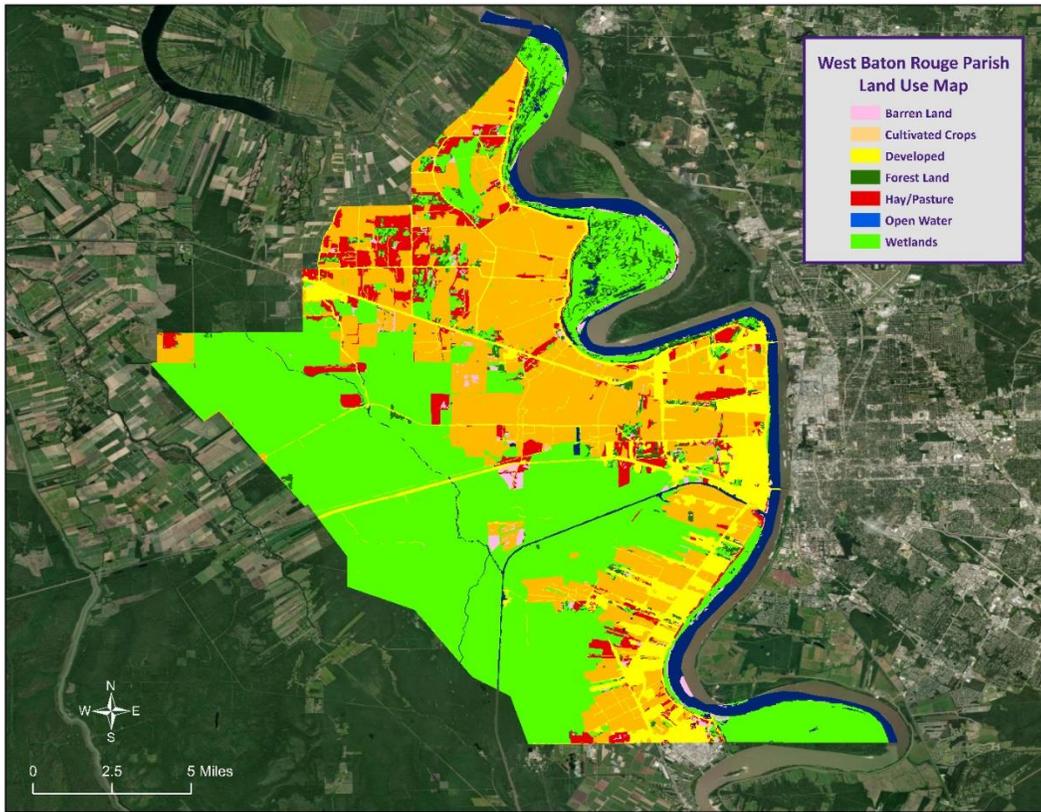


Figure 2-6: West Baton Rouge Parish Land Use Map.
(Source: USGS Land Use Map)



Hazard Identification

Drought

A drought is a deficiency in water availability over an extended period of time, caused by precipitation totals and soil water storages that do not satisfy the environmental demand for water, either by evaporation or transpiration through plant leaves. It is important to note that the lack of precipitation alone does not constitute drought; the season during which the precipitation is lacking has a major impact on whether drought occurs. For example, a week of no precipitation in July, when the solar energy to evaporate water and vegetation's need for water to carry on photosynthesis are both high, may trigger a drought, while a week of no precipitation in January may not initiate a drought.

Drought is a unique and insidious hazard. Unlike other natural hazards, no specific threshold of "dryness" exists for declaring a drought. In addition, the definition of drought depends on stakeholder needs. For instance, the onset (and demise) of agricultural drought is quick, as crops need water every few days; once they get rainfall, they improve. But hydrologic drought sets in (and is alleviated) only over longer time periods. A few dry days will not drain a reservoir, but a few rain showers cannot replenish it either. Moreover, different geographical regions define drought differently based on the deviation from local, normal precipitation. And drought can occur anywhere, triggered by changes in the local-to-regional-scale atmospheric circulation over an area, or by broader-scale circulation variations such as the expansion of semi-permanent oceanic high-pressure systems or the stalling of an upper-level atmospheric ridge in place over a region. The severity of a drought depends upon the degree and duration of moisture deficiency, as well as the size of the affected area. Periods of drought also tend to be associated with other hazards, such as wildfires and/or heat waves. Lastly, drought is a slow onset event, causing less direct—but tremendous indirect—damage. Depletion of aquifers, crop loss, and livestock and wildlife mortality rates are examples of direct impacts. Since the groundwater found in aquifers is the source of about 38% of all county and city water supplied to households (and comprises 97% of the water for all rural populations that are not already supplied by cities and counties), droughts can potentially have direct, disastrous effects on human populations. The indirect consequences of drought, such as unemployment, reduced tax revenues, increased food prices, reduced outdoor recreation opportunities, higher energy costs as water levels in reservoirs decrease and consumption increases, and water rationing, are not often fully known. This complex web of impacts causes drought to affect people and economies well beyond the area physically experiencing the drought.

This hazard is often measured using the Palmer Drought Severity Index (PDSI, also known operationally as the Palmer Drought Index). The PDSI, first developed by Wayne Palmer in a 1965 paper for the U.S. Weather Bureau, measures drought through recent precipitation and temperature data with regard to a basic supply-and-demand model of soil moisture. It is most effective in long-term calculations. Three other indices used to measure drought are the Palmer Hydrologic Drought Index (PHDI), the Crop Moisture Index (CMI), which is derived from the PDSI, and the Keetch-Byram Drought Index (KBDI), created by John Keetch and George Byram in 1968 for the U.S. Brush Service. The KBDI is used mainly for predicting the likelihood of wildfire outbreaks. As a compromise, the PDSI is used most often for droughts since it is a medium-response drought indicator. The objective of the PDSI is to provide measurements of moisture conditions that are standardized so that comparisons using the index can be made between locations and between months. On the next page, [Table 2-12](#) displays the range and Palmer classifications of the PDSI index while [Figure 2-7](#) displays the current drought monitor for the state of Louisiana and its parishes.

Table 2-12: Palmer Drought Severity Index Classification and Range

Range	Palmer Classifications
4.0 or more	Extremely Wet
3.0 to 3.9	Very Wet
2.0 to 2.9	Moderately Wet
1.0 to 1.99	Slightly Wet
0.5 to 0.99	Incipient Wet Spell
0.49 to -0.49	Near Normal
-0.5 to -0.99	Incipient Dry Spell
-1.0 to -1.99	Mild Drought
-2.0 to -2.99	Moderate Drought
-3.0 to -3.99	Severe Drought
-4.0 or less	Extreme Drought

The PDSI best measures the duration and intensity of drought-inducing circulation patterns at a somewhat long-term time scale, although not as long-term as the PHDI. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns in addition to the effects of cumulative patterns of previous months. Although weather patterns can change almost overnight from a long-term drought pattern to a long-term wet pattern, as a medium-response indicator, the PDSI responds relatively rapidly. Data compiled by the National Drought Mitigation Center indicates that no drought conditions currently exist within West Baton Rouge Parish.

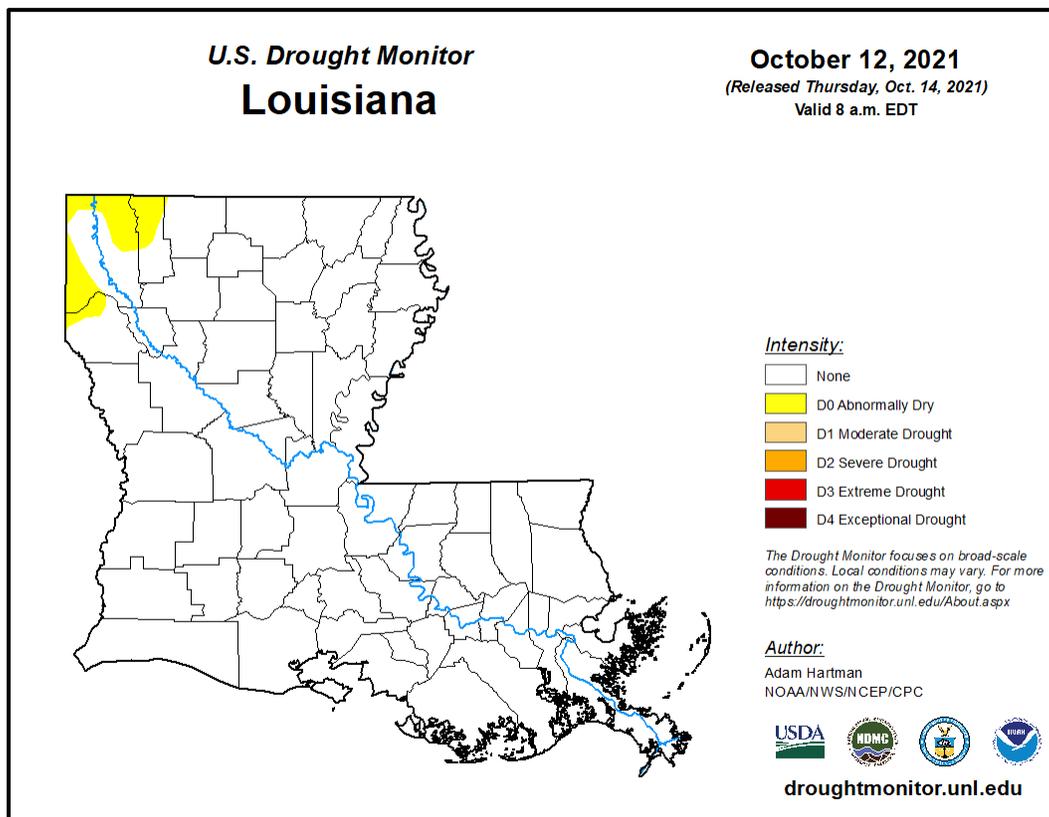


Figure 2-7: United States Drought Monitor for the State of Louisiana and its Parishes. (Source: The National Drought Mitigation Center)

Location

Drought typically impacts a region and not one specific parish or jurisdiction. While the entire planning area can experience drought, the major impact of a drought event in West Baton Rouge Parish is on the agricultural community. The worst-case drought scenario for West Baton Rouge Parish would be a severe drought (D2).

Previous Occurrences / Extent

Historically, there have been two drought incidents in West Baton Rouge Parish. Drought events have ranged from Mild to Moderate per the National Climatic Data Center. Since the last update in 2016, there has been no drought events within the boundaries of West Baton Rouge Parish.

Frequency / Probability

Based on two drought events since 1990, the annual chance of occurrence of a drought event occurring within a given year is calculated at 7% for West Baton Rouge Parish.

Estimated Potential Loses

According to the NCEI Storm Events Database, there have been two drought events which have impacted West Baton Rouge Parish, resulting in limited to no damage to crops in the parish. When examining the drought hazard, the main impact will primarily be on the crops. The following table presents an analysis of agricultural exposure which are susceptible to droughts by type for West Baton Rouge Parish.

*Table 2-13: Agricultural Exposure by Crop Type for Droughts in West Baton Rouge Parish.
(Source: LSU AG Center 2018 Parish Totals)*

Agricultural Exposure by Type for Drought				
Forestry	Pecans	Rice	Soybeans	Sugarcane
\$251,322	\$689,143	\$541,093	\$6,145,721	\$18,111,913

There have been no reported injuries or deaths as a direct result of drought in West Baton Rouge Parish.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality buildings that are susceptible to drought.

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 (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, with low-lying, poorly drained areas being particularly susceptible to flooding during these months.

In Louisiana, six specific types of flooding 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, as well as the shape and land cover of its drainage basin. The smaller the river, the faster that 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 Bruslyed 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 River, 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, tsunamis, or gradual sea level rise.

Historically, in West Baton Rouge Parish, all types of flooding events have historically been observed except for coastal flooding. For purposes of this assessment, ponding, flash flood, 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 flooding:

- **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 hydrometeorological 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 X years. Instead, it 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 general 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 as 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 event 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, but they can also be different along any given river. A 100-year event upstream is different from one downstream due to the change of river characteristics (volume, discharge, and topography). 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 flood 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 Program (NFIP) Rate Maps. The NFIP and FEMA suggest insurance rates based on Special Flood Hazard Areas (SFHAs), as diagrammed in *Figure 2-8*.

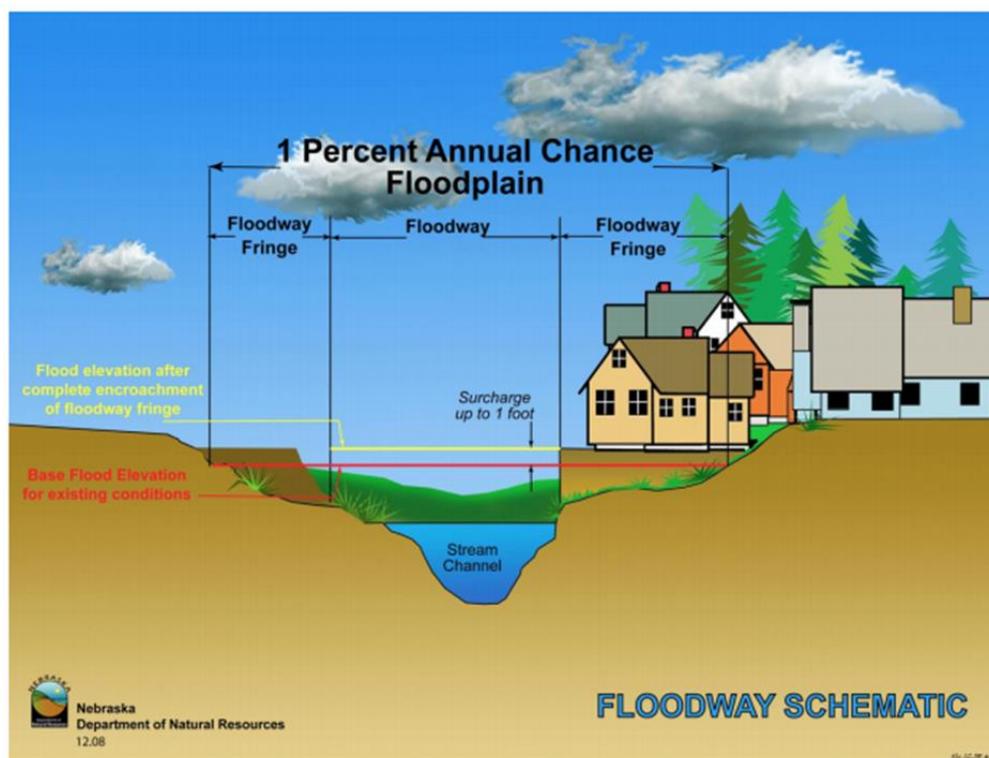


Figure 2-8: Schematic of 100-year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe.

(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 some situations, deep and fast-moving waters can 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 can deteriorate 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 can be 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 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. It is covered under a contract for flood insurance made available under the NFIP; and
- b. It 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.

Figures regarding repetitive loss structures for West Baton Rouge Parish are provided in the table below:

Table 2-14: Repetitive Loss Structures for West Baton Rouge Parish.

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
West Baton Rouge Parish (Unincorporated)	1	0	1	0	4	25,625	\$6,406
Addis	1	1	0	0	2	\$7,459	\$3,730
Brusly	5	4	1	0	12	\$44,903	\$3,742
Port Allen	14	10	4	0	39	\$1,578,869	\$40,484
Total	21	15	6	0	58	\$1,670,401	\$28,800

The two repetitive loss structure was geocoded in order to provide an overview of where the repetitive loss structure was located. Figure 2-9 shows the approximate location of the structure, while Figure 2-10 shows where the highest concentration of repetitive loss structures is located. Through the repetitive loss map, it is clear the primary concentrated area of repetitive loss structures is focused in and around the incorporated areas of Brusly and Port Allen.

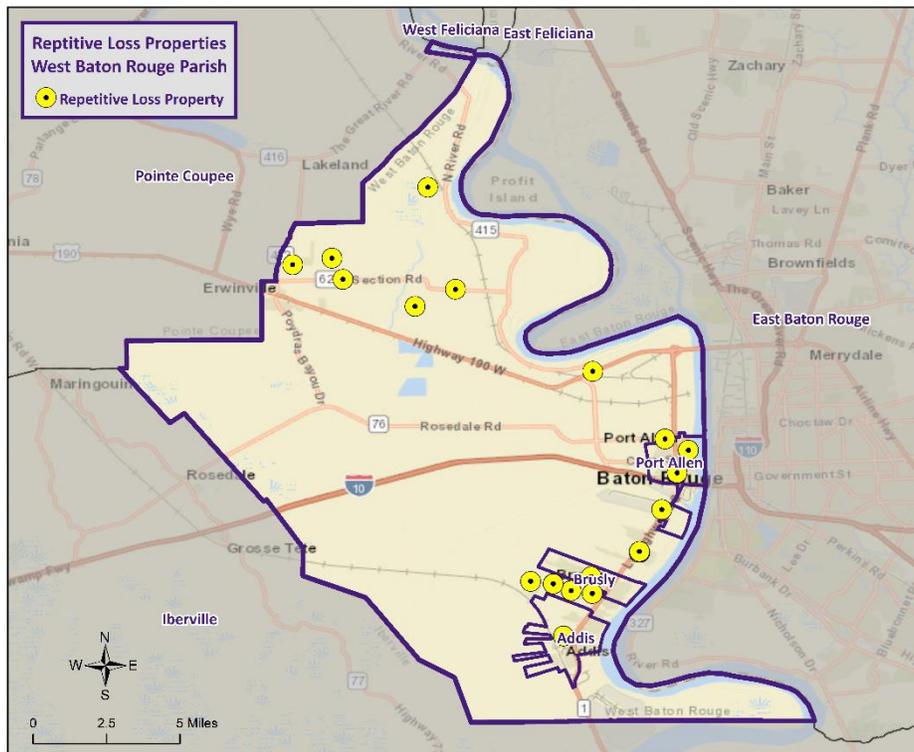


Figure 2-9: Repetitive Loss Properties in West Baton Rouge Parish.

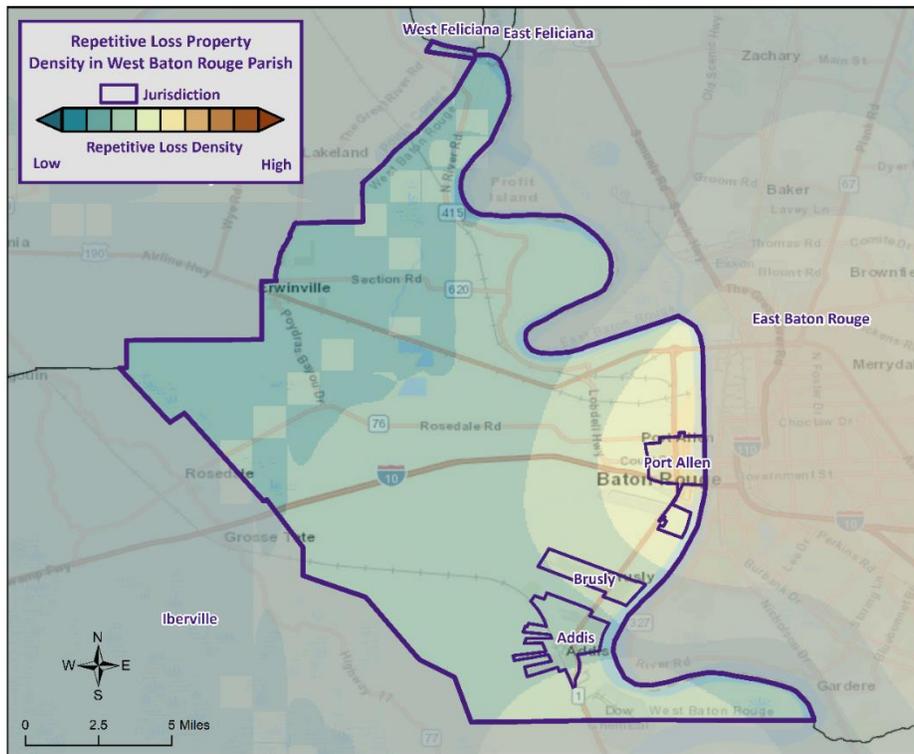


Figure 2-10: Repetitive Loss Property Densities in West Baton Rouge Parish.

National Flood Insurance Program

Flood insurance statistics indicate that West Baton Rouge Parish has 1,603 flood insurance policies with the NFIP, with total annual premiums of \$861,318. West Baton Rouge Parish and the jurisdictions of Addis, Brusly, and Port Allen are all participants in the NFIP. West Baton Rouge Parish and all of its jurisdictions will continue to adopt and enforce floodplain management requirements, including regulating new construction Special Flood Hazard Areas, and will continue to monitor activities including local requests for new map updates. Flood insurance statistics and additional NFIP participation details for West Baton Rouge Parish and its jurisdictions is provided in the tables to follow.

Table 2-15: Summary of NFIP Policies for West Baton Rouge Parish.

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
West Baton Rouge Parish	999	\$306,491,100	\$559,549	112	\$1,921,923
Addis	202	\$63,995,900	\$97,894	3	\$22,375
Brusly	203	\$64,512,200	\$89,360	19	\$161,609
Port Allen	199	\$43,205,100	\$114,515	30	\$515,781
Total	1,603	\$478,204,300	\$861,318	164	\$2,621,688

Table 2-16: Summary of Community Flood Maps for West Baton Rouge Parish.

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220239	West Baton Rouge Parish	-	4/3/1978	7/16/2014	4/3/1978	No
220240	Addis, Town of	12/7/1973	8/15/1977	7/16/2014	8/15/1977	No
220241	Brusly, Town of	6/28/1974	9/7/2000	7/16/2014	8/15/1977	No
220241	Port Allen, City of	6/28/1974	1/24/1978	7/16/2014	1/24/1978	No

According to the Community Rating System (CRS) list of eligible communities dated October 1, 2021, West Baton Rouge Parish is a participant in the CRS program. The incorporated areas of Addis, Brusly, and Port Allen do not participate in the CRS program.

Table 2-17: List of Areas within West Baton Rouge Parish that Participate in the Community Rating System.

Community Number	Name	CRS Entry Date	Current Effective Date	Current Class	% Discount for SFHA	% Discount for Non-SFHA	Status
220239	West Baton Rouge Parish	10/1/1993	10/1/1996	8	10%	5%	C

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 passengers within the vehicle. Victims of floods have often put themselves in perilous situations by entering flood waters that they believe to be safe, or by ignoring travel advisories.

Major health concerns are also associated with floods. Flood waters 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. Flood waters 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 West Baton Rouge Parish

By definition, flooding is caused when an area receives more water than the drainage system can convey. The following is a synopsis of the types of flooding that West Baton Rouge Parish experiences.

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

Local Drainage or High Groundwater Levels: Locally 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, bayou, or 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 rivers crest at flood stage levels, causing extensive flooding in low-lying areas.

The digital elevation model (DEM) in the figure below for West Baton Rouge Parish is instructive in visualizing where the low-lying and high-risk areas are for the parish. Elevations in the parish range from near sea level (NAVD88) to 45 feet (NAVD88). The highest elevations in the parish are approximately 45 feet (NAVD88) in the northern portion of the parish. The lowest elevations of the parish are located in the eastern and southern portions of the parish and range from near sea level (NAVD88) to approximately 6 feet (NAVD88). Port Allen has the highest average elevation of the incorporated areas at 26 feet (NAVD88), followed by Brusly at 23 feet (NAVD88), and Addis at 21 feet (NAVD88).

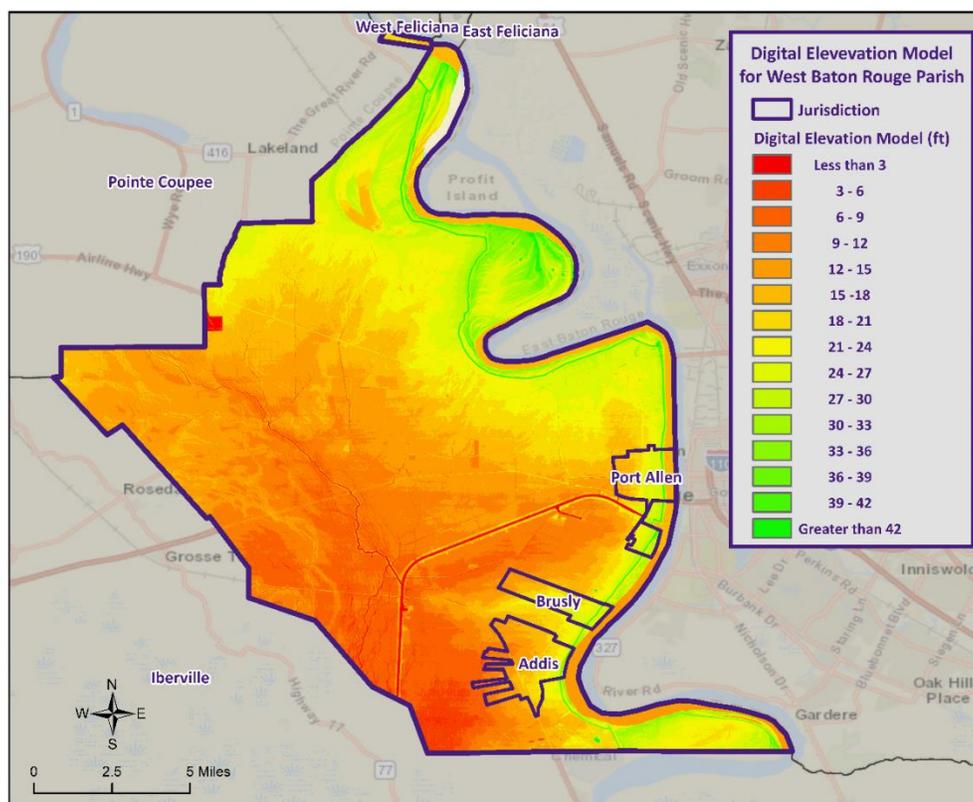


Figure 2-11: Elevation throughout West Baton Rouge Parish.

