

8. EMERGENCY PREPARATION AND HAZARD MITIGATION

In 2011, Livingston Parish completed a Hazard Mitigation Plan Update (HMPU) that was adopted by the parish and most of the municipalities in the parish. This section of the Comprehensive Master Plan provides an overview of the HMPU as a context for making decisions about land use and infrastructure.

Challenges facing the parish

Flooding, hurricanes, tornados, and wildfire are the most prevalent hazards that confront Livingston Parish. The impact of these events is basically twofold:

1. Flooding-from riverine sources, stormwater, tropical storms, and hurricanes in various forms
2. Wind damage-resulting from hurricanes, tropical storms, and tornadoes

Flood damage

Even though the parish is at the northern edge of typical hurricane impacts, it has a history of damage linked to hurricanes and tropical storms.

- Ten major hurricane events traced back to 1960 have caused great damage to the parish.
- In that period ten other floods caused major damage.

Flooding sufficient to cause significant damage can be caused by:

- storm surge
- backwater
- riverine
- stormwater (rainfall)

In the case of storm surge, southerly winds and high tides rise over and through bayous, canals, and marshlands. According to NOAA, the most damaging (dollar amount) storm surge flood event experienced in Livingston Parish was Hurricane Rita in 2005 with statewide damages estimated at \$432 million.

In backwater flooding a heavy rainfall event coupled with a swollen river, canal, or bayou and marsh hinders drainage outflow, usually in the same areas susceptible to storm surge. It is flooding caused by a restriction or block of downstream flow.

A Snapshot of Flooding Events 1973 to 2013

April 1973 – 6" of rain. The Amite River spilled over its banks and over 1,800 homes and 70 businesses were flooded.

January 1977 – Hard rain caused extensive flooding. Farmers were hit hard.

May 1977 – Many rivers in the Parish overflowed their banks.

May 1979 – Over 10" of rain. Over 400 people evacuated to shelters. Flash flooding of streams was common.

April 1983 – Over 1,300 homes were destroyed. Over 5,000 people evacuated. Approximately 170 miles of roads were flooded. Water levels were the highest in 90 years.

April 1991 – 10"-15" of rain fell in two days and caused extensive damage. Numerous homes were flooded.

February 1993 – Over 12" of rain. Many homes sustained flood damage. Many roads and businesses were closed.

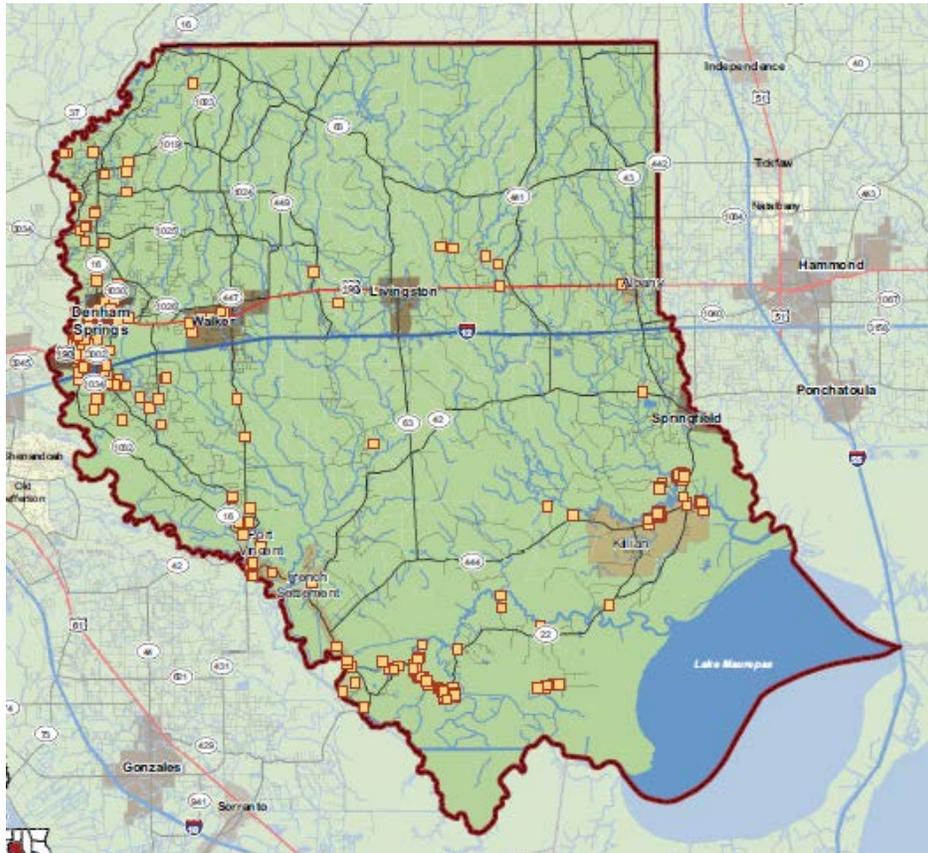
June 2001 – Over 600 homes and businesses were flooded. The Town of Livingston recorded over 18" in four days. The Amite River crested at 38.24', the fourth worst flood since 1961. 75% of the roads in Port Vincent flooded. Damage estimated at \$8.9 million.

2013, Isaac severe weather event.

Riverine flooding problems are a result of rising water in the Tickfaw and Amite Rivers. It is associated with non-coastal source.

Storm water flooding is a result of rainfall in a short period of time. This type of flooding occurs frequently in the parish.

The entire planning area of the parish is vulnerable to some sort of flood. According to NOAA, historical flood events from 1993 to 2008 caused \$459 billion in property damage.

