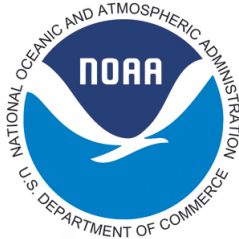


Integrating Hazard Mitigation into Local Planning to Support Community Resilience on the Mississippi Gulf Coast





MASGP-13-020

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This document summarizes the results of a study by Southern Mississippi Planning and Development District, July 2013.

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“Hazard Mitigation works best as a policy objective of local planning when it is so completely integrated into the comprehensive plan that it becomes a normal assumption behind all daily planning activities.”

*American Planning Association,
Planning for Post-Disaster Recovery and Reconstruction*

Introduction

Planning documents in most cities and counties in the six-county Mississippi Gulf Coast region are separated into two distinct categories: Comprehensive Plans - those that plan for future growth, and Hazard Mitigation Plans - those that address hazards and emergency management. This study by Southern Mississippi Planning and Development District (SMPDD) proposes that the two planning efforts likely have some linkages, but lack shared values, goals, and objectives.

Comprehensive plans provide a framework for the physical design and development of a community over a long-term planning horizon. They address social, economic, and environmental issues by the manner in which they guide overall growth and development. Integrating hazard mitigation principles into comprehensive planning and land use strategies will reduce future damage to property and public facilities, avoid development in hazardous areas, provide adequate public shelters and reduce hurricane evacuation times. Societal benefits include improved public safety and enhanced community resiliency.

The goals of the comprehensive plan are implemented through various local planning instruments such as zoning ordinances, subdivision regulations, and capital improvements programs. Integrating hazard mitigation principles into the local comprehensive plan places a high value on community resilience and allows local officials to manage current and future development in a way that does not lead to an increase in the community's vulnerability to hazards. The relationship between sound land use planning and the reduction of a community's exposure, risk, and vulnerability to hazards is clear. Experience has shown that those communities that carefully plan the location, type, and structural requirements of development to avoid hazard areas

and vulnerable structures to the maximum extent possible suffer much less disaster-related damage and impact than do communities that don't consider hazard mitigation as an integral part of the community development plan. From a disaster recovery standpoint, the benefits of sound land use and development planning include the following:

- Less disruption to a community's economic, social, and physical structure
- Less impact on the community's tax base
- Less impact on the provision of essential services
- Less financial impact in terms of local participation in disaster program cost-sharing

SMPDD's study demonstrates that there are definitive methods to link and incorporate the hazard mitigation plans and/or principles to comprehensive plans by accomplishing the following objectives:

- To identify existing connections between hazard mitigation plans and comprehensive plans
- To identify existing gaps or missing connections between hazard mitigation plans and comprehensive plans
- To develop recommendations on how to specifically link hazard mitigation principles to the comprehensive plans
- To develop policy recommendations related to mandates for hazard mitigation planning and comprehensive planning in Mississippi

Rationale and Approach

Comprehensive planning is usually the responsibility of a planning or zoning department and hazard mitigation planning is typically coordinated by emergency managers. If local governments are going to make sound planning decisions related to future growth that is sustainable, hazard impacts and coastal resiliency must be incorporated into the comprehensive planning process and the planning documents.

The first step in moving toward the integration of these two distinct planning efforts is to identify the connections and the gaps between the two types of planning documents. Recommendations for improved linkages must then be made to local governments. Investigators can then provide guidance to local governments on how the study results can best be applied, and consider the possibility of some policy changes that could help frame the planning activities in the future.

Specifically, the investigation will address two of the Mississippi Alabama Sea Grant Consortium (MASGC) focus areas:

Improve planning for, response to and recovery from coastal hazards and climate associated risks

Demonstrate the connections between planning decisions (e.g. land use, infrastructure siting) and hazard impacts

In 2000, the Disaster Mitigation Act amended the Stafford Disaster Relief and Emergency Assistance Act, to require that mitigation plans must be in place in order to receive federal disaster assistance. To that end, all communities in the study now have hazard mitigation plans, some of which were written by SMPDD. The plans have been adopted by local governments and approved by the Federal Emergency Management Agency (FEMA).

Section 17-1-1 of the Mississippi Code of 1972, annotated, as amended, defined the term “comprehensive plan” as a “statement of public policy for the physical development of the entire municipality or county adopted by resolution of the governing body, consisting of the following elements at a minimum: (1) goals and objectives for the long-range (twenty to twenty-five years) development of the county or municipality...; (2) a land use plan...; (3) a transportation plan...; and (4) a community facilities plan.”