Location

West Baton Rouge Parish has experienced significant flooding in its history and can expect more in the future. Historically, West Baton Rouge Parish has flooded each time the Mississippi River reached flood stage. Presently, a system of levees constructed by the United States Army Corps of Engineers retains the Mississippi River waters. Only the extreme eastern strip of the parish, on the river or batture side of the levee, will be flooded by the river. Most of the flooded area in the parish is woodland, characterized as being rural in nature, and rather sparsely inhabited. Various problems are associated with the wetness of the alluvial soils in producing flood conditions in the parish. The loamy, natural levees along stream channels exhibit the most slope, and surface runoff is toward the lower, clayey areas between channels. Elevations of these broad, nearly level areas are not much above existing outlets. Gradients are not extreme, and water can stand on these broad lows for long periods. In addition to this broad drainage problem, micro-relief on alluvial surfaces impedes surface drainage and creates minor lows for water to remain for long periods. Drainage ditches must be cleared of sediment periodically to maintain adequate flow. In general, the parish's channels are not adequate to either prevent frequent, direct overflow from flooding, or to allow drainage systems to function properly. Because of its land flatness, high annual rainfall, and soil wetness, the parish's water-problem sources are closely related. As flooding from storm runoff aggravates and prolongs wet soil conditions in the nearly level terrain, drainage and flood problems are inseparable.

Based on previous flood events, the worst-case scenarios are based on several different types of flooding events. Storm water excesses and riverine flooding primarily affect the low-lying areas of the parish, and flood depths of up to six feet can be expected in the unincorporated areas of the parish. The incorporated areas of Addis and Brusly can expect flood depths of two to four feet. The worst-case scenario for the incorporated area of Port Allen is slightly higher, with flood depths ranging from three to five feet.

The following is a flood zone map displaying 100- and 500-year flood zones for West Baton Rouge Parish:

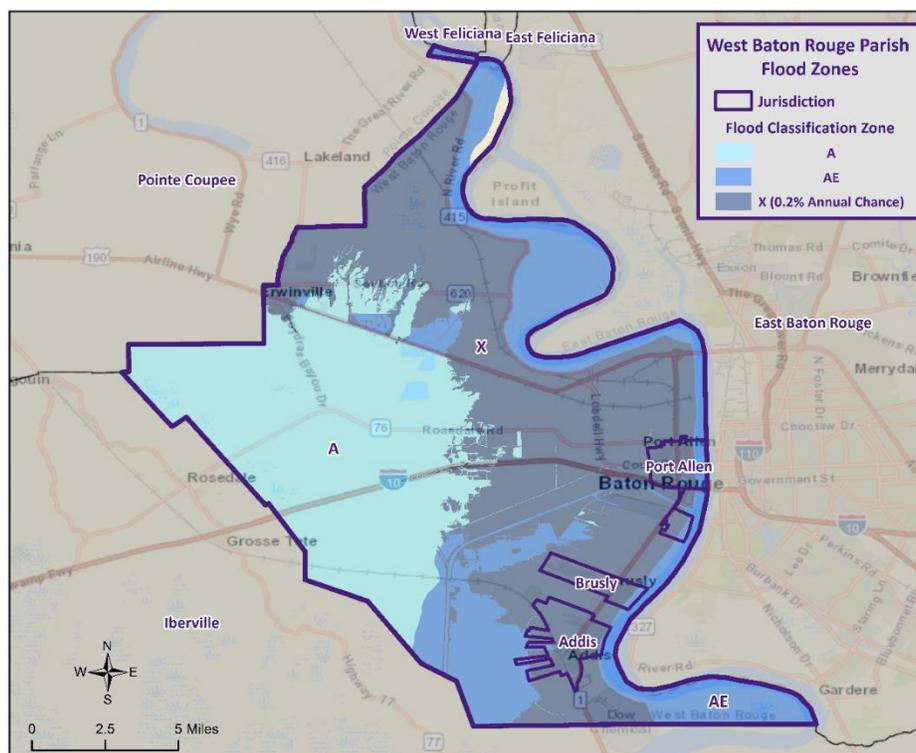


Figure 2-12: West Baton Rouge Parish Areas within the Flood Zones.



Figure 2-13: Addis Areas within the Flood Zones.

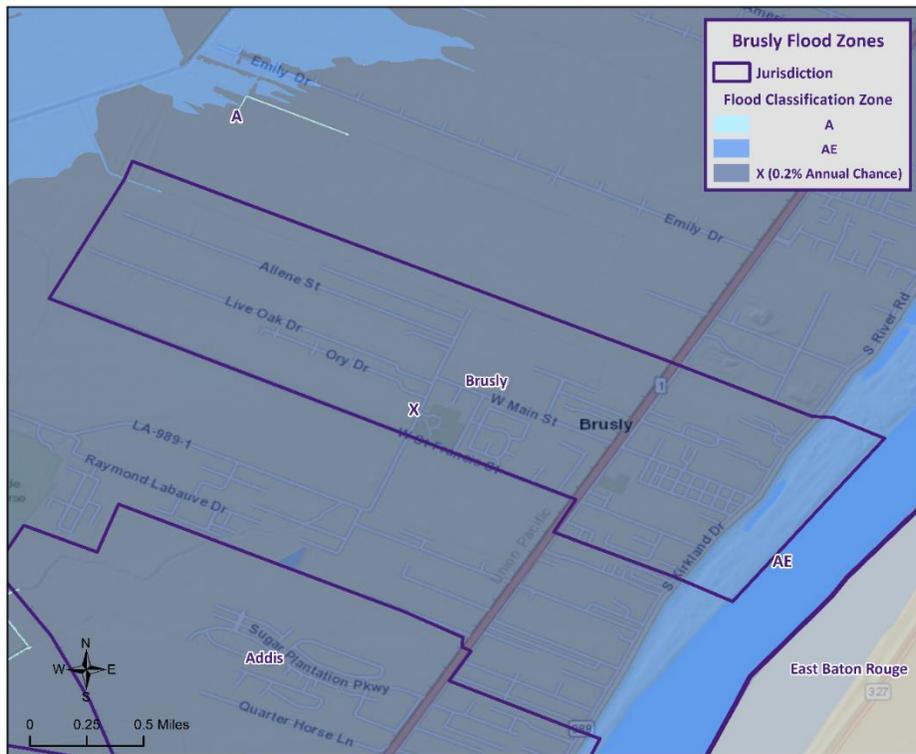


Figure 2-14: Brusly Areas within the Flood Zones.

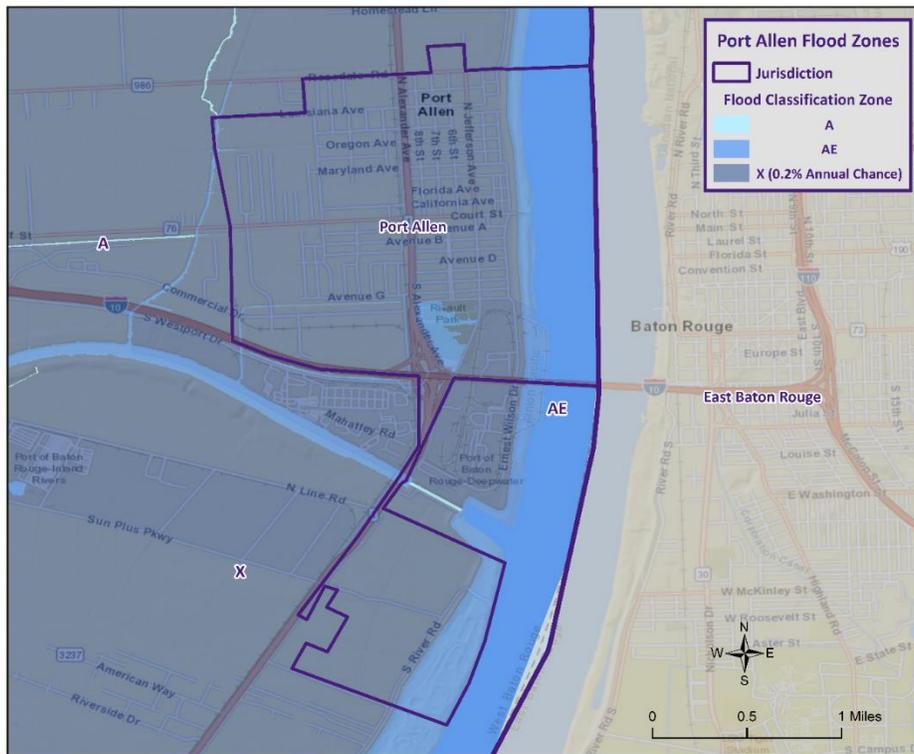


Figure 2-15: Port Allen Areas within the Flood Zones.

Previous Occurrences / Extents

Historically, there have been six flooding events that have caused significant flooding in West Baton Rouge Parish and its jurisdictions between 1990 and 2020. Below is a brief synopsis of the flooding event which occurred since the last West Baton Rouge Parish HMP Update in 2016.

Table 2-18: Historical Floods in West Baton Rouge Parish with Locations since the 2016 West Baton Rouge Parish HMP Update.

Date	Extents	Type of Flooding	Estimated Damages	Location
August 13, 2016	Six to eight inches of rain fell on Friday 8/12 across West Baton Rouge Parish, leading to flash flooding generally over the western half of the parish. Several roads were closed due to high water and approximately 40 homes suffered flood damage.	Flash Flood	\$1,290,000	PARISHWIDE

Frequency / Probability

The NCEI Storm Events Database identified 32 flooding events within the West Baton Rouge Parish planning area since 1990. The table below shows the probability and return frequency for each jurisdiction.

Table 2-19: Annual Flood Probabilities for West Baton Rouge Parish.

Jurisdiction	Annual Probability	Return Frequency
West Baton Rouge Parish (Unincorporated)	24%	1 event every 5 years
Addis	12%	1 event every 10 years
Brusly	16%	1 event every 7 to 8 years
Port Allen	12%	1 event every 10 years

Based on historical record, the overall flooding probability for the entire West Baton Rouge Parish Planning area is 24%, with six events occurring over a 30-year period.

Estimated Potential Losses

Using the Hazus Flood Model, the 100-year flood scenario, along with the Parish DFIRM, was analyzed to determine losses from this worst-case scenario. *Table 2-20* shows the total economic losses that would result from this occurrence.

*Table 2-20: Estimated Losses in West Baton Rouge Parish from a 100-year Flood Event.
(Source: Hazus)*

Jurisdiction	Estimated Total Losses from 100-Year Flood Event
West Baton Rouge Parish (Unincorporated Area)	\$25,823,000
Addis	\$374,000
Brusly	\$121,000
Port Allen	\$2,256,000
Total	\$28,574,000

The Hazus Flood model also provides a breakdown for seven primary sectors (Hazus occupancy) throughout the parish. The losses for West Baton Rouge Parish by sector are listed in the following tables:

*Table 2-21: Estimated 100-year Flood Losses for West Baton Rouge Parish by Sector.
(Source: Hazus)*

West Baton Rouge Parish (Unincorporated)	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$68,000
Commercial	\$4,943,000
Government	\$550,000
Industrial	\$6,612,000
Religious / Non-Profit	\$915,000
Residential	\$12,645,000
Schools	\$90,000
Total	\$25,823,000

*Table 2-22: Estimated 100-year Flood Losses for Addis by Sector.
(Source: Hazus)*

Addis	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$10,000
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$364,000
Schools	\$0
Total	\$374,000

*Table 2-23: Estimated 100-year Flood Losses for Brusly by Sector.
(Source: Hazus)*

Brusly	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$9,000
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$112,000
Schools	\$0
Total	\$121,000

Table 2-24: Estimated 100-year Flood Losses for Port Allen by Sector.
(Source: Hazus)

Port Allen	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$403,000
Government	\$41,000
Industrial	\$8,000
Religious / Non-Profit	\$42,000
Residential	\$1,762,000
Schools	\$0
Total	\$2,256,000

Threat to People

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

Table 2-25: Vulnerable Populations Susceptible to a 100-year Flood Event.
(Source: Hazus)

Number of People Exposed to Flood Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
West Baton Rouge Parish (Unincorporated)	12,426	3,912	31.5%
Addis	3,593	703	19.6%
Brusly	2,589	103	4.0%
Port Allen	5,180	1,533	29.6%
Total	23,788	6,251	26.3%

The Hazus flood model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the following table:

Table 2-26: Vulnerable Populations Susceptible to a 100-year Flood Event in West Baton Rouge Parish.
(Source: Hazus)

West Baton Rouge Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	3,912	31.5%
Persons Under 5 Years	262	6.7%
Persons Under 18 Years	943	24.1%
Persons 65 Years and Over	462	11.8%
White	2,351	60.1%
Minority	1,561	39.9%

Table 2-27: Vulnerable Populations Susceptible to a 100-year Flood Event in Addis.
(Source: Hazus)

Addis		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	703	19.6%
Persons Under 5 Years	57	8.2%
Persons Under 18 Years	138	19.7%
Persons 65 Years and Over	58	8.3%
White	486	69.1%
Minority	217	30.9%

Table 2-28: Vulnerable Populations Susceptible to a 100-year Flood Event in Brusly.
(Source: Hazus)

Brusly		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	103	4.0%
Persons Under 5 Years	7	6.8%
Persons Under 18 Years	20	19.1%
Persons 65 Years and Over	13	12.4%
White	77	74.3%
Minority	26	25.7%

Table 2-29: Vulnerable Populations Susceptible to a 100-year Flood Event in Port Allen.
(Source: Hazus)

Port Allen		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,533	29.6%
Persons Under 5 Years	115	7.5%
Persons Under 18 Years	235	15.3%
Persons 65 Years and Over	218	14.2%
White	612	39.9%
Minority	921	60.1%

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality buildings that are susceptible to flooding due to proximity within the 100-year flood plain.

Sinkholes

Sinkholes are areas of ground—varying in size from a few square feet to hundreds of acres and reaching in depth from 1 to more than 100 ft.—with no natural external surface drainage. Sinkholes are usually found in karst terrain—that is, areas where limestone, carbonate rock, salt beds, and other water-soluble rocks lie below the Earth’s surface. Karst terrain is marked by the presence of other uncommon geologic features such as springs, caves, and dry streambeds that lose water into the ground. In general, sinkholes form gradually (in the case of cover subsidence sinkholes), but they can also occur suddenly (in the case of cover-collapse sinkholes).

Sinkhole formation is a very simple process. Whenever water is absorbed through soil, encounters water-soluble bedrock, and then begins to dissolve it, sinkholes start to form. The karst rock dissolves along cracks; as the fissures grow, soil and other particles fill the gaps, loosening the soil above the bedrock. Figure 1 illustrates the development of a cover subsidence sinkhole. As the soil sinks from the surface, a depression forms, which draws in more water, funneling it down to the water-soluble rock. The increase of water and soil in the rock pushes open the cracks, again drawing more soil and water into it. This positive feedback loop continues, unless clay plugs into the cracks in the bedrock, at which time a pond may form. A sudden cover-collapse sinkhole occurs when the topsoil above dissolving bedrock does not sink, but forms a bridge over the soil that is sinking beneath it. Underground soil continues to fill the bedrock fissures, until finally the soil bridge collapses and fills the void beneath it.

Both kinds of sinkholes can occur naturally or through human influence. While sinkholes tend to form naturally in karst areas, sinkholes can form in other geological areas that have been altered by humans such as mining, sewers, hydraulic fracture drilling, groundwater pumping, irrigation, or storage ponds. In all of these cases, and others, the cause for the sinkhole is that support for surface soil has been weakened or substantially removed.

In the United States, 20% of land in the United States is susceptible to sinkholes. Most of this area lies in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. In Louisiana, most of the sinkholes are precipitated by the human-influenced collapse of salt dome caverns. The collapse of a salt dome is usually a slow process; however, it may occur suddenly and without any advance warning.

Location

Currently, there are no identifiable salt dome locations in West Baton Rouge Parish; however, there is one salt dome location which is within two miles of West Baton Rouge Parish. *Figure 2-16* displays the location of the salt dome in proximity to West Baton Rouge Parish. The location of the salt dome is located outside of the boundaries of West Baton Rouge Parish, but the two-mile buffer for Bayou Choctaw Salt Dome extends into the unincorporated areas of West Baton Rouge Parish.

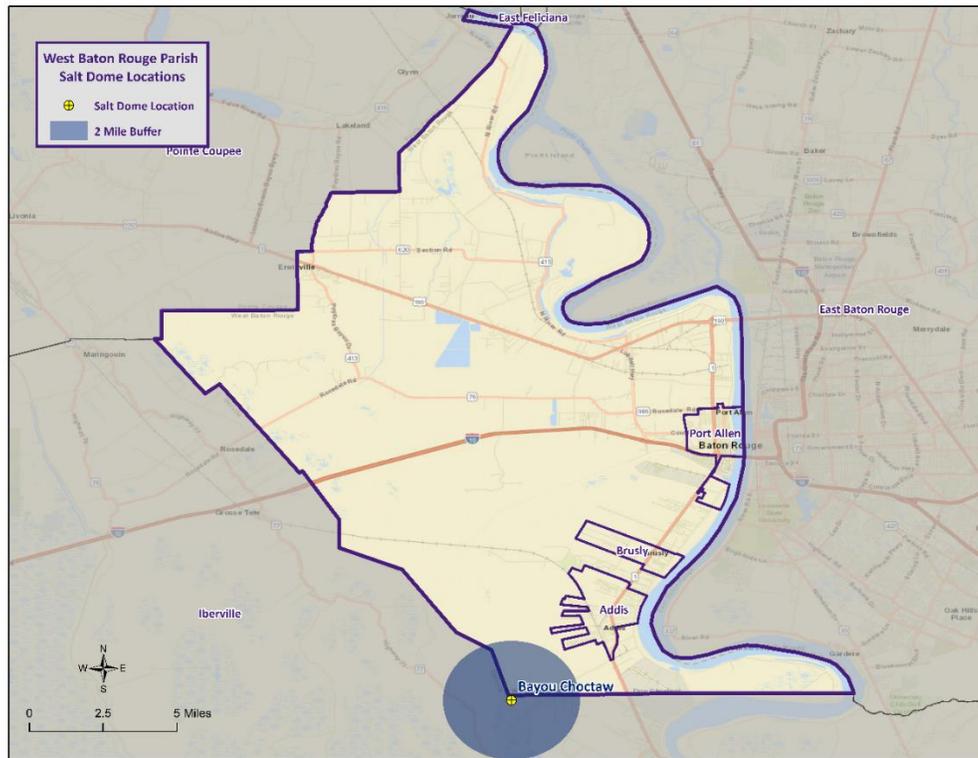


Figure 2-16: Salt Dome Locations in West Baton Rouge Parish.

Previous Occurrences / Extent

There has been no recorded incident of a sinkhole formation in West Baton Rouge Parish.

Frequency / Probability

Based on historical data for the past 30-years, there has been no recorded incident of a sinkhole formation or salt dome collapse in West Baton Rouge Parish. The annual chance of occurrence based on this historical data is calculated < 1%.

Estimated Potential Losses

The Bayou Choctaw Salt Dome was analyzed to determine the number of people and homes that are potentiall susceptible to losses from a sinkhole materializing from the salt dome. The following table is based on conducting a two-mile buffer around the center of the salt dome. The values were determined by querying the 2010 U.S. Census block data to determine the number of houses and people located within two miles of the salt dome. Critical facilities were also analyzed to determine if they fell within the two-mile buffer of the salt dome. Total value for all occupancy group from Hazus was used to estimate a total loss of all facilities that were within two miles of the salt dome.

Table 2-30: Estimated Potential Losses from a Sinkhole formation.
(Source: U.S. 2010 Census Data and Hazus)

Salt Dome Name	Total Building Exposure	Critical Infrastructure Exposure	Number of People Exposed	Number of Houses Exposed
Bayou Choctaw	\$73,790,000	0	21	6

The Bayou Choctaw Salt Dome is the only salt dome that poses a threat to West Baton Rouge Parish. The salt dome contains a total of six homes and 21 people within its two-mile buffer, with a total building exposure of approximately \$73 million. The one critical facility that is located within the two-mile buffer of the Bayou Choctaw Salt Dome is the Bayou Choctaw Strategic Petroleum Reserve.

As a result of the isolated location of the salt dome, there is little to no risk to the majority of the populace with the exception of the 21 individuals that live within the two-mile buffer of Bayou Choctaw Salt Dome.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality building exposure to a sinkhole hazard.

Thunderstorms

The term “thunderstorm” is usually used as a catch-all term for several kinds of storms. Here “thunderstorm” is defined to include any precipitation event in which thunder is heard or lightning is seen. Thunderstorms are often accompanied by heavy rain and strong winds and, depending on conditions, occasionally by hail or snow. Thunderstorms form when humid air masses are heated, which causes them to become convectively unstable and therefore rise. Upon rising, the air masses’ water vapor condenses into liquid water and/or deposits directly into ice when they rise sufficiently to cool to the dew-point temperature.

Thunderstorms are classified into four main types (single cell, multicell, squall line, and supercell), depending on the degree of atmospheric instability, the change in wind speed with height (called wind shear), and the degree to which the storm’s internal dynamics are coordinated with those of adjacent storms. There is no such interaction for single-cell thunderstorms, but there is significant interaction with clusters of adjacent thunderstorms in multicell thunderstorms and with a linear “chain” of adjacent storms in squall line thunderstorms. Though supercell storms have no significant interactions with other storms, they have very well-organized and self-sustaining internal dynamics, which allows them to be the longest-lived and most severe of all thunderstorms.

The life of a thunderstorm proceeds through three stages: the developing (or cumulus) stage, the mature stage, and the dissipation stage. During the developing stage, the unstable air mass is lifted as an updraft into the atmosphere. This sudden lift rapidly cools the moisture in the air mass, releasing latent heat as condensation and/or deposition occurs, and warming the surrounding environment, thus making it less dense than the surrounding air. This process intensifies the updraft and creates a localized lateral rush of air from all directions into the area beneath the thunderstorm to feed continued updrafts. At the mature stage, the rising air is accompanied by downdrafts caused by the shear of falling rain (if melted completely), or hail, freezing rain, sleet, or snow (if not melted completely). The dissipation stage is characterized by the dominating presence of the downdraft as the hot surface that gave the updrafts their buoyancy is cooled by precipitation. During the dissipation stage, the moisture in the air mass largely empties out.

The Storm Prediction Center in conjunction with the National Weather Service (NWS) have 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:

- *Severe Thunderstorm Watch:* Issued to alert people to the possibility of a severe thunderstorm developing in the area. Expected time frame for these storms is three to six hours.
- *Severe Thunderstorm Warning:* Issued when severe thunderstorms are imminent. This warning is highly localized and covers parts of one to several counties (parishes).

A variety of hazards might be produced by thunderstorms, including lightning, hail, tornadoes or waterspouts, flash floods, and high-speed winds called downbursts. Nevertheless, given all of these criteria, the National Oceanic and Atmospheric Administration (NOAA) characterizes a thunderstorm as severe when it produces one or more of the following:

- Hail of 1 inch in diameter or larger
- Wind gusts to 58 mph or greater
- One or more tornadoes

Tornadoes and flooding hazards have been profiled within this report; therefore, for the purpose of thunderstorms, the sub hazards of hail, high winds, and lightning will be profiled.

Thunderstorms occur throughout Louisiana at all times of the year, although the types and severity of those storms vary greatly, depending on a wide variety of atmospheric conditions. Thunderstorms generally occur more frequently during the late spring and early summer when extreme variations exist between ground surface temperatures and upper atmospheric temperatures.