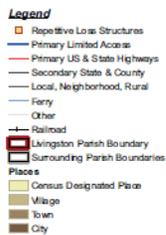


Hurricane "Alley"?

From 1963 Livingston Parish has experienced the following 'official' hurricanes:

- Betsy 1965
- Juan 1985
- Andrew 1992
- George 1998
- Allison 2001 (tropical storm)
- Issidore 2002 (tropical storm)
- Lili 2002
- Ivan 2004
- Katrina 2005
- Rita 2005
- Gustav 2008
- Ike 2009
- Isaac 2012

Figure 43: Repetitive loss structures.



Wind damage

With its central location in the Gulf of Mexico, Louisiana seems to experience a high percentage of hurricanes. Even though Livingston Parish is inland, and doesn't receive the brunt of most storms, it is vulnerable.

From 1965 to 2009 hurricanes that reached Livingston Parish resulted in total damages estimated at \$240 billion.

The parish tornado history is less significant, with 21 tornados from 1965 to 2009, resulting in \$3.7 million damages.

Other challenges

- Only a few main roads exist to reach the areas of French Settlement, Port Vincent, and Killian. For example, a fire company in Holden has a difficult time providing assistance in Killian since there is no direct route between the two communities.
- Several roads in the southern portion of the parish are known to flood, including LA 22 and LA 16.
- The Southeastern Louisiana Evacuation Plan does not adequately consider traffic from Livingston Parish. The plan gives interstate priority to evacuation traffic coming from the New Orleans Metropolitan Area.
- There are buildings that flood on a regular basis-known as Repetitive Loss and Severe Repetitive Loss buildings-due to continued construction in known floodplains (below flood elevation).
- Due to population growth in the parish, the 911 call center has experienced a growth of 225,000 calls in 2004 to over 400,000 today. The call center has not seen a proportional growth in staff.

Implementation

Hazard Mitigation Plan goals and actions, incorporated as part of this plan

Flooding is one of the main threats to life and property in the Parish. In the 2011 HMPU the parish and its municipalities established goals and an action plan to achieve them. The goals are:

- **Goal 1:** Identify and pursue preventative measures that will reduce future damages from hazards.
- **Goal 2:** Enhance public awareness and understanding of disaster preparedness.
- **Goal 3:** Reduce repetitive flood losses.

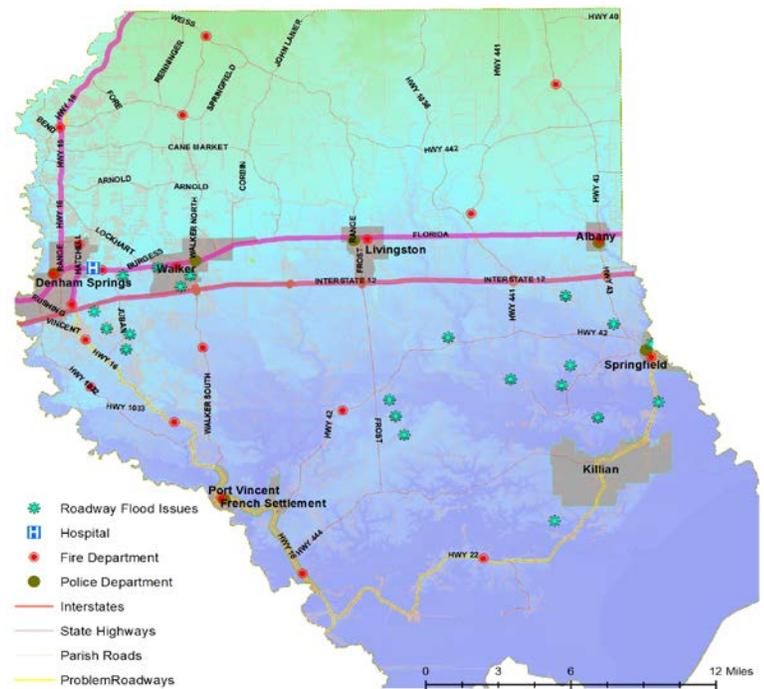


Figure 44: Emergency services and road problems.

- **Goal 4:** Facilitate sound development in the parish and municipalities to reduce or eliminate the potential impacts of hazards.

The key actions for the Parish (outside of the municipalities) that relate to land use decisions include\:

Action 1.4.1: Upgrade drainage ways to better carry runoff.

Action 1.4.2: Increase the capacity of stormwater detention areas.

Action 3.1.1: Elevate, acquire or reconstruct all Repetitive Loss and Severe Repetitive Loss structures.

Action 3.2.1: Ensure that all municipalities and the parish work together to produce a cohesive drainage plan.

Action 4.1.1: Enforce building codes to ensure that future development does not increase hazard losses.

Action 4.1.2: Guide future development away from hazard areas using zoning regulations.

Action 4.2.1: Participate in programs at the state and federal levels regarding environmental enhancement and conservation.

These goals and actions are also addressed in various ways in other sections of this Comprehensive Master Plan.

Additional actions

From public and technical input during the Comprehensive Master Plan, the following several additional recommendations are proposed:

- Identify critical corridors that are essential to emergency response vehicles when trying to reach the southern portion of the parish and those used in evacuation. Evaluate the road (roadbed, drainage infrastructure) for resilience in hazard events. Develop strategies to improve problem roadways. This could include a widening plan for essential routes. In addition, any of these critical roads that are known to flood will need consideration to be raised to the base flood elevation, either by fill or structure.
- When planning new roads, make roads that would provide emergency assistance and improve traffic flow a high priority. One suggestion is extending Old Frost Road to LA 22. An existing cut and ROW (for a railroad) already exists.