Hazard Mitigation plans, while mandated through federal expenditure incentives, lack the legal status to guide local decisions regarding land use or capital improvements. Comprehensive plans, conversely, have been proven in courts to demonstrate a community’s intent regarding land use regulation and capital expenditures. However, the plans typically lack hazard mitigation principles.

FEMA’s excellent guidance for building and enhancing community resilience provides these examples of hazard mitigation solutions that have been fully integrated into local plans.

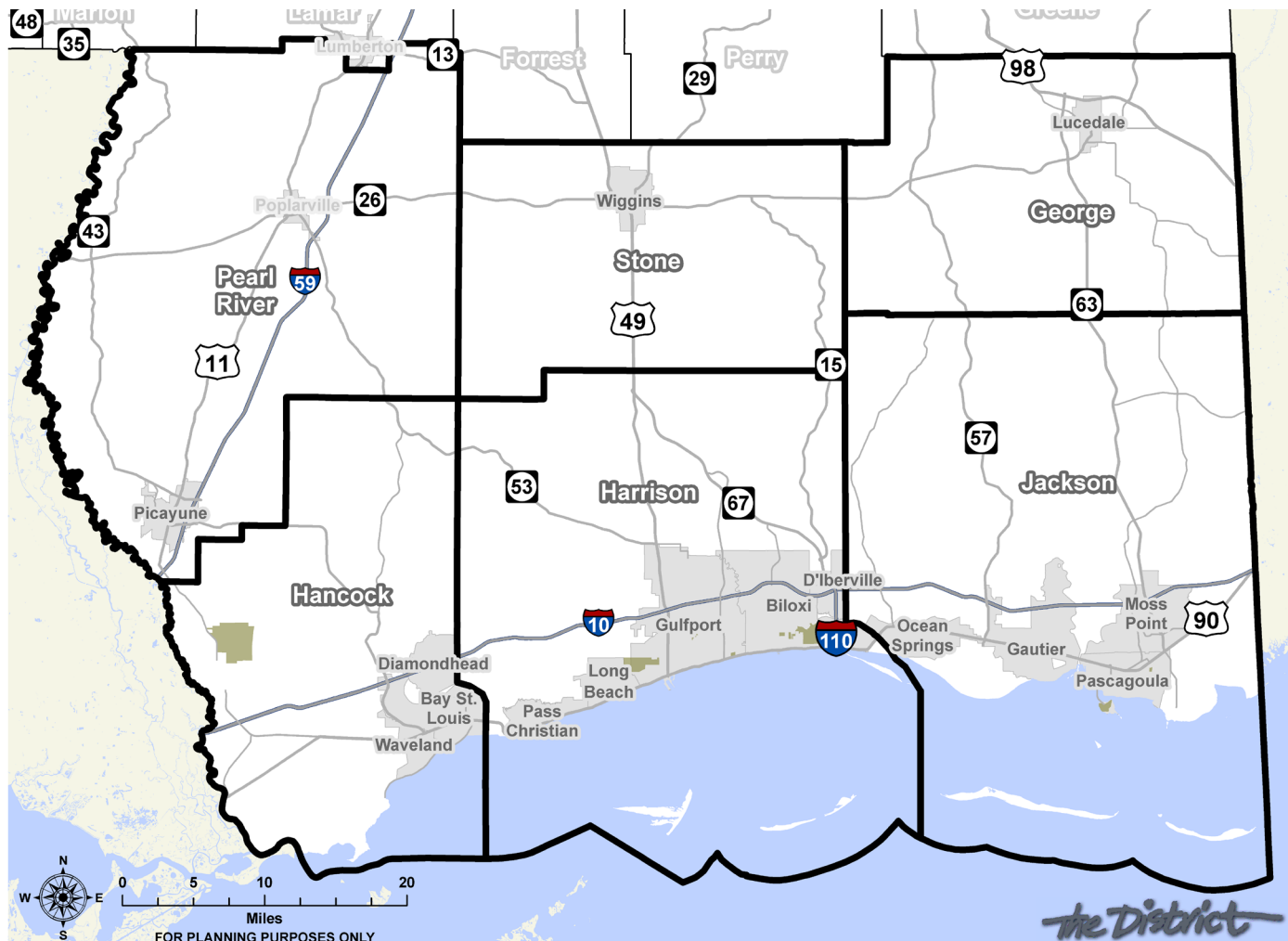
- Establishing goals, policies, and objectives that are linked to risk reduction and resiliency
- Incorporating hazard mitigation standards in permit reviews
- Using tax increment financing, transportation improvement financing, or other public funding mechanisms to help pay for hazard mitigation measures
- Using capital improvement programs to fund hazard mitigation measures
- Using infrastructure improvements to guide growth away from known hazard areas
- Using zoning and other land use controls to prohibit or discourage hazardous development patterns
- Preserving natural areas or open space as buffers against known hazards, such as wildfire breaks
- Preserving or restoring natural functions that minimize hazard impacts, such as wetland restoration
- Incorporating structural retrofits or relocation of existing buildings or infrastructure during the post-disaster redevelopment process
- Incorporating the awareness of hazard risks and hazard mitigation into public outreach practices