Hazard Description

Hailstorms

Hailstorms are severe thunderstorms in which balls or chunks of ice fall along with rain. Hail develops in the upper atmosphere initially as ice crystals that are bounced about by high-velocity updraft winds. The ice crystals grow through deposition of water vapor onto their surface, fall partially to a level in the cloud where the temperature exceeds the freezing point, melt partially, get caught in another updraft whereupon re-freezing and deposition grows another concentric layer of ice, and fall after developing enough weight, sometimes after several trips up and down the cloud. The size of hailstones varies depending on the severity and size of the thunderstorm. Higher surface temperatures generally mean stronger updrafts, which allows more massive hailstones to be supported by updrafts, leaving them suspended longer. This longer time means larger hailstone sizes. The tables on the next page display the TORRO Hailstorm Intensity Scale along with a spectrum of hailstone diameters and their everyday equivalents.

Table 2-31: TORRO Hailstorm Intensity Scale.

Intensity Category		Hail Diameter (mm)	Probable Kinetic Energy	Typical Damage Impacts
H0	Hard Hail	5	0 - 20	No damage
H1	Potentially Damaging	5 - 15	>20	Slight general damage to plant, crops
H2	Significant	10 - 20	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20 - 30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25 - 40	>500	Widespread glass damage, vehicle body work
H5	Destructive	30 - 50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40 - 60		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50 - 75		Severe roof damage, risk of serious injuries
H8	Destructive	60 - 90		Severe damage to aircraft bodywork
H9	Super Hailstorms	75 - 100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Table 2-32: Spectrum of Hailstone Diameters and their Everyday Description.

(Source: National Weather Service)

Spectrum of Hailstone Diameters	
Hail Diameter Size	Description
1/4"	Pea
1/2"	Plain M&M
3/4"	Penny
7/8"	Nickle
1" (severe)	Quarter
1 1/4"	Half Dollar
1 1/2"	Ping Pong Ball / Walnut
1 3/4"	Golf Ball
2"	Hen Egg / Lime
2 1/2"	Tennis Ball
2 3/4"	Baseball
3"	Teacup / Large Apple
4"	Softball
4 1/2"	Grapefruit
4 3/4" – 5"	Computer CD-DVD

Hailstorms can cause widespread damage to homes and other structures, automobiles, and crops. While the damage to individual structures or vehicles is often minor, the cumulative cost to communities, especially across large metropolitan areas, can be quite significant. Hailstorms can also be devastating to crops. Thus, the severity of hailstorms depends on the size of the hailstones, the length of time the storm lasts, and where it occurs.

Hail rarely causes loss of life, although large hailstones can cause bodily injury.

High Winds

In general, high winds can occur in a number of different ways, within and without thunderstorms. The Federal Emergency Management Agency (FEMA) distinguishes these as shown in Table 2-33.

*Table 2-33: High Winds Categorized by Source, Frequency, and Duration.
(Source: Making Critical Facilities Safe from High Wind, FEMA)*

High Winds Categories			
High Wind Type	Description	Relative Frequency in Louisiana	Relative Maximum Duration in Louisiana
Straight-line Winds	Wind blowing in straight line; usually associated with intense low-pressure area	High	Few-minutes – 1 day
Downslope Winds	Wind blowing down the slope of a mountain; associated with temperature and pressure gradients	N/A	N/A
Thunderstorm Winds	Wind blowing due to thunderstorms, and thus associated with temperature and pressure gradients	High (especially in the spring and summer)	~Few minutes – several hours
Downbursts	Sudden wind blowing down due to downdraft in a thunderstorm; spreads out horizontally at the ground, possibly forming horizontal vortex rings around the downdraft	Medium-to-High (~5% of all thunderstorms)	~15 – 20 minutes
Northeaster (nor'easter) Winds	Wind blowing due to cyclonic storm off the east coast of North America; associated with temperature and pressure gradients between the Atlantic and land	N/A	N/A
Hurricane Winds	Wind blowing in spirals, converging with increasing speed toward eye; associated with temperature and pressure gradients between the Atlantic and Gulf and land	Low-to-Medium	Several days
Tornado Winds	Violently rotating column of air from base of a thunderstorm to the ground with rapidly decreasing winds at greater distances from center; associated with extreme temperature gradient	Low-to-Medium	Few minutes – few hours

The only high winds of present concern are thunderstorm winds and downbursts. Straight-line winds are common but are a relatively insignificant hazard (on land) compared to other high winds. Downslope winds are common but relatively insignificant in the hilly areas of Louisiana where they occur. Nor'easters are cyclonic events that have at most a peripheral effect on Louisiana, and none associated with high winds. Winds associated with hurricanes and tornadoes will be considered in their respective sections.

Table 2-34 presents the Beaufort Wind Scale, first developed in 1805 by Sir Francis Beaufort, which aids in determining relative force and wind speed based on the appearance of wind effects.

Table 2-34: Beaufort Wind Scale.

(Source: NOAA's SPC)

Beaufort Wind Scale			
Force	Wind (MPH)	WMO Classification	Appearance of Wind Effects on Land
			Calm, smoke rises vertically
1	1-3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4-7	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	8-12	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	13-17	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	18-24	Fresh Breeze	Small trees in leaf begin to sway
6	25-30	Strong Breeze	Larger tree branches moving, whistling in wires
7	31-38	Near Gale	Whole trees moving, resistance felt walking against wind
8	39-46	Gale	Twigs breaking off trees, generally impedes progress
9	47-54	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	55-63	Storm	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	54-73	Violent Storm	
12	74+	Hurricane	

Major damage directly caused by thunderstorm winds is relatively rare, while minor damage is common and pervasive, and most noticeable when it contributes to power outages. These power outages can have major negative impacts such as increased tendency for traffic accidents, loss of revenue for businesses, increased vulnerability to fire, food spoilage, and other losses that might be sustained by a loss of power.

Power outages may pose a health risk for those requiring electric medical equipment and/or air conditioning.

Lightning

Lightning is a natural electrical discharge in the atmosphere that is a by-product of thunderstorms. Every thunderstorm produces lightning. There are three primary types of lightning: intra-cloud, cloud-to-ground, and cloud-to-cloud. Cloud-to-ground lightning has the potential to cause the most damage to property and crops, while also posing as a health risk to the populace in the area of the strike.

Damage caused by lightning is usually to homes or businesses. These strikes have the ability to damage electrical equipment inside the home or business and can also ignite a fire that could destroy homes or crops.

Lightning continues to be one of the top three storm-related killers in the United States per FEMA, but it also has the ability to cause negative long-term health effects to the individual that is struck. The following table outlines the lightning activity level that is a measurement of lightning activity.

Table 2-35: Lightning Activity Level (LAL) Grids.

LAL	Cloud and Storm Development	Lightning Strikes/15 Min
1	No thunderstorms.	-
2	Cumulus clouds are common but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. Lightning is very infrequent.	1-8
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are few, but two to three must occur within the observation. Light to moderate rain will reach the ground, and lightning is infrequent.	9-15
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are scattered and more than three must occur within the observation area. Moderate rain is common and lightning is frequent.	16-25
5	Towering cumulus and thunderstorms are numerous. They cover more than three-tenths and occasionally obscure the sky. Rain is moderate to heavy and lightning is frequent.	>25
6	Similar to LAL 3 except thunderstorms are dry	

Hazard Profile

Hailstorms

Location

Hailstorms are a meteorological phenomenon that can occur anywhere. Therefore, the entire planning area for West Baton Rouge Parish and its jurisdictions are equally at risk for hailstorms. The worst-case scenario for hailstorms is hail up to a 2.75" diameter.

Previous Occurrences / Extents

Historically, there have been 16 hail incidents in West Baton Rouge Parish. Hailstorm diameters have ranged from 0.75 inches to 2.75 inches per the National Climatic Data Center since 1990. The most frequently recorded hail sizes have been 0.75-inch in diameter. There have been three significant hailstorm events in West Baton Rouge Parish since the 2016 West Baton Rouge Parish HMP update. The table on the next page contains a brief synopsis of those events.

Table 2-36: Previous Occurrences for Hailstorm Events since the 2016 Hazard Mitigation Plan Update.
 (Source: NCEI Storm Events Database)

Date	Hail Size (inches)	Property Damage	Crop Damage
March 25, 2017	0.75	\$0	\$0
April 23, 2020	1.5	\$0	\$0
April 23, 2020	1	\$0	\$0

Frequency

Hailstorms occur frequently within West Baton Rouge Parish with an annual chance of occurrence calculated at 53% based on the records for the past 30 years (1990-2020). Figure 2-17 displays the density of hailstorm events in West Baton Rouge Parish, while Figure 2-18 provides an overview of hailstorm size based on location.

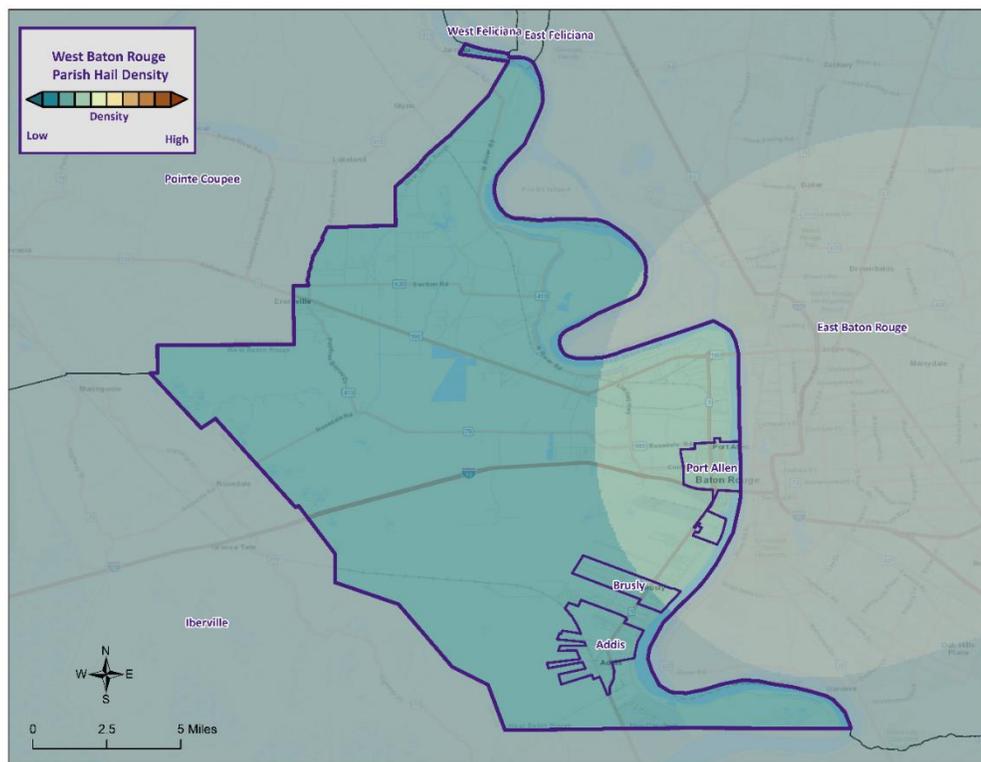


Figure 2-17: Density of Hailstorms by Diameter from 1950-2020.

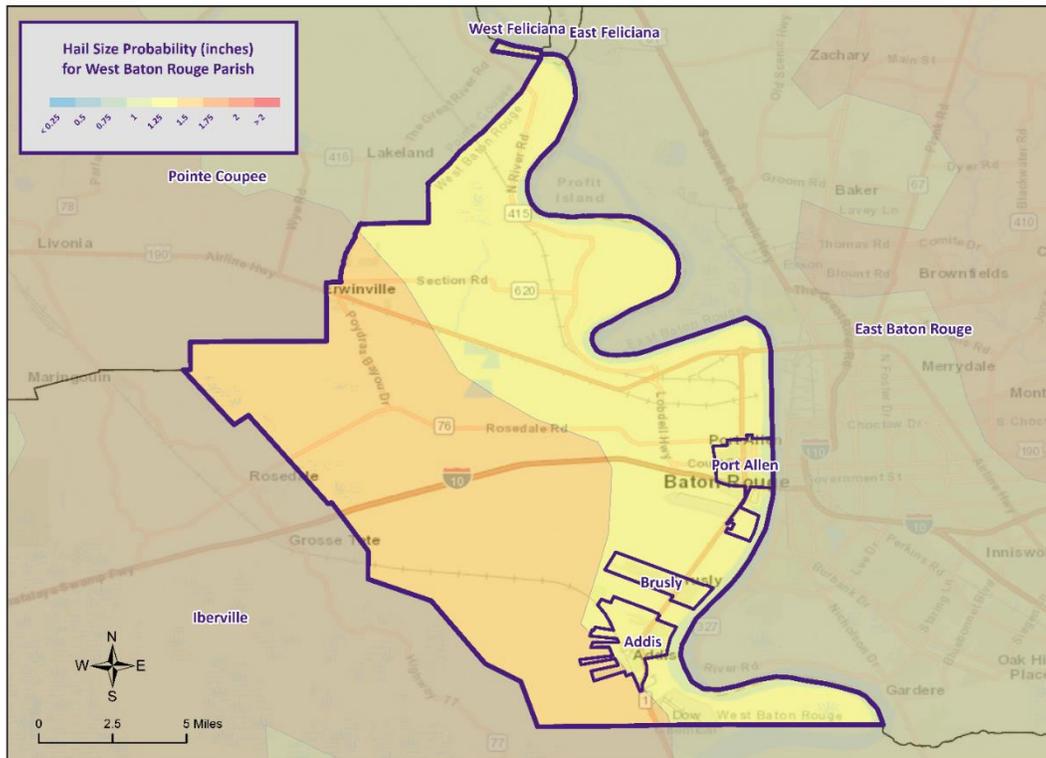


Figure 2-18: Hail Size Probability in Inches for West Baton Rouge Parish.

Estimated Potential Losses

Since 1990, there have been 16 significant hail events that have resulted in property damages according to NCEI Storm Events Database. The total property damages associated with those storms have totaled approximately \$1,000. To estimate the potential losses of a hailstorm event on an annual basis, the total damages recorded for wind events was divided by the total number of years of available wind data in the NCEI Storm Events Database (1990 - 2020). This provides an annual estimated potential loss of \$33 and \$63 per event. The following table provides an estimate of potential property losses for West Baton Rouge Parish:

Table 2-37: Estimated Annual Losses West Baton Rouge Parish and its Jurisdictions Resulting from Hailstorms.

Estimated Potential Annual Losses from Hailstorms			
Unincorporated Area	Addis	Brusly	Port Allen
\$17	\$5	\$4	\$7

There have been no reported injuries or fatalities as a result of a hail events over the 30-year record.

Vulnerability

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

High Winds

Location

Because high winds are a meteorological phenomenon that can occur anywhere, the entire planning area for West Baton Rouge Parish is equally at risk from high winds. The worst-case scenario for thunderstorm high wind is wind speeds of approximately 75mph.

Previous Occurrences / Extents

Historically, there have been 38 thunderstorm high wind events in West Baton Rouge Parish. The high wind events have ranged in windspeeds from 57 mph to 75 mph per the National Climatic Data Center since 1990. There have been five high wind speeds events which impacted the West Baton Rouge Parish Planning area since the 2016 West Baton Rouge Parish HMP update. Below is a brief synopsis of those events.

Table 2-38: Previous Occurrences for Thunderstorm High Wind Events since the 2016 Hazard Mitigation Plan Update.

(Source: NCEI Storm Events Database)

Date	Wind Speed (mph)	Property Damage	Crop Damage
March 17, 2016	58	\$0	\$0
April 7, 2019	63	\$0	\$0
April 23, 2020	60	\$20,000	\$0
April 23, 2020	60	\$30,000	\$0
June 25, 2020	58	\$0	\$0

Frequency

High winds are a fairly common occurrence within West Baton Rouge Parish and its jurisdictions, with an annual chance of occurrence calculated at 100% based on the records for the past 30 years (1990-2020). *Figure 2-19* displays the thunderstorm wind speed probability for West Baton Rouge Parish and its jurisdictions.

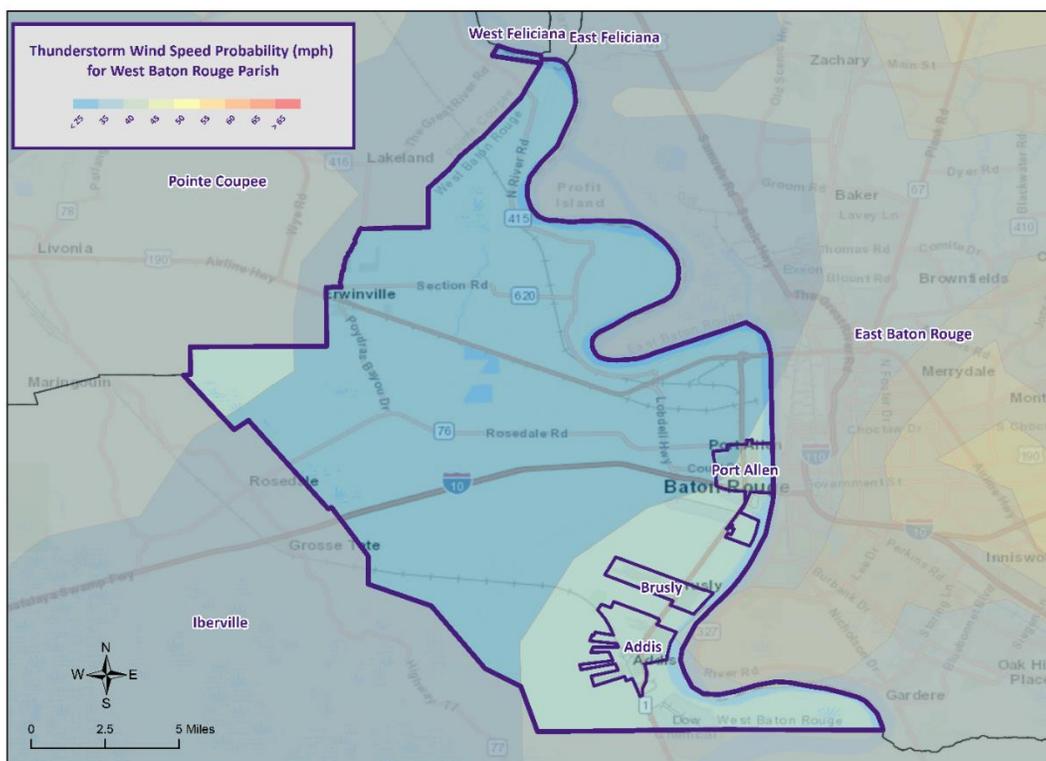


Figure 2-19: Thunderstorm High Wind Speed Probability in Miles Per Hour for West Baton Rouge Parish.

Estimated Potential Losses

Since 1990, there has been 38 significant wind events that have resulted in property damages according to NCEI Storm Events Database. The total property damage associated with this storm totaled approximately \$262,075. To estimate the potential losses of a wind event on an annual basis, the total damages recorded for wind events was divided by the total number of years of available wind data in the NCEI Storm Events Database (1990 - 2020). This provides an annual estimated potential loss of \$8,736 and \$6,897 per event. The following table provides an estimate of potential property losses for West Baton Rouge Parish:

Table 2-39: Estimated Annual Property Losses in West Baton Rouge Parish resulting from Wind Damage.

Estimated Potential Annual Losses From High Winds			
Unincorporated Area	Addis	Brusly	Port Allen
\$4,563	\$1,319	\$951	\$1,902

There have been no injuries or fatalities as a result of a thunderstorm high wind event over the 30-year record.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality buildings that are susceptible to thunderstorm high winds.

Lightning

Location

Like hail and high winds, lightning is a meteorological phenomenon that can occur anywhere within the West Baton Rouge Parish planning area. The worst-case scenario for lightning events is a lightning activity level of 4, which is approximately 16 to 25 lightning strikes every 15 minutes.

Previous Occurrences / Extent

Historically, there have been no lightning events in West Baton Rouge Parish and its jurisdictions between the years 1990 and 2020.

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in West Baton Rouge Parish is high. However, lightning that meets the definition that is used by the NCEI Storm Events Database that results in damages to property and injury or death to people is a less likely event. West Baton Rouge Parish experienced no significant lightning events between the years 1990 and 2020 resulting in a less than 1% annual chance of occurrence.

Estimated Potential Losses

Since 1990, there has been no significant lightning events that resulted in property damages according to NCEI Storm Events Database. Per the NCEI Storm Events Database, there have been no fatalities or injuries as a result of lightning in West Baton Rouge Parish.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality building exposure to lightning hazards.

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 2-40* 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. Damage and adjustment between scales can be made using the following tables.

Table 2-40: 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

Table 2-41: Fujita and Enhanced Fujita Tornado Damage Scale.

Scale	Typical Damage
F0/EF0	Light damage. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1/EF1	Moderate damage. Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
F2/EF2	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; light-object missiles generated; cars lifted off ground.
F3/EF3	Severe damage. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4/EF4	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5/EF5	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); trees debarked; incredible phenomena will occur.

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 a 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 West Baton Rouge Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in West Baton Rouge Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for West Baton Rouge Parish, all areas in the parish are equally at risk for tornadoes.

Previous Occurrences / Extent

The NCEI Storm Events Database reports a total of three tornadoes or waterspouts occurring within the boundaries of West Baton Rouge Parish since 1990 ranging in extent from F1 to F2 under the Fujita Scale and EF0 on the Enhanced Fujita Scale. West Baton Rouge Parish can expect future tornadoes up to an EF3 under the Enhanced Fujita Scale as a worst-case scenario.

The most destructive tornado to impact West Baton Rouge Parish was a F2 tornado which occurred on June 8, 1989. Approximately 90 homes and 35 mobile homes suffered extensive damage which was mainly to roofs, siding, and windows. Falling trees and large tree branches all caused damage to several houses. Fifty-eight people suffered minor injuries due to flying glass and debris. Total damage was estimated at \$2.5 million, with approximately \$500,000 of that occurring in West Baton Rouge Parish.

Since the 2016 HMP Update, one tornado has occurred within the boundaries of West Baton Rouge Parish. Below is a list and brief description of the impact for the event.

Table 2-42: Historical Tornadoes in West Baton Rouge Parish with Locations since the 2016 Update.

Date	Impacts	Property Damage	Location	Magnitude
June 24, 2020	0.7 mile path with a width of 75 yards. A National Weather Service Damage Assessment Team has surveyed the storm damage near Erwinville, LA. It has been determined the damage was the result of a tornado. The tornado has been rated an EF-0 on the Enhanced Fujita Scale. Damage estimates were consistent with winds of 85 mph. The tornado touched down just west of Bueche Rd, tearing some siding of of a house. In addition, the roof of a garage building was damaged from trees. It also uprooted trees and snapped tree limbs as it progressed in an eastward direction. It lifted on Bueche Rd. just short of Clause Bayou. It is possible that the tornado started and ended before and after the stated locations, but these areas were inaccessible or were surrounded by fields.	\$15,000	ARBROTH	EFO

Frequency / Probability

Tornadoes occur frequently within West Baton Rouge Parish and its jurisdictions with an annual chance of occurrence calculated at 10% based on the records for the past 30 years (1990-2020). Figure 2-20 displays the density of tornado touchdowns in West Baton Rouge Parish and neighboring parishes.

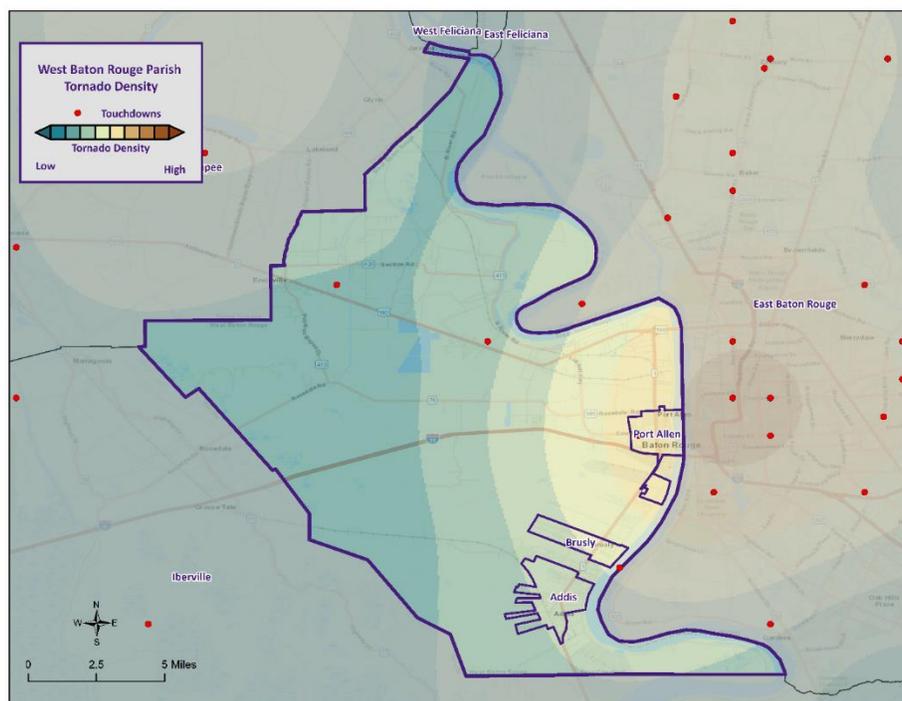


Figure 2-20: Location and Density of Tornadoes to Touchdown in West Baton Rouge Parish. (Source: NOAA/SPC Severe Weather Database)

Estimated Potential Losses

According to the NCEI Storm Events Database, there have been three tornadoes that have caused some level of property damage. The total damage from the actual claims for property is approximately \$365,000 with an average cost of \$121,667 per tornado event. When annualizing the total cost over the 30-year record, total annual losses based on tornadoes are estimated to be \$12,167. The following tables provide an annual estimate of potential losses for West Baton Rouge Parish.