Thus, the approach to solving the dilemma of identifying ways that jurisdictions can more effectively address the need to mitigate the effects and impacts of hazards on their communities can be found through the American Planning Association's "Planning for Post-Disaster Recovery and Reconstruction". The quotation from that guidance which was used to introduce this study provides an ideal summary of the overarching goal of this study: ***"Hazard Mitigation works best as a policy objective of local planning when it is so completely integrated into the comprehensive plan that it becomes a normal assumption behind all daily planning activities."***

As further explanation and achievement of that overarching goal, Investigators found that the FEMA guidance proposes that ***"the most effective way to promote resilience at the community level is to integrate the consideration of risk, and ways to reduce or eliminate risk, into all decisions."***¹

¹ www.fema.gov/multi-hazard-mitigation-planning, "Building Community Resilience by Integrating Hazard Mitigation, Integrating Hazard Mitigation Into the Local Comprehensive Plan".

Study Area Map



Methodology

Collection of Plans and Data

The Comprehensive Plans and Hazard Mitigation Plans from the six coastal counties and 15 municipalities in the study area were collected for review. These jurisdictions are identified on the study area map on the previous page. Some towns in the study area did not have individual comprehensive plans, and some were included in multi-jurisdictional hazard mitigation plans with their counties. A comprehensive list of reviewed plans can be found listed in the Sources Cited section of this study.

Selection of Hazard Mitigation Principles

The research study began with the selection of hazard mitigation principles. Investigators reviewed each Hazard Mitigation Plan to determine the principles that would be used as indicators for the project. Investigators also reviewed the Statewide Hazard Mitigation Plan 2010 published by the Mississippi Emergency Management Agency (MEMA). A total of 29 principles were culled from these reviews and were included in the research study. These principles were also used in the matrix tool to identify existing connections and/or gaps between the Hazard Mitigation Plans and the Comprehensive Plans.

Additionally, new Federal Emergency Management Agency (FEMA) guidelines effective October 1, 2013, were reviewed to ascertain that any new requirements were included as principle indicators in the study.

Before actual analysis began, the hazard mitigation principles were previewed by Investigators at the Bays and Bayous Symposium in Biloxi on November 15, 2012. Approximately 30 people were in attendance at the presentation and were given the opportunity for input.

Creation and Completion of Tools

A matrix tool was developed to attribute each individual hazard mitigation principle to goals and objectives found in the Comprehensive Plan. This matrix was the most important tool developed for the study, as it formed the basis for the collection and analysis of data central to the study. The matrix tool was completed for each comprehensive

plan reviewed. As the comprehensive plan review was in progress, reviewers used the matrix to log in a goal, objective, or policy found in that plan that also addressed a particular hazard mitigation principle. Investigators also documented how the principle was addressed and in what section of the plan it was found.

Working documents & tools, including individual jurisdiction matrices, are not included in this document, but are available to individual jurisdictions upon request.

After completing the matrix for each community in the study area, investigators combined the individual results into a table. This spreadsheet tool was used to tally the combined results, compare an individual community's performance against other communities, and identify the gaps and connections between the plans.

Another table was created to assign the 29 hazard mitigation principles to the four required components of a comprehensive plan, as specified in Section 17-1-1 of the Mississippi Code. This was done to assist in developing recommendations on integrating the principles where they best fit into specific sections of the comprehensive plan.

Using both the matrix tool and the spreadsheet tool, profiles were created for each jurisdiction. Each individual profile showed the results of the matrix review, including how well hazard mitigation principles were currently integrated into local plans. The profiles also gave specific recommendations, by comprehensive plan component, for ways to enhance the integration of the plans. Drafts of these jurisdiction profiles were shared with community planners and emergency managers for their review and comment prior to the finalization of the study. Review comments from jurisdictions are included in the Appendix section of this study.

Survey of Jurisdictions

Although the matrix review and analysis formed the crux of the study, Investigators determined during the course of the study that a jurisdictional survey could be a valuable additional tool to learn more about how local jurisdictions prepare local plans and who is involved in

the process. Investigators also realized that this tool could be used to capture additional information that could help identify perceptions about the extent of integration of hazard mitigation principles that are currently in comprehensive plans within the study area.

SMPDD Investigators developed an online survey form to collect this self-reporting data from jurisdictions. Certain local officials most likely to be involved in preparing hazard mitigation plans and comprehensive plans were specifically invited to participate in the online survey. Of the 36 officials invited to complete the survey, 22 responded, although one response was Incomplete.

Contact information, including email addresses, was compiled for city and county planners, emergency managers, and related professionals whose responsibilities typically extend to planning or emergency management functions. While the contact information was being collected, a survey was developed and compiled using Survey Monkey. Portions of the survey were based on the Safe Growth Audit (Godschalk 2009) advocated by the American Planning Association's "Hazard Mitigation: Integrating Best Practices into Planning."

Invitations to participate were emailed to the targeted group of professionals. The emails informed participants that survey results would become part of a study about how multiple local plans could be effectively coordinated to create more resilient communities. They were also informed that survey results would be shared with all jurisdictions

and specific practical recommendations for each jurisdiction would be part of the final study. A link to the survey was provided in the email, and participants were asked to complete the survey by a specific date. Two follow-up email reminders were sent to participants, including one that extended the original deadline. Most jurisdictions within the study area had at least one response; however, a few jurisdictions did not participate in the survey, specifically Gautier, Pass Christian, and Picayune.

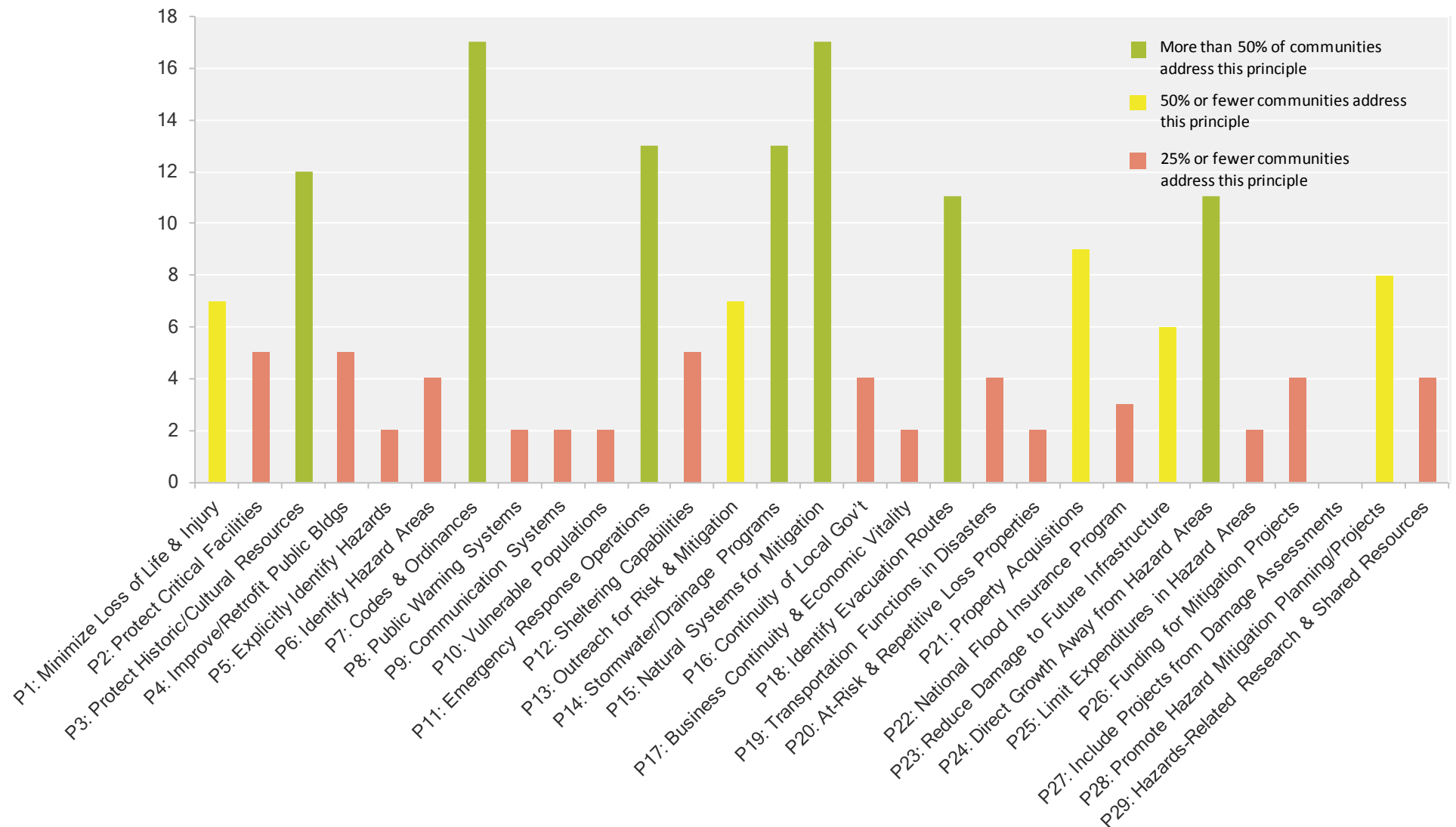
A few jurisdictions submitted responses from planners AND emergency managers, or from officials whose responsibilities included issues related to planning and/or emergency management. This represented an ideal response, giving perspectives from both the planners and the emergency managers in a particular jurisdiction. Those jurisdictions were Bay St. Louis, D'Iberville, Jackson County, and Long Beach. It should be noted, however, that not all jurisdictions had both categories – planners and emergency managers – on their staffs.