Table 2-43 Estimated Annual Losses for Tornadoes in West Baton Rouge Parish.

Estimated Potential Annual Losses from Tornadoes			
Unincorporated Area	Addis	Brusly	Port Allen
\$6,355	\$1,838	\$1,324	\$2,649

Table 2-44 presents an analysis of building exposure that are susceptible to tornadoes by general occupancy type for West Baton Rouge Parish along with the percentage of building stock that are mobile homes.

*Table 2-44: Building Exposure by General Occupancy Type for Tornadoes in West Baton Rouge Parish.
(Source: Hazus)*

Building Exposure by General Occupancy Type for Tornadoes (\$1,000)							
Residential	Commercial	Industrial	Agricultural	Religion	Government	Education	Mobile Homes (%)
1,702,161	266,726	119,831	10,920	41,779	15,888	17,670	24.3%

The Parish has suffered through a total of three events in which tornadoes or waterspouts have accounted for two injuries and no fatalities during this 30-year period.

In accessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 24.3% of all housing in West Baton Rouge Parish consists of manufactured housing. The location and density of manufactured houses can be seen in *Figure 2-21*.

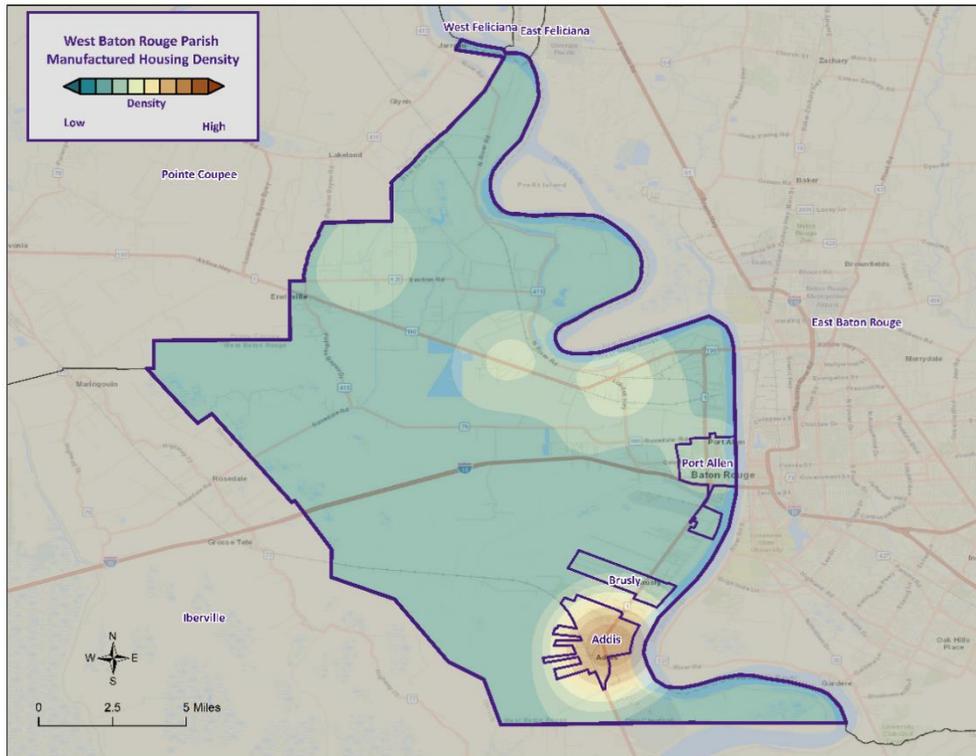


Figure 2-21: Location and Approximate Number of Units in Manufactured Housing Locations throughout West Baton Rouge Parish.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality building exposure to tornadoes.

Tropical Cyclones

Tropical cyclones are among the worst hazards 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, moving 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. This results in the formation of a tropical depression (defined when the maximum sustained surface wind speed is 38 mph or less), then a Tropical Cyclone (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). On the next page, the table presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-45: 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 Cyclone	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 will likely 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 may 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 rains, 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 a high number 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 cyclone. 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 pressure 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). Mobile homes and buildings in need of maintenance are most subject to wind damage. High winds mean bigger waves. Extended pounding by waves can demolish any poorly or improperly designed structures. The waves also erode sand beaches, roads, and foundations. When foundations are compromised, 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 freshwater 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 tropical cyclone event having the potential to devastate multiple parishes at once, tropical cyclones are a significant threat to the entire West Baton Rouge Parish planning area. The worst-case scenario for a tropical cyclone event in West Baton Rouge Parish is a Category 3 Hurricane.

Previous Occurrences / Extents

West Baton Rouge Parish has experienced five major tropical cyclone events since 2002. The following table provides a list of tropical cyclones which have impacted West Baton Rouge Parish since 2002.

Table 2-46: Historical Tropical Cyclone Events in West Baton Rouge Parish from 2002 – 2020.

Date	Name	Storm Type at Time of Impact
2002	Lili	Hurricane
2005	Katrina	Hurricane
2005	Rita	Tropical Storm
2008	Fay	Tropical Depression
2008	Gustav	Hurricane
2008	Ike	Tropical Storm
2011	Lee	Tropical Storm
2012	Isaac	Hurricane
2019	Barry	Tropical Storm
2020	Delta	Tropical Storm

Since the last West Baton Rouge Parish HMP update in 2016, there have been two tropical cyclone events which have impacted the parish. Below is a brief description of the events and the impact they had on West Baton Rouge Parish.

Tropical Storm Barry (2019)

Hurricane Barry initially developed from a disturbance that moved from Georgia southwest to the northeast Gulf of Mexico on July 8-9, 2019. The weak low-pressure system continued to move west-southwest and strengthen and was eventually classified as Tropical Storm Barry on the morning of July 11th, 95 miles south-southeast of the mouth of the Mississippi River. Barry continued to move slowly west then northwest and briefly reached hurricane strength on the morning of July 13th before landfall in south-central Louisiana near Intracoastal City, Louisiana in Vermillion Parish. Tropical storm force winds reached the southeast Louisiana coast by midday on Friday, July 12th and spread slowly northwest reaching the Baton Rouge area during the evening of the 12th. Tropical storm wind impacts had ended across all of southeast Louisiana by midday on July 14th. Tropical storm force winds were primarily measured in gusts across southeast Louisiana. The exception was in Terrebonne and Assumption Parishes, close to the landfall location, where sustained tropical storm force winds and frequent gusts caused more significant power line and tree damage. A few tropical storm wind gusts were recorded in the metro New Orleans area but were not very impactful. No hurricane force wind gusts were recorded in southeast Louisiana.

Mostly minor to moderate storm surge flooding occurred across coastal southeast Louisiana, including Lake Pontchartrain, and a small part of the Mississippi Coast. Terrebonne Parish had significant storm surge flooding in the lower portion of the parish with storm tides of five to eight feet, locally up to nine feet. Several local levees were overtopped on the morning of July 13th flooding roads and a few homes. The highest storm tide reading was 9.11 feet NAVD88 at a USGS tide gauge at Caillou Lake near Dulac, Louisiana.

Storm total rainfall was generally between four and eight inches with a maximum rainfall of 8.83 inches recorded northeast of Denham Springs, Louisiana in Livingston Parish. Isolated flash flooding of streets and secondary roadways occurred on July 13th in the greater Baton Rouge area, but flash flooding was not

widespread or significant. The lower Mississippi River was at unusually high stages from late August with the state at the New Orleans Carrollton gauge near 16.5 feet. The combination of storm surge entering the lower Mississippi River with very high river stages prompted concern of potential overtopping of levees along the Mississippi River in lower Plaquemines Parish prompting some evacuations of the area.

In West Baton Rouge Parish, frequent tropical storm force wind gusts resulted in minor to moderate tree damage with multiple trees toppled. Several roads were closed due to these fallen trees. Minor power outages were reported across West Baton Rouge Parish. Rainfall estimates for the storm ranged from 2 to 3 inches across the far western portion of the parish, with 5 to 8 inches estimated across the eastern portion of the parish.

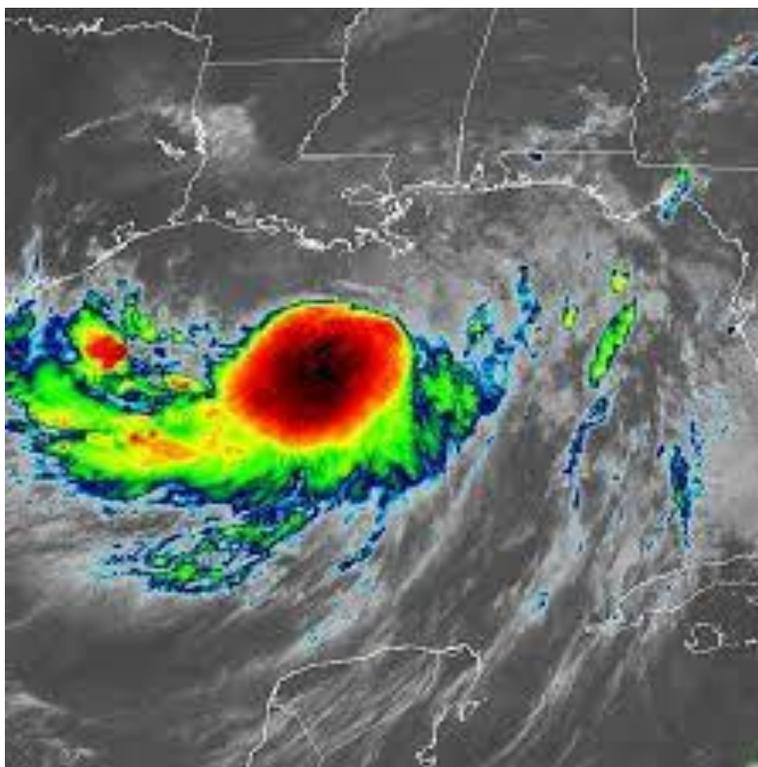


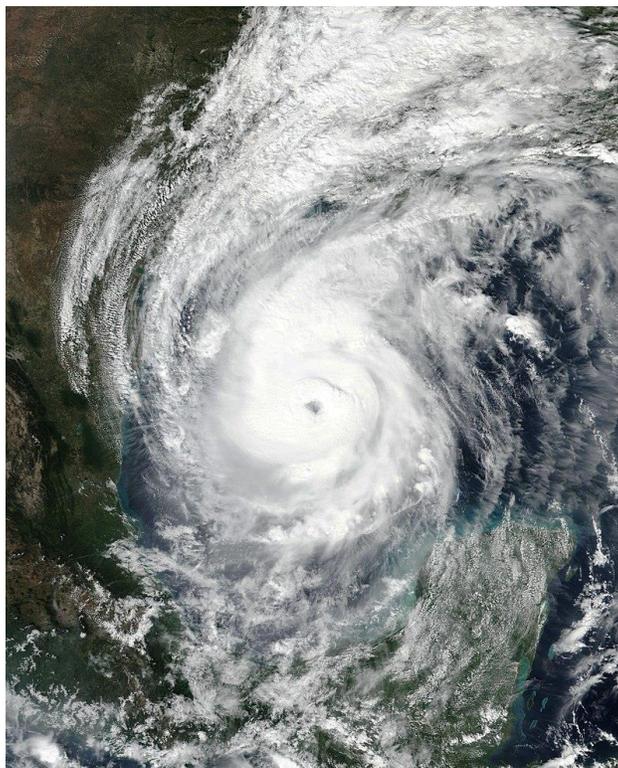
Figure 2-22: Hurricane Barry Rain Bands in the Gulf Coast Area.

(Source: NOAA)

Tropical Storm Delta (2020)

Hurricane Delta was the record-tying fourth named storm of 2020 to strike Louisiana, as well as the record-breaking tenth named storm to strike the United States in that year. The twenty-sixth tropical cyclone, twenty-fifth named storm, ninth hurricane, and third major hurricane of the record breaking 2020 Atlantic hurricane season, Delta formed from a tropical wave which was first monitored by the National Hurricane Center on October 1. As it tracked across the western Caribbean, it rapidly intensified into a Category 4 hurricane. In fact, intensifying from tropical depression to Category strength in 40 hours is the fastest rate of intensification of any storm on record in the Atlantic Basin and accomplished by Delta. Delta quickly weakened to a category 1 hurricane after making its first landfall on the Yucatan Peninsula. It gradually recurved north towards the Louisiana coastline, fluctuating in intensity between category 2 and 3.

Hurricane Delta made landfall around 5 pm as a category 2 storm east of Cameron, Louisiana or about 15 miles east of where category 4 Hurricane Laura made landfall just a couple of months earlier of the same year. Local impacts included 50 to 70 mph wind gusts across the area, storm surge of 2 to 3 feet above ground, and widespread tree and structural damage. There were six injuries due to Hurricane Delta. In addition, outer bands of Delta produced a significant amount of rainfall on the north side of Baton Rouge Metro. Upwards of five to 10 inches of rain fell, causing street flooding in Baton Rouge and moderate river flooding in the region. Delta caused approximately \$100 million worth of damage across southeast Louisiana.



*Figure 2-23: Hurricane Delta in the Gulf Coast Area.
(Source: NOAA)*

In West Baton Rouge Parish, Delta produced tropical storm force winds resulting in minor to moderate impacts on the parish. Peak wind gusts were estimated in the 60 to 70 mph range. Three homes suffered structural damage during the storm, and the parish responded to 42 calls regarding downed power lines and trees which fell across the road. At the peak, about half of the parish residents were without power.

The following figure displays the wind zones that affect West Baton Rouge Parish in relation to critical facilities throughout the parish.

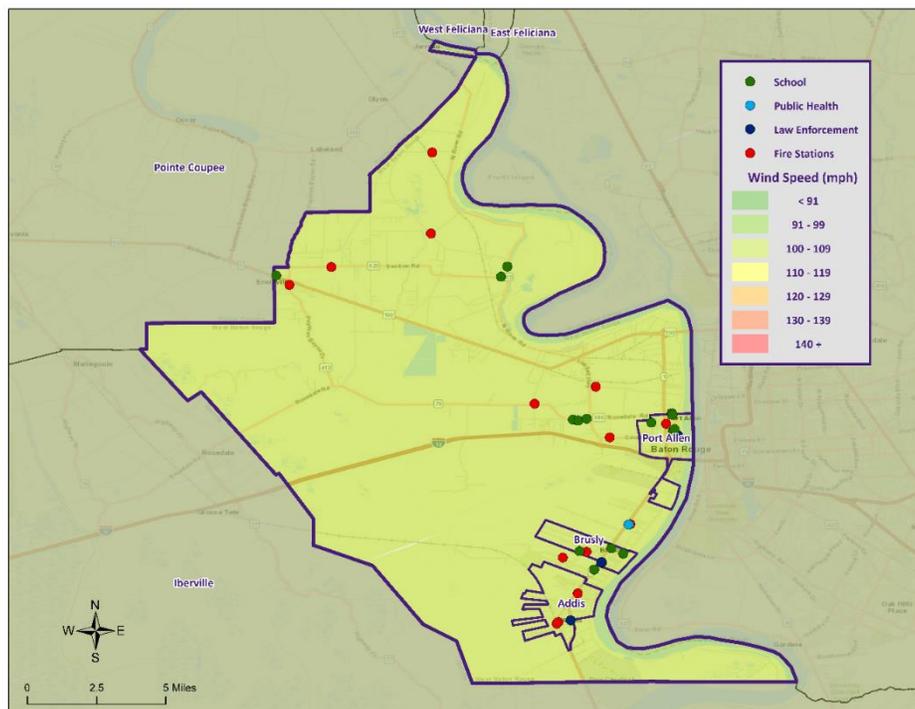


Figure 2-24: Winds Zones for West Baton Rouge Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that regularly impact West Baton Rouge Parish. The annual chance of occurrence for a tropical cyclone is estimated at 56% for West Baton Rouge Parish with 10 events occurring within 18 years (2002 to 2020). 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 West Baton Rouge Parish and its jurisdictions are highly vulnerable to tropical cyclones. This area has experienced several tropical cyclone events in the past and can expect more in the future.

Estimated Potential Losses

Using Hazus 100-Year Hurricane Model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. The following table shows the total economic losses that would result from this occurrence.

Table 2-47: Total Estimated Losses for a 100-Year Hurricane Event
(Source: Hazus)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event
West Baton Rouge Parish (Unincorporated)	\$16,710,283
Addis	\$4,815,944
Brusly	\$3,481,645
Port Allen	\$6,965,980
Total	\$31,973,853

Total losses from a 100-year hurricane event for West Baton Rouge Parish were compared with the total value of assets to determine the ratio of potential damage to total inventory in the table below.

*Table 2-48: Ratio of Total Losses to Total Estimated Value of Assets for West Baton Rouge Parish
(Source: Hazus)*

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event	Total Estimated Value of Assets	Ratio of Estimated Losses to Total Value
West Baton Rouge Parish (Unincorporated)	\$16,710,283	\$1,097,609,000	1.5%
Addis	\$4,815,944	\$311,998,000	1.5%
Brusly	\$3,481,645	\$262,860,000	1.3%
Port Allen	\$6,965,980	\$502,508,000	1.4%

Based on the Hazus Hurricane Model, estimated total losses for West Baton Rouge Parish and its jurisdictions ranged from 1.3% to 1.5% of the total estimated value of all assets.

The Hazus Hurricane Model also provides a breakdown for seven primary sectors (Hazus occupancy) throughout the parish. The losses for West Baton Rouge Parish by sector are listed in the table below.

*Table 2-49: Estimated Losses in Unincorporated West Baton Rouge Parish for a 100-Year Hurricane Event
(Source: Hazus)*

West Baton Rouge Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$118,777
Commercial	\$1,143,157
Government	\$134,972
Industrial	\$390,968
Religious / Non-Profit	\$114,071
Residential	\$14,753,473
Schools	\$70,727
Total	\$16,726,147

*Table 2-50: Estimated Losses in Addis for a 100-Year Hurricane Event
(Source: Hazus)*

Addis	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$34,345
Commercial	\$330,546
Government	\$39,028
Industrial	\$113,049
Religious / Non-Profit	\$32,984
Residential	\$4,265,993
Schools	\$0
Total	\$4,815,944

Table 2-51: Estimated Losses in Brusly for a 100-Year Hurricane Event
(Source: Hazus)

Brusly	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$24,748
Commercial	\$238,181
Government	\$28,122
Industrial	\$81,460
Religious / Non-Profit	\$23,767
Residential	\$3,073,937
Schools	\$11,431
Total	\$3,481,645

Table 2-52: Estimated Losses in Port Allen for a 100-Year Hurricane Event
(Source: Hazus)

Port Allen	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$49,514
Commercial	\$476,546
Government	\$56,266
Industrial	\$162,982
Religious / Non-Profit	\$47,553
Residential	\$6,150,249
Schools	\$22,871
Total	\$6,965,980

Threat to People

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

Table 2-53: Number of People Susceptible to a 100-Year Hurricane Event in West Baton Rouge Parish
(Source: Hazus)

Number of People Exposed to Hurricane Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
West Baton Rouge Parish (Unincorporated)	12,426	12,426	100.0%
Addis	3,593	3,593	100.0%
Brusly	2,589	2,589	100.0%
Port Allen	5,180	5,180	100.0%
Total	23,788	23,788	100.0%

The Hazus hurricane model was also extrapolated to provide an overview of vulnerable populations throughout West Baton Rouge Parish. These populations are illustrated in the following tables:

Table 2-54: Vulnerable Populations in Unincorporated West Baton Rouge Parish for a 100-Year Hurricane Event

(Source: Hazus)

West Baton Rouge Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	12,426	100.0%
Persons Under 5 Years	833	6.7%
Persons Under 18 Years	2,995	24.1%
Persons 65 Years and Over	1,466	11.8%
White	7,468	60.1%
Minority	4,958	39.9%

Table 2-55: Vulnerable Populations in Addis for a 100-Year Hurricane Event

(Source: Hazus)

Addis		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	3,593	100.0%
Persons Under 5 Years	293	8.2%
Persons Under 18 Years	706	19.7%
Persons 65 Years and Over	299	8.3%
White	2,483	69.1%
Minority	1,110	30.9%

Table 2-56: Vulnerable Populations in Brusly for a 100-Year Hurricane Event

(Source: Hazus)

Brusly		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	2,589	100.0%
Persons Under 5 Years	175	6.8%
Persons Under 18 Years	495	19.1%
Persons 65 Years and Over	320	12.4%
White	1,923	74.3%
Minority	666	25.7%

Table 2-57: Vulnerable Populations in Port Allen for a 100-Year Hurricane Event
(Source: Hazus)

Port Allen		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	5,180	100.0%
Persons Under 5 Years	387	7.5%
Persons Under 18 Years	793	15.3%
Persons 65 Years and Over	737	14.2%
White	2,069	39.9%
Minority	3,111	60.1%

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality buildings that are susceptible to tropical cyclones.

Wildfires

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 0 (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.

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 table on the next page summarizes the intensity levels assigned to areas in the Southern Wildfire Assessment Portal.

Table 2-58: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale.
(Source: Southern Wildfire Assessment Portal)

Fire Intensity	
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. The worse-case scenario for West Baton Rouge Parish and the incorporated area of Addis is a level 3 and for the incorporated areas of Brusly and Port Allen a level 2.5 on the fire intensity scale. The following figure displays the areas of wildland-urban interface and intermix in West Baton Rouge Parish and its jurisdictions.

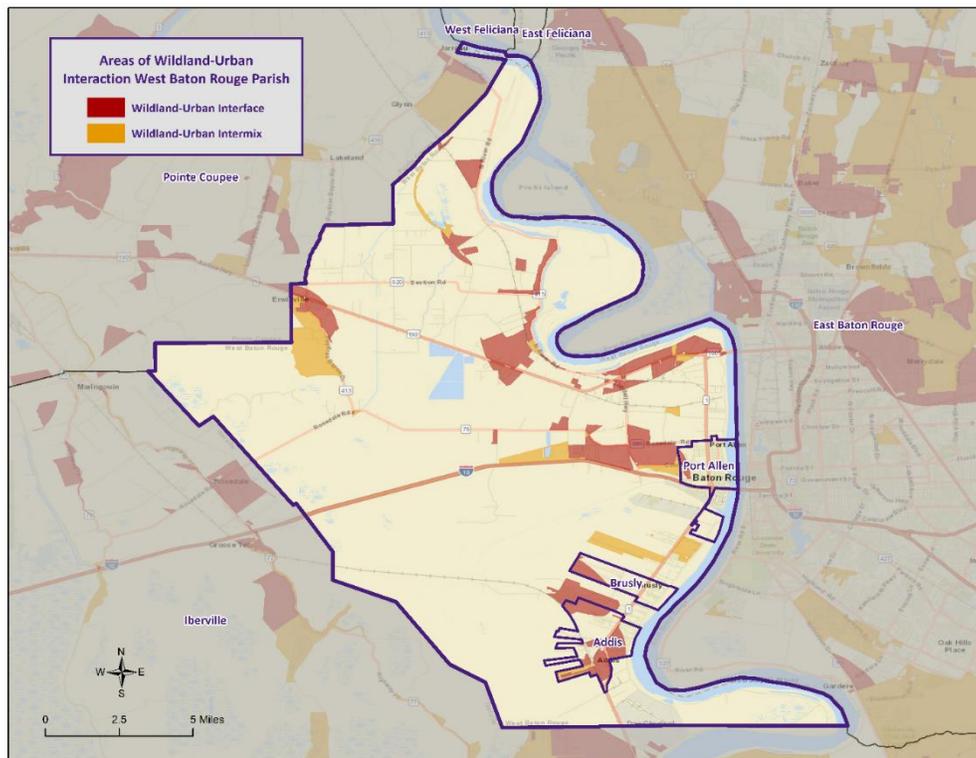


Figure 2-25: Wildland-Urban Interaction in West Baton Rouge Parish.

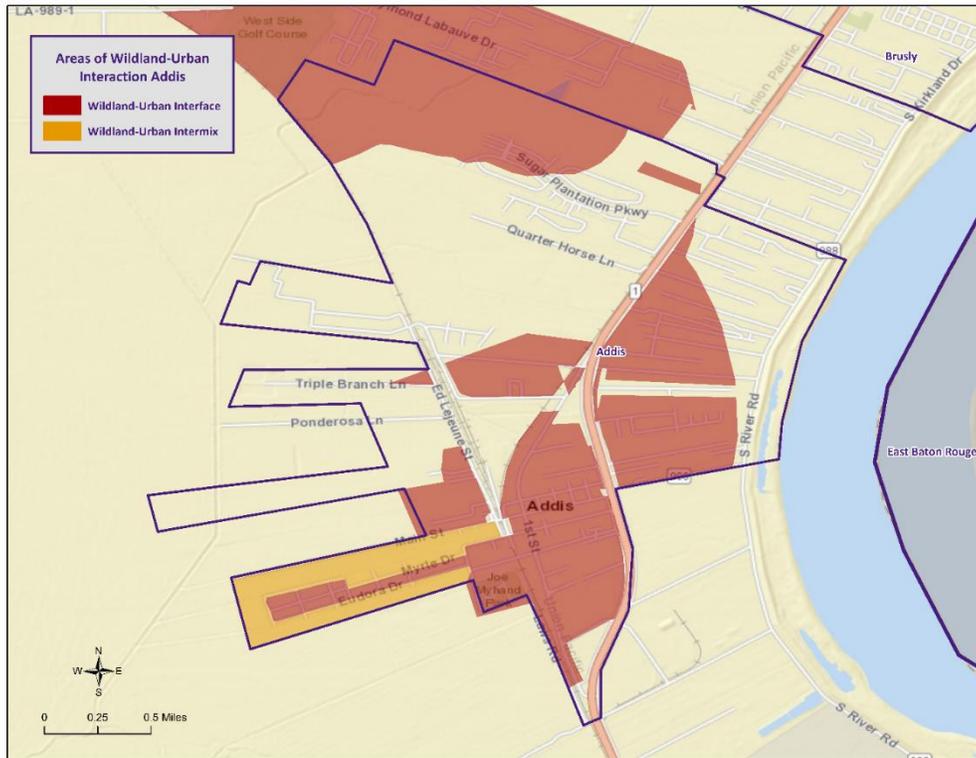


Figure 2-26: Wildland-Urban Interaction in Addis.

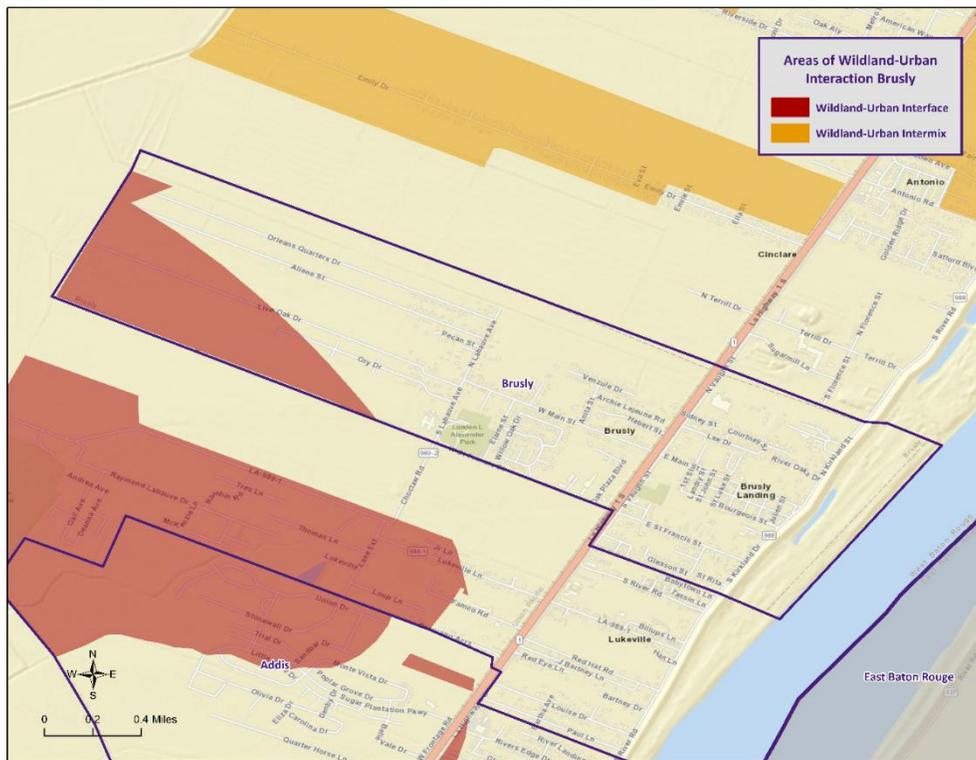


Figure 2-27: Wildland-Urban Interaction in Brusly.

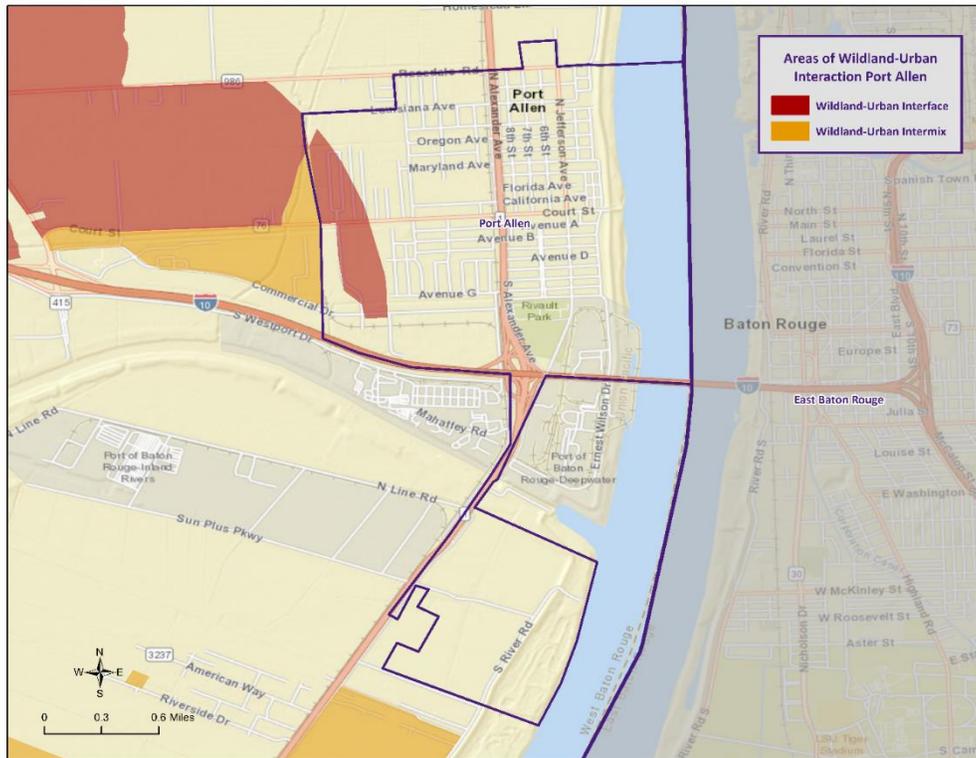


Figure 2-28: Wildland-Urban Interaction in Port Allen.

Previous Occurrences / Extents

The NCEI Storm Events report no wildfire events having occurred within the boundaries of West Baton Rouge Parish between the years 1990 and 2020.

Based on the Southern Group of State Foresters Risk Assessment Portal, the following table outlines the intensity that each jurisdictional area within West Baton Rouge Parish could potential experience due to a wildfire event.

Table 2-59: Potential Wildfire Intensity Levels for West Baton Rouge Parish.
(Source: Southern Wildfire Assessment Portal)

Fire Intensity	
West Baton Rouge (Unincorporated)	Moderate Intensity Level 3
Addis	Moderate Intensity Level 3
Brusly	Low to Moderate Intensity Level 2.5
Port Allen	Low to Moderate Intensity Level 2.5

Frequency / Probability

Based on historical records, there have been no significant wildfire events within the boundaries of West Baton Rouge Parish and the jurisdictions of Addis, Brusly, and Port Allen; therefore, the annual chance of occurrence for wildfires is estimated at less than 1%.

Estimated Potential Loses

According to the NCEI Storm Events database, there have been no wildfire events which have caused property damage, crop damage, injuries, or fatalities in West Baton Rouge Parish and its jurisdictions. In assessing over risk to population, the most vulnerable population throughout the parish consists of those residing in areas of wildland-urban interaction.

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

Table 2-60: Total Building Exposure by Wildland-Urban Interaction Areas.

(Source: Hazus)

Jurisdiction	Estimated Total Building Exposure
West Baton Rouge Parish (Unincorporated)	\$406,507,000
Addis	\$189,037,000
Brusly	\$35,542,000
Port Allen	\$3,154,000
Total	\$634,240,000

Hazus 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 is listed in the following tables. These sectors are comprised of privately owned structures/facilities, as well as locally, state, and federally owned structures/facilities.

Table 2-61: Estimated Exposure for Unincorporated West Baton Rouge Parish by Sector.

(Source: Hazus)

West Baton Rouge Parish (Unincorporated)	Estimated Total Building Exposure by Sector
Agricultural	\$251,000
Commercial	\$41,003,000
Government	\$3,910,000
Industrial	\$11,548,000
Religious / Non-Profit	\$8,739,000
Residential	\$334,920,000
Schools	\$6,136,000
Total	\$406,507,000

Table 2-62: Estimated Exposure for Addis by Sector.

(Source: Hazus)

Addis	Estimated Total Building Exposure by Sector
Agricultural	\$448,000
Commercial	\$10,530,000
Government	\$355,000
Industrial	\$3,331,000
Religious / Non-Profit	\$1,047,000
Residential	\$173,326,000
Schools	\$0
Total	\$189,037,000

Table 2-63: Estimated Exposure in Brusly by Sector.

(Source: Hazus)

Brusly	Estimated Total Building Exposure by Sector
Agricultural	\$31,000
Commercial	\$762,000
Government	\$0
Industrial	\$179,000
Religious / Non-Profit	\$0
Residential	\$34,570,000
Schools	\$0
Total	\$35,542,000

Table 2-64: Estimated Exposure in Port Allen by Sector.

(Source: Hazus)

Port Allen	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$164,000
Government	\$23,000
Industrial	\$13,000
Religious / Non-Profit	\$37,000
Residential	\$2,917,000
Schools	\$0
Total	\$3,154,000

Threat to People

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

*Table 2-65: Population Located within a Wildland-Urban Interaction Areas.
(Source: 2010 U.S. Census Data)*

Number of People Located in Wildland-Urban Interaction Areas			
Location	# in Community	# in Hazard Area	% in Hazard Area
West Baton Rouge Parish (Unincorporated)	12,426	5,250	42.3%
Addis	3,593	2,623	73.0%
Brusly	2,589	373	14.4%
Port Allen	5,180	75	1.4%
Total	23,788	8,321	35.0%

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

*Table 2-66: Population in Unincorporated West Baton Rouge Parish Located within a Wildland-Urban Interaction Area.
(Source: 2010 Census Data)*

West Baton Rouge Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	5,250	42.3%
Persons Under 5 Years	352	6.7%
Persons Under 18 Years	1,265	24.1%
Persons 65 Years and Over	620	11.8%
White	3,155	60.1%
Minority	2,095	39.9%

*Table 2-67: Population in Addis Located within a Wildland-Urban Interaction Area.
(Source: 2010 Census Data)*

Addis		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	2,623	73.0%
Persons Under 5 Years	214	8.2%
Persons Under 18 Years	515	19.7%
Persons 65 Years and Over	218	8.3%
White	1,813	69.1%
Minority	810	30.9%

Table 2-68: Population in Brusly Located within a Wildland-Urban Interaction Area.
(Source: 2010 Census Data)

Brusly		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	373	14.4%
Persons Under 5 Years	25	6.8%
Persons Under 18 Years	71	19.1%
Persons 65 Years and Over	46	12.4%
White	277	74.3%
Minority	96	25.7%

Table 2-69: Population in Port Allen Located within a Wildland-Urban Interaction Area.
(Source: 2010 Census Data)

Port Allen		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	75	1.4%
Persons Under 5 Years	6	7.5%
Persons Under 18 Years	11	15.3%
Persons 65 Years and Over	11	14.2%
White	30	39.9%
Minority	45	60.1%

Vulnerability

See *Appendix C: Critical Facilities* 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.

Winter Weather

For Louisiana and other parts of the southeastern United States, a severe winter storm occurs when humid air from the Gulf of Mexico meets a cold air mass from the north. Once the cold air mass crosses Louisiana, and the temperature drops, precipitation may fall in the form of snow or sleet. If the ground temperature is cold enough but air temperature is above freezing, rain can freeze instantly on contact with the surface, causing massive ice storms.

The winter storm events that affect the state of Louisiana are ice storms, freezes, and snow events. Of the winter storm types listed above, ice storms are the most dangerous. Ice storms occur during a precipitation event when warm air aloft exceeds 32 °F, while the surface remains below the freezing point. Ice will form on all surfaces when precipitation originating as rain or drizzle contacts physical structures. These ice storms are usually accompanied by freezing temperatures and occasionally snow.

Winter storms can be accompanied by strong winds, creating blizzard conditions with blinding, wind driven snow, severe drifting, and dangerous wind chill. These types of conditions are very rare in Louisiana, even in north Louisiana, but ice storms are more common. The climatic line between snow and rain often stalls over north Louisiana, creating ideal conditions for ice accumulation.

In a typical winter storm event, homes and buildings are damaged by ice accumulation, either directly by the weight of the ice on the roofs or by trees and/or limbs falling on buildings. While it is not very prevalent, this type of damage can occur in Louisiana, particularly in north Louisiana. Effects of winter weather more likely to occur in Louisiana, especially southern Louisiana, include extreme temperatures which can cause waterlines to freeze and sewer lines to rupture. This is especially true with elevated or mobile homes since cold air is able to access more of the building's infrastructure. Winter storms can also have a devastating effect on agriculture, particularly on crops (like citrus) that are dependent on warm weather. Long exposures to low temperatures can kill many kinds of crops, and ice storms can weigh down branches and fruit.

Winter storms are not only a direct threat to human health through conditions like frostbite and hypothermia, but they are also an indirect threat to human health due to vehicle accidents and loss of power and heat, which can be disrupted for days. However, these impacts are rarely seen in Louisiana. As people use space heaters and fireplaces to stay warm, the risk of household fires and carbon monoxide poisoning increases.

Winter storm events occur throughout Louisiana usually during the colder calendar months of December, January, and February. Severe weather events do not occur with the same frequency across all parts of Louisiana. The northern quarter of Louisiana has historically experienced the most severe winter events between 1987 and 2012. The central, and to an even greater extent the southern parts of the state, such as Ascension Parish, have experienced the fewest severe winter events. The following table shows the Sperry-Piltz Ice Accumulation Index which is utilized to predict the potential damage to overhead utility systems from freezing rain and ice storms.

Table 2-70: Sperry-Piltz Ice Accumulation Index

Ice Damage Index	Damage and Impact Descriptions
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structure. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

Location

Because a winter storm is a climatological based hazard and has the same probability of occurring in West Baton Rouge Parish as all of the adjacent parishes, the entire planning area for West Baton Rouge Parish is equally at risk for winter storms.

Previous Occurrences / Extents

The NCEI Storm Events Database reports three winter weather events occurring within the boundaries of West Baton Rouge Parish between the years 1990 and 2020. Since the last West Baton Rouge Parish HMP Update in 2016, there have been no major winter weather events to impact the parish. The worst-case scenario for West Baton Rouge Parish is a level 2 on the Sperry-Piltz ice accumulation index.

Frequency / Probability

Based on historical records, there have been three significant winter weather events within the boundaries of West Baton Rouge Parish and the jurisdictions of Addis, Brusly, and Port Allen; therefore, the annual chance of occurrence for winter weather is estimated at 10%.

Estimated Potential Losses

Since 1990, there have been three winter weather events that have resulted in property damages according to NCEI Storm Events Database. The total property damages associated with those storms have totaled approximately \$1,000. To estimate the potential losses of a winter weather event on an annual basis, the total damages recorded for winter weather was divided by the total number of years of available winter weather in the NCEI Storm Events Database (1990 - 2020). This provides an annual estimated potential loss of \$33 and \$333 per event.

The following table provides an estimate of potential property losses for West Baton Rouge Parish:

Table 2-71: Estimated Annual Losses West Baton Rouge Parish and its Jurisdictions Resulting from Winter Weather.

Estimated Annual Potential Losses from Winter Weather			
Unincorporated Area	Addis	Brusly	Port Allen
\$17	\$5	\$4	\$7

There have been no reported injuries or fatalities as a result of winter weather over the 30-year record.

Vulnerability

See *Appendix C: Critical Facilities* for parish and municipality building exposure to winter weather.

3. Capability Assessment

This section summarizes the results of efforts by each jurisdiction and other agency 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 law since the last plan update, in order to suggest a mitigation strategy.

Through this assessment, West Baton Rouge Government and the incorporated jurisdictions are able to identify strengths that could be used to reduce losses and reduce risk throughout the communities. 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

These capabilities are unique to the parish and jurisdictions, 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 the West Baton Rouge Parish planning area to propose ways to continually 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 include the following:

Table 3-1: Planning and Regulatory Capabilities

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



All jurisdictions within the West Baton Rouge Parish planning area 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 there are no existing plans, there will be a concerted effort 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

The West Baton Rouge Government provides oversight for building permits and codes, land use planning, and all parish ordinances.

As of the 2021 update, West Baton Rouge Government and the incorporated communities ensure that all adopted building codes are enforced and in compliance relating to the construction of any structure within the boundaries of the parish. Building permits are required prior to beginning any type of construction or renovation projects, installation of electrical wiring, plumbing or gas piping, moving manufactured/modular or portable buildings, and reroofing or demolitions.

The West Baton Rouge Government is also responsible for enforcing the parish ordinances related to health and safety, property maintenance standards, and condemnation of unsafe structures.

The West Baton Rouge Government meets regularly to consider any proposed ordinance changes, and to take final actions on proposed changes.

While local capabilities for mitigation can vary from community to community, the jurisdictions within the West Baton Rouge Parish planning area as a whole have 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

The jurisdictions within the West Baton Rouge Parish planning area have 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 table on the following page shows examples of resources in place.

Table 3-2: Administration and Technical Capabilities

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.					
	West Baton Rouge Unincorporated	Town of Addis	Town of Brusly	City of Port Allen	Comments
Administration	Yes / No				
Planning Commission	Yes	Yes	Yes	Yes	
Mitigation Planning Committee	Yes	Yes	Yes	Yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	Yes	Yes	Yes	
Staff	Yes / No				
Chief Building Official	Yes	Yes	Yes	Yes	
Floodplain Administrator	Yes	Yes	Yes	Yes	
Emergency Manager	No	Yes	Yes	Yes	
Community Planner	Yes	Yes	No	No	
Civil Engineer	Yes	Yes	Yes	Yes	
GIS Coordinator	Yes	Yes	Yes	Yes	
Grant Writer	No	Yes	Yes	No	
Other	No	No	No	No	
Technical	Yes / No				
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Yes	Yes	Yes	
Hazard Data & Information	No	Yes	No	Yes	
Grant Writing	No	Yes	No	No	
Hazus Analysis	No	No	No	Yes	
Other	No	No	No	No	

Financial capabilities are the resources that West Baton Rouge Government 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 parish may vary from little to no cost actions, such as outreach efforts, or substantial action costs such acquisition of flood prone properties.

The following financial resources are available to fund mitigation actions in the West Baton Rouge Parish planning area:

Table 3-3: Financial Capabilities

Financial					
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.					
	West Baton Rouge Unincorporated	Town of Addis	Town of Brusly	City of Port Allen	Comments
Funding Resource	Yes / No				
Capital Improvements project funding	Yes	Yes	Yes	Yes	
Authority to levy taxes for specific purposes	Yes	Yes	No	Yes	
Fees for water, sewer, gas, or electric services	Yes	Yes	Yes	Yes	
Impact fees for new development	Yes	Yes	Yes	Yes	
Stormwater Utility Fee	No	No	Yes	No	
Community Development Block Grant (CDBG)	Yes	Yes	No	Yes	
Other Funding Programs	No	Yes	Yes	Yes	

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 communities and the parish as a whole to maximize opportunities for implementation of activities through greater acceptance and consensus of the community.

The jurisdictions within the West Baton Rouge Parish planning area 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: Education and Outreach Capabilities

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

As reflected with the above existing regulatory mechanisms, programs and resources within the parish, the jurisdictions within the West Baton Rouge Parish planning area remain committed to expanding and improving on the existing capabilities within the parish. Communities will work together along with West Baton Rouge Parish Government 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 parish, will enhance and expand overall risk reduction for the entirety of West Baton Rouge Parish.

Flood Insurance and Community Rating System

Participation in the CRS strengthens local capabilities by lowering flood insurance premiums for jurisdictions that exceed NFIP minimum requirements. As noted in the CRS Eligible Communities List effective April 1, 2021, West Baton Rouge Parish is rated as a Class 8 community. The Town of Addis, Town of Brusly, and City of Port Allen do not participate in the CRS program.

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.

Figure 3-1: CRS Discounts by Class
 (Source: FEMA)

As of April 2021, 352 communities in the State of Louisiana participate in the Federal Emergency Management Agency's National Flood Insurance Program (NFIP). Of these communities, 46 (or 13%) participate in the Community Rating System (CRS). Jefferson Parish leads the state with a rating of Class 5, followed by three cities with a rating of Class 6: the Cities of Gretna and Kenner in Jefferson Parish and the City of Mandeville in St.

Tammany Parish. Of the top fifty 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.

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. Once the parish has obtained a CRS rating and is a participant, 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 2011¹, the National Flood Insurance Program (NFIP) completed a comprehensive review of the Community Rating System (CRS) that resulted 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 changes helped to 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

¹ <https://www.fema.gov/national-flood-insurance-program-community-rating-system>

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.

Since the revision of the 2013 Coordinator's Manual, FEMA released the 2017 CRS Coordinator's Manual which continued the evolution of the CRS program and its mission to reward communities that prioritize mindful floodplain regulations. As with the 2013 manual, the changes made in the 2017 manual impact each CRS community differently. Some communities see an increase in the points they receive since points for certain activities have increased (e.g., Activity 420 Open Space Preservation). Other communities receive fewer points for certain activities (e.g., Activity 320 Map Information Service). It is likely that some communities with marginal CRS Class 9 programs have to identify new CRS credits in order to remain in the CRS class. Most notably, as it relates to this hazard mitigation plan, more credit was made available for Activity 410 Floodplain Mapping.

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 2017 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 the 2017 manual will impact their community and when.

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
- 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.

NFIP Worksheets

Parish NFIP worksheets can be found in *Appendix E: State Required Worksheets*.

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4. Mitigation Strategy

Introduction

The Hazard Mitigation Strategy for West Baton Rouge Parish and its incorporated communities have a common guiding principle and is the demonstration of the parish's 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.

Officials from all jurisdictions within the planning area confirmed the goals, objectives, actions and projects over the period of the hazard mitigation plan update process. The mitigation actions and projects in this 2021 HMP update are a product of analysis and review of the West Baton Rouge Parish Hazard Mitigation Plan Steering Committee under the coordination of the West Baton Rouge Parish Office of Homeland Security and Emergency Preparedness. The committee was presented a list of projects and actions, new and from the 2016 plan, for review from March 2021 – September 2021.

An online public opinion survey of West Baton Rouge Parish residents was conducted between March and October 2021. The survey was designed to capture public perceptions and opinions regarding natural hazards in the West Baton Rouge Parish planning area. 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.

This activity was created in an effort to confirm that the goals and action items developed by the Pointe Coupee Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. However, because there were no responses to the survey, this public feedback could not be incorporated into the plan. The full West Baton Rouge Parish survey can be found at the following link:

<https://www.surveymonkey.com/results/SM-WTJ9XV229/>

Goals

The goals represent the guidelines that 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 West Baton Rouge 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, West Baton Rouge Parish 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.

The current goals of the West Baton Rouge Parish Hazard Mitigation Plan Update Steering Committee represent long-term commitments by the parish. After assessing these goals, the committee decided that the current remain valid.

The goals are as follows:

1. Minimize human, economic, and environmental disruption from natural hazards
2. Protect life and property from the impacts of natural disasters
3. Enhance preparedness and emergency response to natural disasters
4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas

The Mitigation Action Plan focuses on actions to be taken by West Baton Rouge Parish and its communities. All of the activities in the Mitigation Action Plan will be focused on helping the parish and its communities 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.