Survey Results

Responses were collected following the final response deadline, and analysis of the responses was created using Survey Monkey tools. Survey results and the analysis of results are shown via charts and tables in the study. The full survey form can be found in the Tools section of this study.

Analysis of Matrix & Tally Results and Associated Recommendations

A total of twenty (20) comprehensive plans were reviewed for the study by Investigators. The review focused primarily on the Goals and Objectives section of the Plans, in order to clearly identify and acknowledge the jurisdiction's intent to address a particular issue through a policy, regulation, code, or other formal means of commitment. Investigators also carefully reviewed the Table of Contents and Indices of each Comprehensive Plan to identify other sections that could potentially include clear commitments to addressing hazard mitigation principles. In the jurisdiction profiles, these sections were specifically identified.



Of the 29 Hazard Mitigation principles used for the study, the majority (58.62%) are addressed by 25% or fewer of the jurisdictions.

Comprehensive Plans for the City of Pass Christian and Harrison County address the most Hazard Mitigation principles, at 17 and 16 respectively. Bay St. Louis and George County closely follow with 15 of the 29 principles addressed in their Comprehensive Plans. Pascagoula and Ocean Springs both address 13 Hazard Mitigation principles; Gautier addresses 12. Biloxi, D'Iberville, Gulfport, Hancock County, Jackson County, Long Beach, Moss Point, Waveland, Lucedale, Pearl River County, Picayune, Stone County and Wiggins -- each address 10 or fewer of the 29 Hazard Mitigation Principles.

Some of the most critical of the Hazard Mitigation Principles -- and ones that are most relevant to comprehensive planning -- are addressed by fewer than 50% of the jurisdictions. These include:

- Minimizing loss of life and injury
- Protecting critical infrastructure
- Retrofitting public buildings
- Reducing potential damage to future buildings and infrastructure

Several Comprehensive Plans had separate sections or subsections for Hazard Mitigation/ Emergency Management. These jurisdictions included:

- George County: Section on "Safe Communities"
- Harrison County: Section on "Safe Communities"
- Ocean Springs: Subsection on "Emergency Management and Hazard Mitigation"
- Gautier: Subsection on "Disaster Preparedness Actions"
- Long Beach: Subsection on "Flood Hazard Mitigation & Emergency Management Strategy"
- Pass Christian: "Appendix B: Incorporate Goals & Objectives from Existing Plans (Hazard Mitigation Plan/ Storm Water Management Plan)"
- Pascagoula: Subsection on "Natural Environment containing a subsection on Natural Hazards"
- Wiggins: Subsection on "Hurricane & Disaster Preparedness"
- Picayune: Transportation component contains a brief subsection on "Disaster Preparedness/Contraflow"