After the adoption of the 2016 West Baton Rouge Parish Hazard Mitigation Plan, large portions of South Louisiana were impacted by a flooding event whose ramifications are still being felt by the population. Because of this event, West Baton Rouge Parish and its jurisdictions reprioritized their efforts and became much more aggressive in seeking funding for flood mitigation efforts, particularly related to drainage. Pressure was placed on political leaders throughout the parish and jurisdictions to ensure that money and resources were sought and made available to mitigate against such events in the future.

The Hazard Mitigation Plan Steering Committee 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.

2021 Mitigation Actions and Update on Previous Plan Actions

The West Baton Rouge Parish Hazard Mitigation Plan Steering Committee identified new actions that would reduce and/or prevent future damage within the West Baton Rouge Parish planning area. In that effort, the committee focused on a comprehensive range of specific mitigation actions. These actions were identified in thorough fashion by the consultant team and the committee by way of frequent and open communications and meetings held throughout the planning process. The addition of these new actions, coupled with any ongoing and/or carried over projects from their previous update, provide West Baton Rouge Government with a solid mitigation strategy through which risk and losses will be reduced throughout the parish and its communities.

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.

Status updates for actions included in the previous plan can be found on the following pages. Additionally, new mitigation actions agreed upon by the parish and its jurisdictions are included.

West Baton Rouge Parish Mitigation Actions

Previous Action Update

Jurisdiction-Specific Action	Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
WBR1: Drainage Improvement Projects	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems. Projects may include Lake Clause Drainage Project; Big Stumpy Drainage Project; Grand Bayou Canal (Section Road to Rosehill Road); local drainage South of Byrd Heights; Riverview Canal (Hwy 190 South); South Line Canal (LA Hwy 1 to Parish Canal); additional drainage improvement projects	FEMA; local	2-4 years	WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 5, 6	Not Started/ Carried Over
WBR2: Retrofitting Projects	Retrofit essential facilities and governmental 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. Projects may include Erwinville Community Center, EOC/9-1-1 Center, Addis VFW and additional retrofitting projects	FEMA; local	1-5 years	WBR Parish OHSEP	Thunderstorms, Tornadoes, Tropical Cyclones	1, 2, 5	Not Started/ Carried Over
WBR3: Early Warning System	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter	TBD	1-2 years	WBR Parish OHSEP	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires	1, 2, 3, 4	Not Started/ Carried Over
WBR4: Generator Installation Projects	Installation of backup generator power for governmental buildings, critical facilities, and school campuses.	TBD	1-5 years	WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 3, 5	Not Started/ Carried Over
WBR5: Construction of Safe Rooms	Construction of safe rooms for essential facilities, governmental buildings	TBD	1-5 years	WBR Parish OHSEP	Thunderstorms, Tornadoes, Tropical Cyclones	1, 2	Not Started/ Carried Over

WBR6: Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.	FEMA; local	1-5 years	WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 6	Not Started/Carried Over
WBR7: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter storm 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.	FEMA; local	1-5 years	WBR Parish OHSEP	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 2, 3, 4	Not Started/Carried Over
WBR8: Lightning Protection Projects	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.	FEMA; local	1-2 years	WBR Parish OHSEP	Thunderstorms	1, 2, 5	Not Started/Carried Over
WBR9: Wildfire Mitigation Plan	Develop and implement a regional interagency wildfire mitigation plan	FEMA, Local	1-5 years	WBR Parish OHSEP	Wildfires	1, 2, 3, 4	Not Started/Carried Over
WBR10: Drought Ordinances	Adopt ordinance requiring water-saving measures in time of drought.	FEMA, Local	1-5 years	WBR Parish OHSEP	Drought	1	Not Started/Carried Over
WBR11: Parish Canal-South End-Drainage Project	Channelization and culverts. Clear, de-sag and improve the south end of the major drainage Parish Canal south of 1-10 and generally parallel to LA Hwy 1	WBR Parish	1-5 years	WBR Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	Ongoing
WBR12: Diversion Canal Drainage Project	Project involves connecting a Parish canal south of the Interstate 10 frontage road and parallel to the Intracoastal Waterway to the Intracoastal Waterway	WBR Parish	1-5 years	WBR Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	Ongoing

<p>WBR13: Ton Canal Drainage Project</p>	<p>Widen an existing Parish drainage canal in the vicinity of Brusly High School which runs perpendicular to the La Hwy 1 and the Railroad. The State DOTD is improving the drainage under La Hwy 1 in this area.</p>	<p>WBR Parish</p>	<p>1-5 years</p>	<p>WBR Parish OHSEP</p>	<p>Flooding, Tropical Cyclones</p>	<p>1,3,4</p>	<p>Ongoing</p>
<p>WBR14: Repetitive Loss Protection</p>	<p>Perform drainage improvements to alleviate flooding of these properties. Berms will be installed at the 5277 Choctaw Street Apartments. 1035 North 121h Street will have enlarged storm drains, 3100 Phillips Way will have enlarged storm drains and 4344 Dunleith will benefit from a current project to enlarge drainage under Hwy 1 and the railroad.</p>	<p>WBR Parish</p>	<p>1-5 years</p>	<p>WBR Parish OHSEP</p>	<p>Flooding, Tropical Cyclones</p>	<p>1,3,4</p>	<p>Ongoing</p>



New Mitigation Actions

IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 1	Drainage Improvement Projects
LEAD AGENCY	West Baton Rouge Parish Public Works
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	2-4 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Projects may include Lake Clause Drainage Project; Big Stumpy Drainage Project; Grand Bayou Canal (Section Road to Rosehill Road); local drainage South of Byrd Heights; Riverview Canal (Hwy 190 South); South Line Canal (LA Hwy 1 to Parish Canal); additional drainage improvement projects
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Performing drainage projects will reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 2	Retrofitting Projects
LEAD AGENCY	West Baton Rouge Parish Public Works
SUPPORTING AGENCIES	West Baton Rouge Parish Government; WBR OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Retrofit essential facilities and governmental 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. Projects may include Erwinville Community Center, EOC/9-1-1 Center, Addis VFW and additional retrofitting projects
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Benefits include the providing of safety during events to continue essential operations. Creates a more disaster resistant structure, which will prevent interruption of services in times of emergencies.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms, Tornadoes, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 3	Early Warning System
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-2 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	High
Action Description	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of additional early warning systems and sirens will help to notify residents of West Baton Rouge Parish of impending hazards in a timely fashion, allowing residents sufficient time to prepare for the event
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 4	Generator Installation Project
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 3. Enhance preparedness and emergency response to natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Installation of backup generator power for governmental buildings, critical facilities, and school campuses.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of generators at critical infrastructure will minimize downtime and allow for the continuity of operations during and after an event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 5	Construction of Safe Rooms
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HMGP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters
PRIORITY	High
Action Description	Construction of safe rooms for essential facilities, governmental buildings
Type of Mitigation Action	Structural and infrastructure Projects
How Action Aligns with Risk Reduction	Allows for continued operations of essential personal to actively respond during a natural hazard event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 6	Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Mitigating repetitive and severe repetitive loss properties throughout the parish will minimize losses and reduce the burden on the NFIP
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 7	Education and Outreach
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter storm 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.
Type of Mitigation Action	Education and Awareness Programs
How Action Aligns with Risk Reduction	Providing educational and outreach opportunities to residents of West Baton Rouge Parish will help them to prepare for events in an appropriate manner, which will subsequently reduce impacts on life and property.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITGATION ACTION 8	Lightning Protection Projects
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-2 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	Low
Action Description	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of lightning rods will help to reduce damage to facilities and their contents in the event of the thunderstorms and/or lightning strike
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITIGATION ACTION 9	Wildfire Mitigation Plan
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	Parish Fire Departments
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Develop and implement a regional interagency wildfire mitigation plan
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Development and implementation of a wildfire mitigation plan will help to streamline response and recovery efforts in the event of a wildfire. It will also help to outline mitigation techniques that will reduce losses to life and property in the impacted area
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS WEST BATON ROUGE PARISH	
DESCRIPTION	
WBR MITGATION ACTION 10	Drought Ordinance
LEAD AGENCY	WBR Parish OHSEP
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; locals
ASSOCIATED GOALS	1. Minimize human, economic, and environmental disruption from natural hazards
PRIORITY	Low
Action Description	Adopt ordinance requiring water-saving measures in time of drought.
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Decrease the risk of damage from drought on agriculture, critical facilities and vulnerable populations.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought

Additional Supporting Information:



Town of Addis Mitigation Actions

Previous Action Update

Jurisdiction-Specific Action	Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
A1: Drainage Improvement Projects	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.	FEMA; local	2-4 years	Town of Addis, WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 5, 6	Not Started/ Carried Over
A2: Retrofitting Projects	Retrofit essential facilities and governmental 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.	FEMA; local	1-5 years	Town of Addis, WBR Parish OHSEP	Thunderstorms, Tornadoes, Tropical Cyclones	1, 2, 5	Not Started/ Carried Over
A3: Generator Installation Projects	Installation of backup generator power for governmental buildings, critical facilities, school campuses.	TBD	1-2 years	Town of Addis, WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 3, 5	Not Started/ Carried Over
A4: Early Warning System	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter	TBD	1-5 years	Town of Addis, WBR Parish OHSEP	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires	1, 2, 3, 4	Not Started/ Carried Over
A5: Construction of Safe Rooms	Construction of safe rooms for essential facilities, governmental buildings	TBD	1-5 years	Town of Addis, WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather	1, 2	Not Started/ Carried Over
A6: Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.	FEMA; local	1-5 years	Town of Addis, WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 6	Not Started/ Carried Over

A7: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter storm 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.	FEMA; local	1-5 years	Town of Addis, WBR Parish OHSEP	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 2, 3, 4	Not Started/ Carried Over
A8: Lightning Protection Projects	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.	FEMA; local	1-2 years	Town of Addis, WBR Parish OHSEP	Thunderstorms	1, 2, 5	Not Started/ Carried Over
A9: Wildfire Mitigation Plan	Develop and implement a regional interagency wildfire mitigation plan	FEMA, Local	1-5 years	Town of Addis, WBR Parish OHSEP	Wildfires	1, 2, 3, 4	Not Started/ Carried Over
A10: Drought Ordinances	Adopt ordinance requiring water-saving measures in time of drought.	FEMA, Local	1-5 years	WBR Parish OHSEP	Drought	1	Not Started/ Carried Over

New Mitigation Actions

IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 1	Drainage Improvement Projects
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	2-4 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Performing drainage projects will reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 2	Retrofitting Projects
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Retrofit essential facilities and governmental 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.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Making government buildings' structurally sound will result in stronger buildings and less damage done during storms. Government workers will be able to report to work and assist citizens to safety during and after storms.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms, Tornadoes, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 3	Early Warning System
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	High
Action Description	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Warning systems that cover a wider area can alert more citizens sooner allowing more time to evacuate during an emergency, potentially saving lives.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 4	Generator Installation Projects
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 3. Enhance preparedness and emergency response to natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Installation of backup generator power for governmental buildings, critical facilities, school campuses.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of generators at critical infrastructure will minimize downtime and allow for the continuity of operations during and after an event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 5	Construction of Safe Rooms
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HMGP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters
PRIORITY	High
Action Description	Construction of safe rooms for essential facilities, governmental buildings
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Allows for continued operations of essential personal to actively respond during a natural hazard event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 6	Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Mitigating repetitive and severe repetitive loss properties throughout the parish will minimize losses and reduce the burden on the NFIP
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 7	Education and Outreach
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter weather 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.
Type of Mitigation Action	Education and Awareness Programs
How Action Aligns with Risk Reduction	Providing educational and outreach opportunities to residents of West Baton Rouge Parish will help them to prepare for events in an appropriate manner, which will subsequently reduce impacts on life and property.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 8	Lightning Protection Projects
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR Parish Public Works
TIMELINE	1-2 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	Low
Action Description	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of lightning rods will help to reduce damage to facilities and their contents in the event of the thunderstorms and/or lightning strike
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 9	Wildfire Mitigation Plan
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	WBR OHSEP; Parish Fire Departments
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Develop and implement a regional interagency wildfire mitigation plan
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Development and implementation of a wildfire mitigation plan will help to streamline response and recovery efforts in the event of a wildfire. It will also help to outline mitigation techniques that will reduce losses to life and property in the impacted area
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF ADDIS	
DESCRIPTION	
ADDIS MITIGATION ACTION 10	Drought Ordinance
LEAD AGENCY	Town of Addis Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; locals
ASSOCIATED GOALS	1. Minimize human, economic, and environmental disruption from natural hazards
PRIORITY	Low
Action Description	Adopt ordinance requiring water-saving measures in time of drought.
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Decrease the risk of damage from drought on agriculture, critical facilities and vulnerable populations.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought

Additional Supporting Information:



Town of Brusly Mitigation Actions
Previous Action Update

Jurisdiction-Specific Action	Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
B1: Drainage Improvement Projects	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.	FEMA; local	2-4 years	Town of Brusly, WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 5, 6	Not Started/ Carried Over
B2: Retrofitting Projects	Retrofit essential facilities and governmental 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.	FEMA; local	1-5 years	Town of Brusly, WBR Parish OHSEP	Thunderstorms, Tornadoes, Tropical Cyclones	1, 2, 5	Not Started/ Carried Over
B3: Generator Installation Projects	Installation of backup generator power for governmental buildings, critical facilities, school campuses.	TBD	1-2 years	Town of Brusly, WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 3, 5	Not Started/ Carried Over
B4: Early Warning System	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter	TBD	1-5 years	Town of Brusly, WBR Parish OHSEP	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires	1, 2, 3, 4	Not Started/ Carried Over
B5: Construction of Safe Rooms	Construction of safe rooms for essential facilities, governmental buildings	TBD	1-5 years	Town of Brusly, WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather	1, 2	Not Started/ Carried Over
B6: Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.	FEMA; local	1-5 years	Town of Brusly, WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 6	Not Started/ Carried Over

B7: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter storm 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.	FEMA; local	1-5 years	Town of Brusly, WBR Parish OHSEP	Drought, Flooding, Sinkholes Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 2, 3, 4	Not Started/ Carried Over
B8: Lightning Protection Projects	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.	FEMA; local	1-2 years	Town of Brusly, WBR Parish OHSEP	Thunderstorms	1, 2, 5	Not Started/ Carried Over
B9: Wildfire Mitigation Plan	Develop and implement a regional interagency wildfire mitigation plan	FEMA, Local	1-5 years	Town of Brusly, WBR Parish OHSEP	Wildfires	1, 2, 3, 4	Not Started/ Carried Over
B10: Drought Ordinances	Adopt ordinance requiring water-saving measures in time of drought.	FEMA, Local	1-5 years	WBR Parish OHSEP	Drought	1	Not Started/ Carried Over

New Mitigation Actions

IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 1	Drainage Improvement Projects
LEAD AGENCY	Town of Brusly Mayor’s Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	2-4 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Performing drainage projects will reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 2	Retrofitting Projects
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Retrofit essential facilities and governmental 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.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Making government buildings' structurally sound will result in stronger buildings and less damage done during storms. Government workers will be able to report to work and assist citizens to safety during and after storms.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms, Tornadoes, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 3	Early Warning System
LEAD AGENCY	Town of Brusly Mayor’s Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	High
Action Description	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Brusly. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Warning systems that cover a wider area can alert more citizens sooner allowing more time to evacuate during an emergency, potentially saving lives.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 4	Generator Installation Projects
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 3. Enhance preparedness and emergency response to natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Installation of backup generator power for governmental buildings, critical facilities, school campuses.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of generators at critical infrastructure will minimize downtime and allow for the continuity of operations during and after an event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 5	Construction of Safe Rooms
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HMGP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters
PRIORITY	High
Action Description	Construction of safe rooms for essential facilities, governmental buildings
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Allows for continued operations of essential personal to actively respond during a natural hazard event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 6	Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Mitigating repetitive and severe repetitive loss properties throughout the parish will minimize losses and reduce the burden on the NFIP
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 7	Education and Outreach
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter weather 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.
Type of Mitigation Action	Education and Awareness Programs
How Action Aligns with Risk Reduction	Providing educational and outreach opportunities to residents of West Baton Rouge Parish will help them to prepare for events in an appropriate manner, which will subsequently reduce impacts on life and property.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 8	Lightning Protection Projects
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR Parish Public Works
TIMELINE	1-2 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	Low
Action Description	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of lightning rods will help to reduce damage to facilities and their contents in the event of the thunderstorms and/or lightning strike
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 9	Wildfire Mitigation Plan
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	WBR OHSEP; Parish Fire Departments
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Develop and implement a regional interagency wildfire mitigation plan
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Development and implementation of a wildfire mitigation plan will help to streamline response and recovery efforts in the event of a wildfire. It will also help to outline mitigation techniques that will reduce losses to life and property in the impacted area
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS TOWN OF BRUSLY	
DESCRIPTION	
BRUSLY MITIGATION ACTION 10	Drought Ordinance
LEAD AGENCY	Town of Brusly Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; locals
ASSOCIATED GOALS	1. Minimize human, economic, and environmental disruption from natural hazards
PRIORITY	Low
Action Description	Adopt ordinance requiring water-saving measures in time of drought.
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Decrease the risk of damage from drought on agriculture, critical facilities and vulnerable populations.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought

Additional Supporting Information:



City of Port Allen Mitigation Actions
Previous Action Update

Jurisdiction-Specific Action	Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
PA1: Drainage Improvement Projects	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems. Projects may include Lake Riverside Canal - Port Allen; Oaks Avenue; Avenue G; Florida Street; additional drainage improvement projects	FEMA; local	2-4 years	City of Port Allen, WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 5, 6	Not Started/ Carried Over
PA2: Retrofitting Projects	Retrofit essential facilities and governmental 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. Projects may include Port Allen Community Center, Port Allen Fire Station #1, and additional retrofitting projects	FEMA; local	1-5 years	City of Port Allen; WBR Parish OHSEP	Thunderstorms, Tornadoes, Tropical Cyclones	1, 2, 5	Not Started/ Carried Over
PA3: Generator Installation Projects	Installation of backup generator power for governmental buildings, critical facilities, school campuses. Projects may include Port Allen High School, Port Allen Fire Department, Port Allen Lift Stations, and Port Allen Wastewater Treatment Plant	TBD	1-2 years	City of Port Allen; WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 3, 5	Not Started/ Carried Over
PA4: Early Warning System	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Addis. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter	TBD	1-5 years	City of Port Allen; WBR Parish OHSEP	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires	1, 2, 3, 4	Not Started/ Carried Over
PA5: Construction of Safe Rooms	Construction of safe rooms for essential facilities, governmental buildings	TBD	1-5 years	WBR Parish OHSEP	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather	1, 2	Not Started/ Carried Over

PA6: Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.	FEMA; local	1-5 years	WBR Parish OHSEP	Flooding, Tropical Cyclones	1, 2, 6	Not Started/ Carried Over
PA7: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter storm 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.	FEMA; local	1-5 years	WBR Parish OHSEP	Drought, Flooding, Sinkholes Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather	1, 2, 3, 4	Not Started/ Carried Over
PA8: Lightning Protection Projects	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.	FEMA; local	1-2 years	WBR Parish OHSEP	Thunderstorms	1, 2, 5	Not Started/ Carried Over
PA9: Wildfire Mitigation Plan	Develop and implement a regional interagency wildfire mitigation plan	FEMA, Local	1-5 years	WBR Parish OHSEP	Wildfires	1, 2, 3, 4	Not Started/ Carried Over
PA10: Drought Ordinances	Adopt ordinance requiring water-saving measures in time of drought.	FEMA, Local	1-5 years	WBR Parish OHSEP	Drought	1	Not Started/ Carried Over
PA11: Repetitive Loss Protection	Perform drainage improvements to alleviate flooding of these properties. Berms will be installed at the 5277 Choctaw Street Apartments. 1035 North 121h Street will have enlarged storm drains, 3100 Phillips Way will have enlarged storm drains and 4344 Dunleith will benefit from a current project to enlarge drainage under Hwy 1 and the railroad	FEMA, Local	1-5 years	WBR Parish OHSEP	Flooding, Tropical Cyclone	1, 2, 5, 6	Ongoing

New Mitigation Actions

IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 1	Drainage Improvement Projects
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	2-4 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Various drainage projects to reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems. Projects may include Lake Riverside Canal - Port Allen; Oaks Avenue; Avenue G; Florida Street; additional drainage improvement projects
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Performing drainage projects will reduce flood damage and costs of damage, overtopping of roads with drain water, as well as provide relief for flooding problems.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 2	Retrofitting Projects
LEAD AGENCY	City of Port Allen Mayor’s Office
SUPPORTING AGENCIES	West Baton Rouge Parish Public Works
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Retrofit essential facilities and governmental 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. Projects may include Port Allen Community Center, Port Allen Fire Station #1, and additional retrofitting projects
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Making government buildings’ structurally sound will result in stronger buildings and less damage done during storms. Government workers will be able to report to work and assist citizens to safety during and after storms.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms, Tornadoes, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 3	Early Warning System
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	High
Action Description	Currently, the parish has a chemical warning system which consists of 2 sirens. Both sirens are located at Port Allen. The proposed warning system will cover the entire Parish and its municipalities hence ensuring that residents can be quickly alerted of hazards and will be able to seek shelter
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Warning systems that cover a wider area can alert more citizens sooner allowing more time to evacuate during an emergency, potentially saving lives.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 4	Generator Installation Projects
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HGMP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 3. Enhance preparedness and emergency response to natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	High
Action Description	Installation of backup generator power for governmental buildings, critical facilities, school campuses. Projects may include Port Allen High School, Port Allen Fire Department, Port Allen Lift Stations, and Port Allen Wastewater Treatment Plant
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of generators at critical infrastructure will minimize downtime and allow for the continuity of operations during and after an event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 5	Construction of Safe Rooms
LEAD AGENCY	City of Port Allen Mayor’s Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	HMGP, Local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters
PRIORITY	High
Action Description	Construction of safe rooms for essential facilities, governmental buildings
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Allows for continued operations of essential personal to actively respond during a natural hazard event.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Thunderstorms, Tornadoes, Tropical Cyclones, Winter Weather

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 6	Flood Mitigation of Severe Repetitive Loss and Repetitive Loss Properties and Other Hazard Prone Structures
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 6. Promote the preservation or restoration of natural areas or natural functions of floodplain and watershed areas
PRIORITY	High
Action Description	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss and severe repetitive loss or other hazard prone properties.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Mitigating repetitive and severe repetitive loss properties throughout the parish will minimize losses and reduce the burden on the NFIP
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Flooding, Tropical Cyclones

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 7	Education and Outreach
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	WBR Parish OHSEP
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Drought, Flooding, Tropical Cyclone, tornadoes, wildfire, sinkholes, thunderstorm (lightning, high wind, hail), and winter weather 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. Also promoting the use of NOAA "All Hazards" radios for early warning and post event information.
Type of Mitigation Action	Education and Awareness Programs
How Action Aligns with Risk Reduction	Providing educational and outreach opportunities to residents of West Baton Rouge Parish will help them to prepare for events in an appropriate manner, which will subsequently reduce impacts on life and property.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought, Flooding, Sinkholes, Thunderstorms, Tornadoes, Tropical Cyclones, Wildfires, Winter Weather

Additional Supporting Information:

IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 8	Lightning Protection Projects
LEAD AGENCY	City of Port Allen Mayor’s Office
SUPPORTING AGENCIES	WBR Parish Public Works
TIMELINE	1-2 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 5. Improve the disaster resistance of vulnerable structures and critical facilities through the development and implementation of cost-effective, technically feasible, and environmentally sound location mitigation actions
PRIORITY	Low
Action Description	Installation of lightning rods and surge protectors to facilities. Upgrade critical facilities database and communications systems including data back-up and surge protection to mitigate losses due to lightning strikes and electrical blackouts.
Type of Mitigation Action	Structural and Infrastructure Projects
How Action Aligns with Risk Reduction	Installation of lightning rods will help to reduce damage to facilities and their contents in the event of the thunderstorms and/or lightning strike
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Thunderstorms

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 9	Wildfire Mitigation Plan
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	WBR OHSEP; Parish Fire Departments
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; local
ASSOCIATED GOALS	<ol style="list-style-type: none"> 1. Minimize human, economic, and environmental disruption from natural hazards 2. Protect life and property from the impacts of natural disasters 3. Enhance preparedness and emergency response to natural disasters 4. Enhance public awareness regarding understanding of risks associated with hazards and the need for hazard mitigation
PRIORITY	Low
Action Description	Develop and implement a regional interagency wildfire mitigation plan
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Development and implementation of a wildfire mitigation plan will help to streamline response and recovery efforts in the event of a wildfire. It will also help to outline mitigation techniques that will reduce losses to life and property in the impacted area
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Wildfires

Additional Supporting Information:



IMPLEMENTATION KEY FOR POTENTIAL HAZARD MITIGATION ACTIONS CITY OF PORT ALLEN	
DESCRIPTION	
PORT ALLEN MITIGATION ACTION 10	Drought Ordinance
LEAD AGENCY	City of Port Allen Mayor's Office
SUPPORTING AGENCIES	West Baton Rouge Parish Government
TIMELINE	1-5 years
COST ESTIMATE	TBD
POSSIBLE FUNDING SOURCE(S)	FEMA; locals
ASSOCIATED GOALS	1. Minimize human, economic, and environmental disruption from natural hazards
PRIORITY	Low
Action Description	Adopt ordinance requiring water-saving measures in time of drought.
Type of Mitigation Action	Local Plans and Regulations
How Action Aligns with Risk Reduction	Decrease the risk of damage from drought on agriculture, critical facilities and vulnerable populations.
Current Status of Action	New (Carried Over/Not Started from 2016 Update)
Hazard Addressed	Drought

Additional Supporting Information:



Action Prioritization

During the prioritization process, 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. Therefore, many projects were prioritized with these factors in mind. In addition, prioritization of the mitigation actions was performed based on the following economic criteria: i) whether the action can be performed with the existing parish resources; ii) whether the action requires additional funding from external sources; and iii) relative costs of the mitigation actions.

In all cases, the committee 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 prioritized the possible activities that could be pursued. Steering committee members consulted appropriate agencies in order to assist with the prioritizations. The results were items that address the major hazards, are appropriate for those hazards, are cost-effective, and are affordable. The steering committee met internally for mitigation action meetings to review and approve mitigation actions for West Baton Rouge Parish and the incorporated jurisdictions. On-going actions, as well as actions which will provide maximum benefit that can be undertaken by existing parish staff with or without additional external funding were given high priority. The actions with medium benefit and relatively 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 and would result in limited benefit to the community were given low priority.

West Baton Rouge Parish and the incorporated jurisdictions will implement and administer the identified actions based off 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. This plan is intended to offer priorities based on an examination of hazards.

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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 West Baton Rouge Parish Hazard Mitigation Plan Update

The West Baton Rouge Parish Hazard Mitigation Plan Update process began in March 2021 with a series of emails, phone calls, meetings, and collaborations between the contractor (SDMI) and a diverse group of participating agencies and stakeholders. Update activities were intended to give each participating agency and stakeholder the opportunity to shape the plan to best fit their community's mitigation goals. Community stakeholders and the general public were invited to attend and contribute information to the planning process during specific time periods or meetings.

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

Date	Meeting or Outreach	Location	Public Invited	Purpose
2/24/2021	Kick Off Email	Email	No	Schedule kick off call with Parish OHSEP and SDMI Staff.
3/3/2021	Kick Off Meeting	Phone Conference	No	Discuss with the Parish OHSEP Director expectations and requirements of the project. Discuss meeting schedules, committee make up, and next steps.
6/16/2021	Steering Committee Meeting (Planning Process)	Zoom VTC	No	Discussion with West Baton Rouge Parish Hazard Mitigation Steering Committee the process and expectations of plan participants. Discuss timeline and action items of each jurisdiction and parish.
10/19/2021	Risk Assessment Review with Steering Committee	Zoom VTC	Yes	Presentation of Risk Assessment Hazards and maps to Steering Committee.
10/19/2021	Public Meeting	Zoom VTC	Yes	Presentation of Risk Assessment Hazards and maps to Public. Presentation also includes current mitigation project highlights within communities and public survey discussion.
3/3/21 – 10/29/2021	Public Opinion Survey	Online	Yes	This survey asked participants about public perceptions and opinions regarding natural hazards in West Baton Rouge Parish. In addition, questions covered the methods and techniques preferred for reducing the risks and losses associated with these hazards. Survey Results: https://www.surveymonkey.com/results/SM-WTJ9XV229/

Planning

The plan update process consisted of several phases:

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
Plan Revision	Red								White	
Data Collection	Red						White			
Risk Assessment	Red						White			
Public Input	White		Red						White	
Mitigation Strategy	White			Red				White		
Plan Review by GOHSEP and FEMA	White								Red	White
FEMA APA	White									Red
Plan Adoptions	White									Red
Final Plan Approval	White									Green

Coordination

The West Baton Rouge Parish Office of Homeland Security and Emergency Preparedness (OHSEP) and West Baton Rouge Parish Government oversaw the coordination of the 2021 Hazard Mitigation Plan Update Steering Committee during the update process. The parish OHSEP was responsible for identifying members for the committee.

The Parish Director was responsible for inviting the steering committee and key stakeholders to planned meetings and activities via phone call and/or email. 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 all meetings and outreach efforts during the update process.

Neighboring Community, Local and Regional Planning Process Involvement

From the outset of the planning process, the steering committee encouraged participation from a broad range of parish 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 planning meetings at the local and parish level
- Sharing local data and information with jurisdictions
- Incorporation of other planning documents, studies and efforts
- Action item development and action progress from 2016 update
- Risk Assessment review
- Plan document draft review
- Formal adoption of the Hazard Mitigation Plan

The Iberville Parish OHSEP Director was invited to attend the Kick Off, Initial Planning, and Risk Assessment Meetings for West Baton Rouge Parish in an effort to coordinate mitigation efforts where possible as neighboring communities. The Iberville OHSEP Director was invited via email and phone call to participate in an effort to collaborate with neighboring communities. SDMI assisted West Baton Rouge Parish with encouraging the collaboration with these neighboring communities via email by extending an invitation to the West Baton Rouge Parish Hazard Mitigation Plan Update Meetings.

As part of the coordination and planning process, the parish was provided the State Required Hazard Mitigation Plan Update Worksheet. The completed worksheets can be found in *Appendix E: State Required Worksheets*.

The 2021 Hazard Mitigation Plan Update Steering Committee consisted of representatives from the following parish, municipal or community stakeholders. Below is a detailed list of the 2021 HMPU Steering Committee:

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbrCouncil.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbrCouncil.org
Kevin Durbin	Director	WBR Planning & Zoning	kevin.durbin@wbrCouncil.org
Lance Joseph	Exec. Asst to Mayor	City of Port Allen	ljosph@portallen.org
David Toups	Mayor	Town of Addis	david@addisla.org
Shane Sarradet	Director of Public Works	Town of Brusly	ssarradet@bruslyla.com

Program Integration

Local governments are required to describe how their mitigation planning process is integrated with other ongoing local and area planning efforts. This subsection describes West Baton Rouge Parish's programs and planning.

A measure of integration and coordination is achieved through the HMPU participation of Steering Committee members and community stakeholders who administer programs such as: floodplain management under the National Flood Insurance Program (NFIP), Community Rating System, parish planning and zoning and building code enforcement.

West Baton Rouge Parish will continue to integrate the requirements of this Hazard Mitigation Plan into other local planning mechanisms that are to be identified through future meetings of the parish, and

through the five-year review process described in *Appendix B: Plan Maintenance*. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update and implementation of any individual municipal plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.).

The members of the West Baton Rouge Parish Hazard Mitigation Steering Committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their communities or agencies are consistent with the goals and actions of the Hazard Mitigation Plan and will not contribute to increased hazard vulnerability in the parish. Existing plans, studies, and technical information were incorporated in the planning process. 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 2016 Hazard Mitigation Plan was also used in the planning process. Other existing data and plans used in the planning process include those listed below.

- Parish Emergency Operations Plan
- Stormwater Management Plan
- Flood Insurance Rate Maps
- State of Louisiana Hazard Mitigation Plan

Further information on the plans can be found in *Section 3: Capability Assessment*.

Meeting Documentation and Public Outreach Activities

The following pages contain documentation of the meetings and public outreach activities conducted during this hazard mitigation plan update.

Meeting #1: Hazard Mitigation Plan Update Kick-Off

Date: March 3, 2021

Location: Conference Call

Purpose: Discuss with the Parish OHSEP Director expectations and requirements of the project. Discuss meeting schedules, committee make up, and next steps.

Public Invitation: No

Meeting Invitees:

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbrCouncil.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbrCouncil.org
Lauren Morgan	Associate Director	SDMI-LSU	lstevens@lsu.edu

Meeting #2: Hazard Mitigation Plan Initial Planning Meeting

Date: June 16, 2021**Location:** Zoom Video Teleconference

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

Public Invitation: No**Meeting Invitees:**

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbr council.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbr council.org
Kevin Durbin	Director	WBR Planning & Zoning	kevin.durbin@wbr council.org
Lance Joseph	Exec. Asst to Mayor	City of Port Allen	ljosph@portallen.org
David Toups	Mayor	Town of Addis	david@addisla.org
Shane Sarradet	Director of Public Works	Town of Brusly	ssarradet@bruslyla.com

Meeting #3: Risk Assessment Presentation to Steering Committee

Date: October 19, 2021**Location:** Zoom Video Teleconference

Purpose: Presentation of Risk Assessment hazards and maps to Steering Committee.

Public Invitation: No**Meeting Invitees:**

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbr council.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbr council.org
Kevin Durbin	Director	WBR Planning & Zoning	kevin.durbin@wbr council.org
Lance Joseph	Exec. Asst to Mayor	City of Port Allen	ljosph@portallen.org
David Toups	Mayor	Town of Addis	david@addisla.org
Shane Sarradet	Director of Public Works	Town of Brusly	ssarradet@bruslyla.com

Meeting #4: Public Meeting

Date: October 19, 2021**Location:** Zoom Video Teleconference**Purpose:** The Public Meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process.**Public Invitation:** Yes**Meeting Invitees:**

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbrCouncil.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbrCouncil.org
Kevin Durbin	Director	WBR Planning & Zoning	kevin.durbin@wbrCouncil.org
Lance Joseph	Exec. Asst to Mayor	City of Port Allen	ljosph@portallen.org
David Touns	Mayor	Town of Addis	david@addisla.org
Shane Sarradet	Director of Public Works	Town of Brusly	ssarradet@bruslyla.com

Meeting Announcement:

WEST BATON ROUGE PARISH OFFICE OF HOMELAND SECURITY & EMERGENCY PREPAREDNESS

PUBLIC MEETING ANNOUNCEMENT

West Baton Rouge Parish and its partners are seeking community input for the 2021 West Baton Rouge Parish Hazard Mitigation Plan update!

West Baton Rouge Parish OHSEP, in partnership with The Louisiana Governor's Office of Homeland Security and Emergency Preparedness and the Stephenson Disaster Management Institute at LSU, is leading the process to update the plan. The West Baton Rouge Parish Hazard Mitigation Multi-Jurisdictional Plan describes the **naturally occurring** risks to the region and outlines strategies to reduce these risks to save lives, reduce property damage, and lessen the impact of future disasters.

Are you passionate about building a more resilient future for your parish? Do you have questions about the natural hazards your community is at risk to? Please join us for a public meeting to learn more about the plan and share your input on the risks and vulnerabilities that most impact you and your community. Due to the ongoing pandemic, and hurricane Ida recovery operations, the parish will offer a virtual public meeting.

Meeting Details:

Tuesday, October 19th, 2021: Zoom Meeting, 2:30-3:30pm

<https://su.zoom.us/j/97691845431?pwd=MHVMbmFYOHRRNaWxOZzhGeWpMMmMrdz09>

Residents of West Baton Rouge Parish 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 the following link:

<https://www.surveymonkey.com/r/WBRHM2021>

The Parish appreciates your input.

If you have questions, please contact the West Baton Rouge OHSEP

Outreach Activity #1: Public Opinion Survey

Date: Ongoing throughout planning process

Location: Web survey

Public Invitation: Yes

As referenced in the *Mitigation Strategy* section of this document, an online public opinion survey of Livingston Parish residents was conducted between March and October 2021. The survey was designed to capture public perceptions and opinions regarding natural hazards in West Baton Rouge 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. As of October 26, 2021, there have been zero responses to the West Baton Rouge Parish Hazard Mitigation Public Opinion Survey. Full survey results can be found here: <https://www.surveymonkey.com/results/SM-WTJ9XV229/>

Outreach Activity #2: 2021 West Baton Rouge Parish Hazard Mitigation Plan Public Review

Date: Ongoing

Location: SDMI Hazard Mitigation Website

Public Initiation: Yes

After an initial review by the West Baton Rouge Parish Planning Committee was completed, the 2021 West Baton Rouge Parish Hazard Mitigation Plan was made available for public review and comment. The plan was hosted on SDMI's Hazard Mitigation website: <https://hmplans.sdmi.lsu.edu/Home/Parish/west-baton-rouge>

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

The West Baton Rouge Parish Hazard Mitigation Steering Committee will be responsible for monitoring, evaluating, and documenting the plan's progress throughout the year. Part of the plan maintenance process should include a system by which local governing bodies incorporate the HMP into the parish's other applicable plans. This process provides for continued public participation through the diverse resources of the parish to help in achieving the goals and objectives of the plan. Public participation will be achieved through availability of copies of HMP in parish public buildings and SDMI's Hazard Mitigation website. This section describes the whole update process which includes the following:

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

Responsible Parties

West Baton Rouge 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 committee members in this plan will remain active in the Steering Committee.

Although the people filling the positions may change from year to year, the parish and its stakeholders will have representatives 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 OHSEP Director to be assigned as deemed appropriate.

Methods for Monitoring and Evaluating the Plan and Plan Evaluation Criteria

West Baton Rouge Parish has developed a method to ensure monitoring, evaluating, and updating of the HMP occurs during the five-year cycle of the plan. The steering committee will become a permanent body and will be responsible for monitoring, evaluating, and updating of the plan. The steering committee meeting will be held annually in order to monitor, evaluate, and update the plan. The West Baton Rouge Parish OHSEP Director will be responsible for conducting the annual Steering Committee meetings.

The lead person of the agency responsible for the implementation of a specific mitigation action will submit a progress report to the Director at least thirty days prior to the planning committee meeting. The progress report will provide project status monitoring to include the following: whether the project has started; if not started, reason for not starting; if started, status of the project; if the project is completed, whether it has eliminated the problem; and any changes recommended to improve the implementation of the project etc. In addition, the progress report will provide status monitoring on the plan evaluation, changes to the hazard profile, changes to the risk assessment, and public input on the Hazard Mitigation Plan updates and reviews.

Progress on the mitigation action items and projects will be reviewed during the annual planning committee meeting. The criteria that would be utilized in the project review will include the following:

- 1) Whether the action was implemented and reasons, if the action was not implemented
- 2) What were the results of the implemented action
- 3) Were the outcomes as expected, and reasons if the outcomes were not as expected
- 4) Did the results achieve the stated goals and objectives
- 5) Was the action cost-effective
- 6) What were the losses avoided after completion of the project
- 7) In case of a structural project, did it change the hazard profile

In addition to monitoring and evaluating the progress of the mitigation plan actions and projects, the mitigation plan is required to be maintained and monitored annually, and fully updated every five years. The annual maintenance, monitoring and evaluation of the plan will be conducted in the annual Steering Committee meeting. The Steering Committee will review each goal to determine their relevance to changing situations in the parish, as well as changes to state or federal policy, and to ensure that they are addressing current and expected conditions. The Steering Committee will evaluate if any change in hazard profile and risk in the parish occurred during the past year. In addition, the evaluation will include the following criteria in respect of plan implementation:

- 1) Any local staffing changes that would warrant inviting different members to the planning committee
- 2) Any new organizations that would be valuable in the planning process or project implementation need to be included in the planning committee
- 3) Any new or existing procedures that can be done more efficiently
- 4) Any additional ways to gain more diverse and widespread cooperation
- 5) Any different or additional funding sources available for mitigation planning and implementation

The HMP will be updated every five years to remain eligible for continued HMGP funding. The Steering Committee will be responsible for updating the HMP. The OHSEP Director will be the lead person for the HMP update. The HMP update process will commence at least one year prior to the expiration of the plan. The HMP will be updated after a major disaster if an annual evaluation of the plan indicates a substantial change in hazard profile and risk assessment in the parish.

Additionally, the public will be canvassed to solicit public input to continue West Baton Rouge Parish's dedication to involving the public directly in review and updates of the Hazard Mitigation Plan. Meetings will be scheduled as needed by the plan administrator to provide a forum for which the public can express their concerns, opinions, and/or ideas about the plan. The plan administrator will be responsible for using parish resources to publicize the annual public meetings and maintain public involvement through the newspapers, radio, and public access television channels. Copies of the plan will be catalogued and kept at all appropriate agencies in the city government, as well as at the West Baton Rouge Parish Library.

The review by the Steering Committee and input from the public will determine whether a plan update is needed prior to the required five-year update.

Annual reports on the progress of actions, plan maintenance, monitoring, evaluation, incorporation into existing planning programs, and continued public involvement will be documented at each annual meeting of the committee and kept by the Parish OHSEP Director. The Steering Committee will work together as a team, with each member sharing responsibility for completing the monitoring, evaluation and updates. It is the responsibility of the Parish OHSEP Director for contacting committee members, organizing the meeting and providing public noticing for the meeting to solicit public input.

2021 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 2021 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

It is and has been the responsibility of the West Baton Rouge Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions to determine additional implementation procedures when appropriate. This may include integrating the requirements of the West Baton Rouge Parish Hazard Mitigation Plan into each jurisdiction's planning documents, processes, or mechanisms as follows:

- Ordinances, Resolutions, Regulations
- Floodplain Ordinances
- Comprehensive/Master Plans
- Capital Improvement Plans
- Economic Development Plans
- Emergency Operations Plans
- Continuity of Operations Plans
- Debris Removal Plan
- Transportation Plan
- Stormwater Management Plan

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the West Baton Rouge 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.). While there have been no instances of the mitigation strategy being incorporated into

other planning documents since the adoption of the 2016 West Baton Rouge Parish Hazard Mitigation Plan, the committee members recognize the importance of a holistic approach across all planning efforts and will use their standing to integrate the mitigation strategy outlined in the 2021 West Baton Rouge Parish Hazard Mitigation Plan into other planning documents when appropriate.

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 Town of Addis, Town of Brusly, and City of Port Allen, West Baton Rouge 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 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:

West Baton Rouge Parish			
<i>Comprehensive Master Plan</i>	Updated as needed	West Baton Rouge Parish Government	✓
<i>Capital Improvements Plan</i>	Updated as needed	West Baton Rouge Parish Government	✓
<i>Continuity of Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Local Emergency Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Transportation Plan</i>	Updated as needed	West Baton Rouge Parish Government	✓
<i>Economic Development Plan</i>	Updated as needed	West Baton Rouge Parish Government	✓
<i>Stormwater Management Plan</i>	Updated as needed	WBR Department of Public Works	✓
Town of Addis			
<i>Comprehensive Master Plan</i>	Updated as needed	Town of Addis Mayor's Office	✓
<i>Capital Improvements Plan</i>	Updated as needed	Town of Addis Mayor's Office	✓
<i>Continuity of Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Local Emergency Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Transportation Plan</i>	Updated as needed	Town of Addis Mayor's Office	✓
<i>Economic Development Plan</i>	Updated as needed	Town of Addis Mayor's Office	✓
<i>Stormwater Management Plan</i>	Updated as needed	WBR Department of Public Works	✓
<i>Community Wildfire Protection Plan</i>	Updated as needed	West Baton Rouge OHSEP	✓

Town of Brusly

<i>Comprehensive Master Plan</i>	Updated as needed	Town of Brusly Mayor's Office	✓
<i>Capital Improvements Plan</i>	Updated as needed	Town of Brusly Mayor's Office	✓
<i>Continuity of Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Local Emergency Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Transportation Plan</i>	Updated as needed	Town of Brusly Mayor's Office	✓
<i>Economic Development Plan</i>	Updated as needed	Town of Brusly Mayor's Office	✓
<i>Stormwater Management Plan</i>	Updated as needed	WBR Department of Public Works	✓

City of Port Allen

<i>Comprehensive Master Plan</i>	Updated as needed	City of Port Allen Mayor's Office	✓
<i>Capital Improvements Plan</i>	Updated as needed	City of Port Allen Mayor's Office	✓
<i>Continuity of Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Local Emergency Operations Plan</i>	Updated as needed	West Baton Rouge Parish OHSEP	✓
<i>Transportation Plan</i>	Updated as needed	City of Port Allen Mayor's Office	✓
<i>Economic Development Plan</i>	Updated as needed	City of Port Allen Mayor's Office	✓
<i>Stormwater Management Plan</i>	Updated as needed	WBR Department of Public Works	✓

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.

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Appendix C: Critical Facilities

Critical Facilities within the West Baton Rouge Parish Planning Area

West Baton Rouge Parish Planning Area Critical Facilities									
Type	Name	Drought	Flooding	Sinkholes	Thunderstorms	Tornadoes	Tropical Cyclones	Wildfires	Winter Weather
Government	Addis Municipal Center				X	X	X	X	X
	Brusly Town Hall				X	X	X		X
	Port Allen City Hall				X	X	X		X
	Port Allen City Court				X	X	X		X
	West Baton Rouge Governmental Building				X	X	X		X
	West Baton Rouge Parish Courthouse				X	X	X		X
	West Baton Rouge Parish OHSEP				X	X	X		X
Fire & SAR	Addis Fire Station				X	X	X	X	X
	Brusly Volunteer Fire Department				X	X	X		X
	Brusly Volunteer Fire Department				X	X	X		X
	Erwinville Volunteer Fire Department				X	X	X	X	X
	Lobdell Volunteer Fire Department				X	X	X		X
	Port Allen Fire Station No. 1				X	X	X		X
	Port Allen Fire Station No. 3				X	X	X		X
	Rosehill Volunteer Fire Department				X	X	X		X
	West Baton Rouge Fire Station No. 3				X	X	X	X	X
Law Enforcement	Addis Police Department				X	X	X	X	X
	Brusly Police Department				X	X	X		X
	Port Allen Police Department				X	X	X		X
	West Baton Rouge Parish Jail				X	X	X		X
	West Baton Rouge Sheriff's Office				X	X	X		X
	West Baton Rouge Sheriff's Posse				X	X	X	X	X

Public Health	West Baton Rouge Parish Health Center				X	X	X		X
Schools	Brusly Elementary School				X	X	X		X
	Brusly High School				X	X	X		X
	Brusly Middle School				X	X	X		X
	Brusly Upper Elementary School				X	X	X		X
	Caneview K-8 School				X	X	X		X
	Cohn Elementary School				X	X	X		X
	Lukeville Elementary School				X	X	X		X
	Port Allen Elementary School				X	X	X		X
	Port Allen High School				X	X	X	X	X
Port Allen Middle School				X	X	X		X	



Appendix D: Plan Adoption

West Baton Rouge Parish

RESOLUTION 2 OF 2022**A Resolution Adopting The 2021 West Baton Rouge Parish Multi-Jurisdictional Hazard Mitigation Plan**

WHEREAS, the West Baton Rouge Parish Council recognizes the threat that natural hazards pose to people and property within West Baton Rouge Parish; and

WHEREAS, the Parish of West Baton Rouge has prepared a multi-hazard mitigation plan, hereby known as the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in West Baton Rouge Parish from the impacts of future hazards and disasters; and

WHEREAS, adoption by the West Baton Rouge Parish Council demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

NOW THEREFORE, BE IT RESOLVED BY THE WEST BATON ROUGE PARISH COUNCIL, OF THE PARISH OF WEST BATON ROUGE, LOUISIANA, THAT:

Section 1. In accordance with an affirmative vote of a majority of the total membership of the West Baton Rouge Parish Council, the West Baton Rouge Parish Council adopts the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

The Foregoing Resolution Was Considered, And, After Public Discussion, A Motion To Approve Was Made By Council Member Kirk Allain Which Was Seconded By Council Member Chris Kershaw.

The resolution having been submitted to a vote, the vote thereon was as follows:

YEAS: 9 (Messrs. Allain, Kershaw, Walker, Kleinpeter, Denstel, Crowe, Gordon, Bergeron, and Joseph)

NAYS: 0 (None)

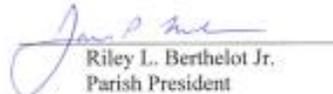
ABSENT: 0 (None)

ABSTAIN: 0 (None)

AND the resolution was declared adopted on this 24th Day of February, 2022 in legal session of the West Baton Rouge Parish Council.

ATTESTED:

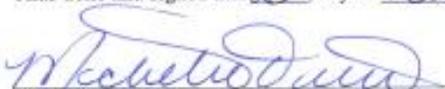

Michelle Z. Tullier
Parish Clerk


Riley L. Berthelot Jr.
Parish President

CERTIFICATE

I, Michelle Tullier, Council Clerk of the West Baton Rouge Parish Council do hereby certify that the above and foregoing is true and correct copy of a resolution adopted by said body at its Regular Meeting of February 24, 2022, at which meeting a majority of the members were present and voting.

Thus done and signed this 25th day of February, 2022.


Michelle Z. Tullier,
West Baton Rouge Parish Council
Council Clerk

Parish of West Baton Rouge



Office of the Parish President

Riley L. Berthelot, Jr.
Parish President

February 22nd, 2022

West Baton Rouge Parish Council
Attn: Michelle Tullier, Council Clerk
P.O. Box 757
Port Allen, LA 70767

Re: Temporary Assignment of Power and Duties

Dear Mrs. Tullier:

The powers and duties of the Office of the President shall be executed by Jason Manola, Executive Assistant, during my temporary absence from February 25th, 2022 through March 2nd, 2022.

Sincerely,

Riley L. Berthelot, Jr.
West Baton Rouge Parish President

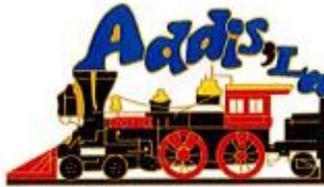
Town of Addis

MAYOR

David H. Toups

STAFF

Jade Simpson, Town Clerk
 Vera Lucas, Town Clerk Emeritus
 Dana Strauss, Assf. Clerk, A/P
 Sandra Duhon, Court Clerk
 Phil Smith, Public Works Director
 Dana K. Larpenteur, Attorney

**TOWN OF ADDIS****POLICE CHIEF**

Richard "Ricky" Anderson

COUNCILORS

Rusty Parrish, Pro-Tempore
 Bliss K. Bernard
 Rhonda L. Kelley
 Kevin LeBlanc
 Ray Lejeune, Sr.

STATE OF LOUISIANA
 PARISH OF WEST BATON ROUGE
 TOWN OF ADDIS, LOUISIANA
 JANUARY 5, 2022

A RESOLUTION OF THE TOWN OF ADDIS

2021 WEST BATON ROUGE PARISH MULTI-JURISDITIONAL HAZARD MITIGATION PLAN

WHEREAS the TOWN OF ADDIS recognizes the threat that natural hazards pose to people and property within Addis; and

WHEREAS the TOWN OF ADDIS has prepared a multi-hazard mitigation plan, hereby known as the 2021 WEST BATON ROUGE PARISH MULTI-JURISDITIONAL HAZARD MITIGATION PLAN in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS 2021 WEST BATON ROUGE PARISH MULTI-JURISDITIONAL HAZARD MITIGATION PLAN

identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Addis from the impacts of future hazards and disasters; and

WHEREAS adoption by the TOWN OF ADDIS demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the 2021 WEST BATON ROUGE PARISH MULTI-JURISDITIONAL HAZARD MITIGATION PLAN.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF ADDIS, LOUISIANA, THAT:

On a motion by Councilperson LeBlanc, seconded by Councilperson Parrish, THE TOWN COUNCIL OF THE TOWN OF ADDIS adopts the 2021 WEST BATON ROUGE PARISH MULTI-JURISDITIONAL HAZARD MITIGATION PLAN BY UNANIMOUS VOTE, this 5th day of January, 2022.

By: _____

Mayor David H. Toups

ATTEST:

By: _____

Town Clerk Jade Simpson

TELEPHONE 225-687-4844- FAX 225-687-6813- P.O. BOX 237- ADDIS, LA 70710

WWW.ADDISLA.ORG

EQUAL OPPORTUNITY EMPLOYER

Town of Brusly

Town of Brusly**LOUISIANA****RESOLUTION NO. 1 of 2022 _____**

A RESOLUTION OF THE Town of Brusly

The 2021 West Baton Rouge Parish Hazard Mitigation Plan.

WHEREAS the Town of Brusly recognizes the threat that natural hazards pose to people and property within Brusly; and

WHEREAS the Town of Brusly has prepared a multi-hazard mitigation plan, hereby known the 2021 West Baton Rouge Parish Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS The 2021 West Baton Rouge Parish Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Brusly from the impacts of future hazards and disasters; and

WHEREAS adoption by the Town of Brusly demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the 2021 West Baton Rouge Parish Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE Town of Brusly, LOUISIANA, THAT:

Section 1. In accordance with an affirmative vote of at least two-thirds of the total membership of the Brusly Town Council, Town of Brusly adopts the 2021 West Baton Rouge Parish Hazard Mitigation Plan.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining,
this 10th day of January _____, 2022.

By:  _____

Scot Rhodes, Mayor

ATTEST:

By:  _____

Blaine Rabalais, Town Clerk

City of Port Allen



CITY OF PORT ALLEN

STATE OF LOUISIANA

RESOLUTION NO. 1 OF 2022

A RESOLUTION OF THE CITY OF PORT ALLEN

2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZZARD MITIGATION PLAN

WHEREAS, the City Council of the City of Port Allen recognizes the threat that natural hazards pose to people and property within the City of Port Allen; and

WHEREAS, the Parish of West Baton Rouge has prepared a multi-hazard mitigation plan, hereby known as 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZZARD MITIGATION.

in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZZARD MITIGATION PLAN.

identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Port Allen from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City Council for the City of Port Allen demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZZARD MITIGATION PLAN.

NOW THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF PORT ALLEN, LOUISIANA, THAT:

Section 1. In accordance with Louisiana Revised Statutes 33:406 (2) THE MAYOR AND CITY COUNCIL FOR THE CITY OF PORT ALLEN adopts the 2021 WEST BATON ROUGE PARISH MULTI-JURISDICTIONAL HAZZARD MITIGATION PLAN.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 12TH day of January , 2022.

Signed: 
Richard N. Lee, III
Mayor-City of Port Allen


Rose A. Roche
Municipal Clerk-City of Port Allen

An Equal Opportunity Employer

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Appendix E: State Required Worksheets

During the planning process (*Appendix A: Planning Process*), the Hazard Mitigation Plan Update Steering Committee was provided state-required plan update process worksheets to be filled out. The worksheets were presented at the Initial Planning Meeting by SDMI as tools for assisting in the update of the Hazard Mitigation Plan, but also as a state requirement for the update. The plan update worksheets allowed for collection of information such as planning team members, community capabilities, community infrastructure, vulnerable populations and NFIP information. The following pages contain documentation of the state required worksheets.

Mitigation Planning Team

West Baton Rouge Parish Hazard Mitigation Planning Committee			
Name	Title	Agency	Email
Deano Moran	Director	WBR Homeland Security	deano.moran@wbr council.org
Anthony Summers	Asst Director	WBR Homeland Security	anthony.summers@wbr council.org
Kevin Durbin	Director	WBR Planning & Zoning	kevin.durbin@wbr council.org
Lance Joseph	Exec. Asst to Mayor	City of Port Allen	ljosph@portallen.org
David Toups	Mayor	Town of Addis	david@addisla.org
Shane Sarradet	Director of Public Works	Town of Brusly	ssarradet@bruslyla.com

Capability Assessment

West Baton Rouge Parish

Capability Assessment Worksheet – West Baton Rouge Parish		
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	Comments
Comprehensive / Master Plan	Yes	Due for update in 2021
Capital Improvements Plan	Yes	5-year drainage and roads plans
Economic Development Plan	Yes	Regional (Local element is part of Master Plan)
Local Emergency Operations Plan	Yes	n/a
Continuity of Operations Plan	Yes	n/a
Transportation Plan	Yes	Regional / state
Stormwater Management Plan	Yes	Updated in 2020
Community Wildfire Protection Plan	No	n/a
Other plans (redevelopment, recovery, coastal zone management)	Yes	Alternative Transportation Plan
Building Code, Permitting and Inspections	Yes / No	Comments
Building Code	Yes	2015 IRC, 2015 IBC, 2015 IMC, La. State Plumbing Code,
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	n/a
Fire Department ISO/PIAL rating	Yes	n/a
Site plan review requirements	Yes	per WBR codes
Land Use Planning and Ordinances	Yes / No	Comments
Zoning Ordinance	Yes	n/a
Subdivision Ordinance	Yes	n/a
Floodplain Ordinance	Yes	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	n/a
Flood Insurance Rate Maps	Yes	n/a
Acquisition of land for open space and public recreation uses	No	n/a
Other	No	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	Yes	n/a
Mitigation Planning Committee	Yes	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	n/a
Staff	Yes / No	Comments
Chief Building Official	Yes	n/a
Floodplain Administrator	Yes	n/a
Emergency Manager	No	n/a
Community Planner	Yes	n/a
Civil Engineer	Yes	n/a
GIS Coordinator	Yes	n/a
Grant Writer	No	n/a
Other	No	n/a
Technical	Yes / No	Comments
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	n/a
Hazard Data & Information	No	n/a
Grant Writing	No	n/a
Hazus Analysis	No	n/a
Other	No	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	Comments
Capital Improvements project funding	Yes	n/a
Authority to levy taxes for specific purposes	Yes	n/a
Fees for water, sewer, gas, or electric services	Yes	n/a
Impact fees for new development	Yes	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	No	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.	No	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	n/a
Natural Disaster or safety related school program	Yes	n/a
Storm Ready certification	Yes	n/a
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other	No	n/a

Town of Addis

Capability Assessment Worksheet – Town of Addis		
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	Comments
Comprehensive / Master Plan	Yes	Parish
Capital Improvements Plan	Yes	n/a
Economic Development Plan	Yes	Parish
Local Emergency Operations Plan	Yes	Parish
Continuity of Operations Plan	Yes	n/a
Transportation Plan	Yes	Parish
Stormwater Management Plan	Yes	Parish
Community Wildfire Protection Plan	Yes	Parish
Other plans (redevelopment, recovery, coastal zone management)	Yes	Parish
Building Code, Permitting and Inspections	Yes / No	Comments
Building Code	Yes	Parish
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	n/a
Fire Department ISO/PIAL rating	Yes	Parish
Site plan review requirements	Yes	Parish
Land Use Planning and Ordinances	Yes / No	Comments
Zoning Ordinance	Yes	n/a
Subdivision Ordinance	Yes	n/a
Floodplain Ordinance	Yes	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	Yes	n/a
Flood Insurance Rate Maps	Yes	n/a
Acquisition of land for open space and public recreation uses	Yes	around park
Other	No	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	Yes	n/a
Mitigation Planning Committee	Yes	Parish
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	n/a
Staff	Yes / No	Comments
Chief Building Official	Yes	n/a
Floodplain Administrator	Yes	n/a
Emergency Manager	Yes	Parish
Community Planner	Yes	Parish
Civil Engineer	Yes	n/a
GIS Coordinator	Yes	Parish
Grant Writer	Yes	staff
Other	No	n/a
Technical	Yes / No	Comments
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Parish
Hazard Data & Information	Yes	Parish
Grant Writing	Yes	n/a
Hazus Analysis	No	n/a
Other	No	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	Comments
Capital Improvements project funding	Yes	n/a
Authority to levy taxes for specific purposes	Yes	n/a
Fees for water, sewer, gas, or electric services	Yes	sewer-rest for parish
Impact fees for new development	Yes	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	Yes	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.	No	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	parish
Natural Disaster or safety related school program	Yes	parish
Storm Ready certification	Yes	parish
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	n/a

Town of Brusly

Capability Assessment Worksheet – Town of Brusly		
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	Comments
Comprehensive / Master Plan	Yes	Parish
Capital Improvements Plan	Yes	Parish
Economic Development Plan	Yes	Parish
Local Emergency Operations Plan	Yes	Parish
Continuity of Operations Plan	Yes	Parish
Transportation Plan	Yes	n/a
Stormwater Management Plan	Yes	Parish
Community Wildfire Protection Plan	No	n/a
Other plans (redevelopment, recovery, coastal zone management)	Yes	Parish
Building Code, Permitting and Inspections	Yes / No	Comments
Building Code	Yes	Adopted by Brusly Ordinance
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	n/a
Fire Department ISO/PIAL rating	Yes	Parish
Site plan review requirements	Yes	by Parish for Brusly
Land Use Planning and Ordinances	Yes / No	Comments
Zoning Ordinance	Yes	Brusly
Subdivision Ordinance	Yes	Brusly
Floodplain Ordinance	Yes	Brusly
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	n/a
Flood Insurance Rate Maps	Yes	Brusly
Acquisition of land for open space and public recreation uses	No	n/a
Other	No	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	Yes	Brusly
Mitigation Planning Committee	Yes	Parish
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	Brusly
Staff	Yes / No	Comments
Chief Building Official	Yes	Brusly
Floodplain Administrator	Yes	Brusly
Emergency Manager	Yes	Brusly
Community Planner	No	Parish
Civil Engineer	Yes	Brusly- Owen & White
GIS Coordinator	Yes	Parish
Grant Writer	Yes	Brusly/Parish
Other	No	n/a
Technical	Yes / No	Comments
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Parish
Hazard Data & Information	No	n/a
Grant Writing	No	n/a
Hazus Analysis	No	n/a
Other	No	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	Comments
Capital Improvements project funding	Yes	Brusly/State
Authority to levy taxes for specific purposes	No	n/a
Fees for water, sewer, gas, or electric services	Yes	Sewer Fees
Impact fees for new development	Yes	Brusly
Stormwater Utility Fee	Yes	Parish
Community Development Block Grant (CDBG)	No	n/a
Other Funding Programs	Yes	Sewer (USDA)

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	LEPC, Rotary
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	Fire Safety
Natural Disaster or safety related school program	Yes	n/a
Storm Ready certification	Yes	Parish
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other	No	n/a

City of Port Allen

Capability Assessment Worksheet – City of Port Allen		
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	Comments
Comprehensive / Master Plan	Yes	City / Parish
Capital Improvements Plan	Yes	City
Economic Development Plan	Yes	City
Local Emergency Operations Plan	Yes	Parish
Continuity of Operations Plan	Yes	Parish
Transportation Plan	Yes	Parish
Stormwater Management Plan	Yes	City
Community Wildfire Protection Plan	No	N/A
Other plans (redevelopment, recovery, coastal zone management)	No	N/A
Building Code, Permitting and Inspections	Yes / No	Comments
Building Code	Yes	City
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	N/A
Fire Department ISO/PIAL rating	Yes	Parish
Site plan review requirements	Yes	Parish
Land Use Planning and Ordinances	Yes / No	Comments
Zoning Ordinance	Yes	City
Subdivision Ordinance	No	N/A
Floodplain Ordinance	Yes	City
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	N/A
Flood Insurance Rate Maps	Yes	City
Acquisition of land for open space and public recreation uses	Yes	Parish
Other	No	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	Yes	City
Mitigation Planning Committee	Yes	City
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	City
Staff	Yes / No	Comments
Chief Building Official	Yes	City
Floodplain Administrator	Yes	City
Emergency Manager	Yes	Parish
Community Planner	No	N/A
Civil Engineer	Yes	City Contract
GIS Coordinator	Yes	City
Grant Writer	No	N/A
Other	No	N/A
Technical	Yes / No	Comments
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Parish
Hazard Data & Information	Yes	Parish
Grant Writing	No	N/A
Hazus Analysis	Yes	Parish
Other	No	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	Comments
Capital Improvements project funding	Yes	City
Authority to levy taxes for specific purposes	Yes	City
Fees for water, sewer, gas, or electric services	Yes	City
Impact fees for new development	Yes	Commercial Only
Stormwater Utility Fee	No	N/A
Community Development Block Grant (CDBG)	Yes	City
Other Funding Programs	Yes	City

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	N/A
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	N/A
Natural Disaster or safety related school program	Yes	Parish
Storm Ready certification	Yes	N/A
Firewise Communities certification	No	N/A
Public/Private partnership initiatives addressing disaster-related issues	No	N/A
Other	No	N/A

Building Inventory

West Baton Rouge Unincorporated								
Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
WBR Parish Courthouse	Civil Government	850 8th St.	Port Allen	30.46000798	-91.20924223			
WBR Governmental Building	Administrative Operations	880 8th St.	Port Allen	30.4603562	-91.21025179			
WBR Health Center	Public Health	685 Louisiana Ave.	Port Allen	30.46059871	-91.20830857			
West Baton Rouge Parish OHSEP	Civil Government	2413 Ernest Wilson Dr.	Port Allen	30.43115271	-91.20380381			
Erwinville Volunteer Fire Department	Fire/SAR	4446 Poydras Bayou Dr.	Port Allen	30.53117153	-91.40714063			
Lobdell Volunteer Fire Department	Fire/SAR	2937 Lafiton Ln	Port Allen	30.47728018	-91.24698292			
Rosehill Volunteer Fire Department	Fire/SAR	8229 Rosehill Dr	Bueche	30.55796751	-91.33290683			
West Baton Rouge Fire Station No. 3	Fire/SAR	6875 Hwy. 1 S	Addis	30.36982572	-91.25641062			
West Baton Rouge Parish Jail	Law Enforcement	1150 Northwest Dr.	Port Allen	30.50120009	-91.21639399			
West Baton Rouge Sheriff's Office	Law Enforcement	850 8th St.	Port Allen	30.45982648	-91.20923748			
West Baton Rouge Sheriff's Posse	Law Enforcement	3975 Rosedale Rd.	Port Allen	30.46009719	-91.26169238			
Brusly Elementary School	Education	400 S Labauve Rd	Brusly	30.39184121	-91.25611535			
Brusly High School	Education	658 N Vaughn Dr.	Brusly	30.39278193	-91.2382337			
Brusly Middle School	Education	630 N. Vaughn Dr.	Brusly	30.39296868	-91.23860231			
Brusly Upper Elementary School	Education	601 N. Kirkland Dr.	Brusly	30.3904832	-91.23296301			
Caneview K-8 School	Education	5217 McLin Rd	Port Allen	30.54348871	-91.35840547			
Cohn Elementary School	Education	805 14th St.	Port Allen	30.45890489	-91.21812167			
Lukeville Elementary School	Education	6141 LA-1	Brusly	30.38203462	-91.24755573			
Port Allen Elementary School	Education	609 Rosedale Rd	Port Allen	30.46294445	-91.20703335			
Port Allen High School	Education	3553 Rosedale Rd	Port Allen	30.45984054	-91.25615092			
Port Allen Middle School	Education	610 Rosedale Rd	Port Allen	30.46403259	-91.20712329			

Town of Addis								
Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
Addis Municipal Center	Civil Government	7818 Highway 1 S.	Addis	30.35568513	-91.26027172			
Addis Fire Station	Fire/SAR	Hubert Dupuy St	Addis	30.34906764	-91.26893676			
Addis Police Department	Law Enforcement	7818 Highway 1 S.	Addis	30.35579569	-91.26030006			
Addis Sewer Plant	Sewer Plant	8122 South River Rd	Addis					
Addis Civic Center	Recreation	4343 Harris Ave.	Addis					
Addis Maintenance Barn	Maintenance Equipment	4372 Main St.	Addis					
Addis Museum and Park	Museum and Park	7821 Ray Rivet	Addis					
Main St. Property	Maintenance Equipment	4410 Main St.	Addis					
Young House	future parking for park	4312 Main St.	Addis					
Comeaux House	future parking for park	4332 Main St.	Addis					

Town of Brusly								
Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
Brusly Town Hall	Civil Government	601 S. Vaughan St.	Brusly	30.38581014	-91.24457092			
Brusly Volunteer Fire Department	Fire/SAR	2141 Antonio Rd.	Brusly	30.40563725	-91.22912916			
Brusly Volunteer Fire Department	Fire/SAR	154 E St. Francis St.	Brusly	30.38572437	-91.24377619			
Brusly Police Department	Law Enforcement	150-A E. St. Francis St.	Brusly	30.38604761	-91.24435936			
Maintenance Barn	Storing of Maintenance equipment	180-A E. St. Francis St.	Brusly					Metal
Maintenance Barn	Storing of Maintenance equipment	180-B E. St. Francis St.	Brusly				2015	Metal
Storage/Record Room	Official documents and records that are maintained by Town and Police	150-B E. St. Francis St.	Brusly				2015	Reinforced Masonry

City of Port Allen								
Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
Port Allen City Hall	Administrative Operations	375 Court St.	Port Allen	30.45230341	-91.20399415			
Port Allen Fire Station No. 1	Fire/SAR	700 N. Alexander	Port Allen	30.45833154	-91.21011818			
Port Allen Fire Station No. 3	Fire/SAR	5080 Rosedale Rd	Port Allen	30.46880336	-91.27880801			
Port Allen Police Department	Law Enforcement	375 Court St.	Port Allen	30.45233278	-91.20403687			
City Maintenance Barn	Dept. of Public Works Operations & Equipment	N. 14th St.	Port Allen					
Wastewater Treatment Plant	Sewer Treatment Plant Operations	S. 14th St.	Port Allen					
West Baton Rouge Community Center	All Purpose Recreation Facility & 6th Street water well	749 N. Jefferson Ave	Port Allen					
Port Allen City Court	Judicial Proceedings	330 S. Alexander Ave	Port Allen	30.44994667	-91.20974843			
DOTD Maintenance	DOTD Operations & Equipment	Oaks Ave	Port Allen					
DOTD Engineering	Engineering Office	S. River Rd.	Port Allen					
Entergy	Substation for Port Allen	Rosedale Rd	Port Allen					
Louis Mouch Jr. Multi-purpose Arena	All Purpose Recreation Facility	152 Turner Rd.	Port Allen					
Holy Family Catholic School	Education	335 Jefferson Ave	Port Allen					
Knights of Columbus Hall	Fraternal Organization	679 N. Jefferson	Port Allen					
American Legion Hall	Fraternal Organization	850 8th St.	Port Allen					

Vulnerable Populations

Vulnerable Populations Worksheet					
All Hospitals (Private or Public)	Address	City	Zip Code	Latitude	Longitude
No Hospitals Located In West Baton Rouge Parish					
Nursing Homes (Private or Public)	Address	City	Zip Code	Latitude	Longitude
Port Allen Care Center	403 North 15th St.	Port Allen	70767		
Mobile Home Parks	Address	City	Zip Code	Latitude	Longitude
Mouch's	6261 Highway 1 South	Addis	70710		
S & R	6861 Highway 1 South	Addis	70710		
Riverbend	7180 S. River Road	Addis	70710		
Riverboat Landing	7011 Highway 1 South	Addis	70710		
Riverboat Lane	3746 Riverboat Lane	Addis	70710		
Triple B	8020 Highway 1 South	Addis	70710		
Cavalier	4022 Myhand Street	Addis	70710		
PMC Properties	3836 Addis Lane	Addis	70710		
Lynn's	4390 Peter Messina Road	Addis	70710		
JJ & S	4015 Bird Heights	Addis	70710		
R & B Entities - Mobile Home Park	1590 Court St.	Port Allen	70767		
Maison Roulez Mobile Home Park	1534 Court St.	Port Allen	70767		
Mark & Brenda Hurst - Trahan Park	1099 Rosedale Rd	Port Allen	70767		
Lloyd LeBlanc, Jr. - Mobile Home Park	447 Oaks Ave.	Port Allen	70767		

National Flood Insurance Program (NFIP)

National Flood Insurance Program (NFIP)				
	West Baton Rouge Unincorporated	Town of Addis	Town of Brusly	City of Port Allen
Insurance Summary				
How many NFIP policies are in the community? What is the total premium and coverage?	1046; \$539,072	227; \$100,151	123 policies; \$54,018 total premiums; 37,244,000 insurance in force	199; \$114,515
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?	124; \$1,948,330	4; \$64,408.76; 1	16 closed paid losses; \$162,026 total paid claims; 0 substantial damage	30; \$515,781
How many structures are exposed to flood risk with in the community?	There are 1281 structures in the 100-year flood zone as of last count, summer 2020. This depends on the definition of "flood risk"	N/A	N/A	8
Describe any areas of flood risk with limited NFIP policy coverage.	N/A	N/A	N/A	N/A
Staff Resources				
Is the Community FPA or NFIP Coordinator certified?	No	No	No	No
Is flood plain management an auxiliary function?	Yes	Yes	Yes	Yes
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	The parish provides permit review (including elevation certificates), floodplain education & outreach, inspections & technical advice, as well as a fully functional floodplain GIS system	N/A	N/A	N/A
What are the barriers to running an effective NFIP program in the community, if any?	Support from Administration and Council enables NFIP management to proceed smoothly	Funding; Staffing	Funding; Staffing	Funding; Staffing
Compliance History				
Is the community in good standing with the NFIP?	Yes	Yes	Yes	Yes
Are there any outstanding compliance issues(i.e., current violations)?	No	No	No	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact(CAC)?	2020	N/A	N/A	N/A
Is a CAV or CAC scheduled or needed? If so when?	No	N/A	N/A	No

Regulations				
When did the community enter the NFIP?	4/1/1978	April 30,1973	8/15/1977	1/24/1978
Are the FIRMs digital or paper?	Both	Paper	Both	Both
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Meet	Meet	Meet	Meet
Community Rating System (CRS)				
Does the community participate in CRS?	Yes	No	No	No
What is the community's CRS Class Ranking?	8	N/A	N/A	N/A
Does the plan include CRS planning requirements?	N/A	N/A	N/A	N/A