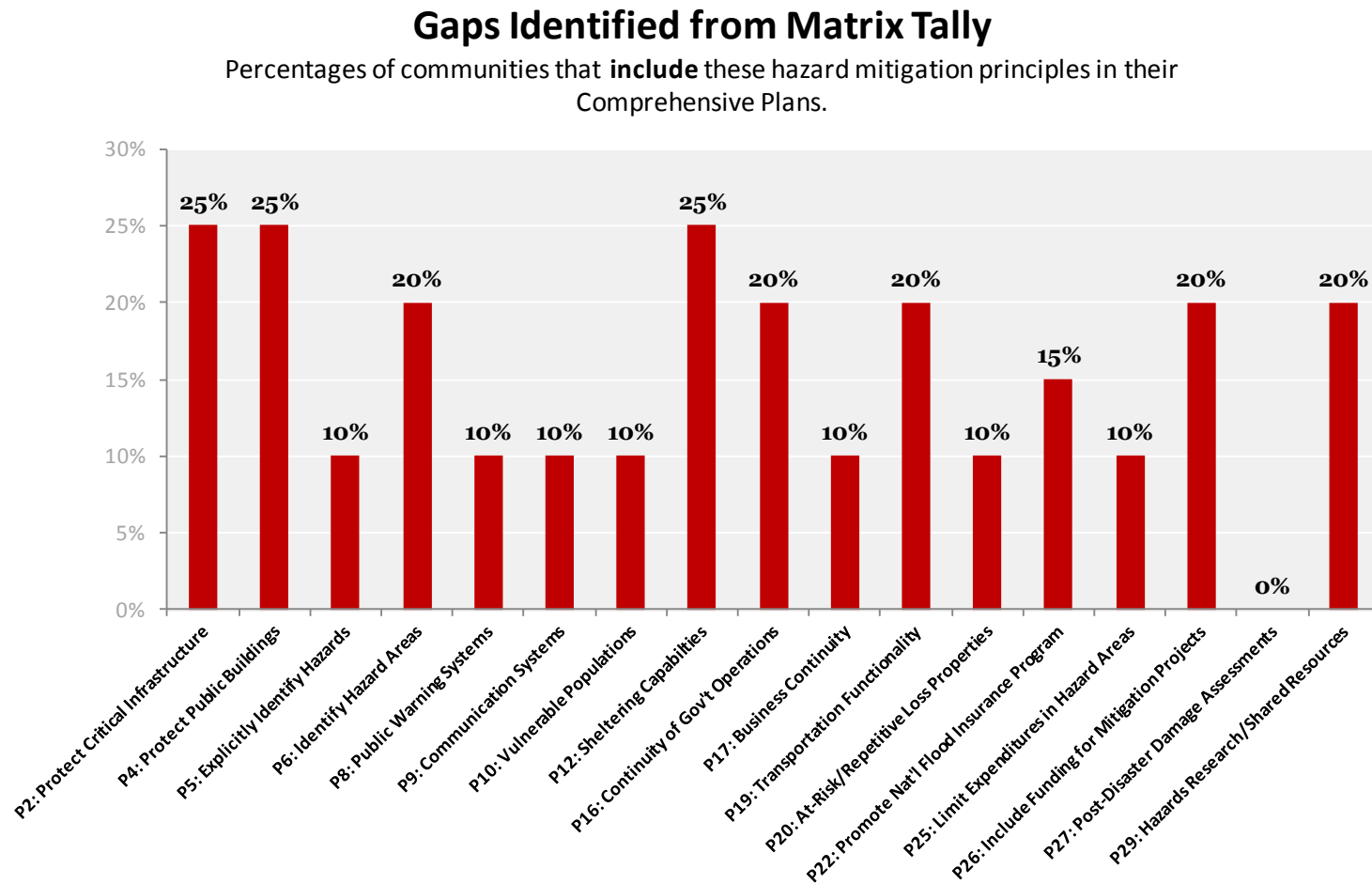
Gaps and Connections Identified from the Matrix

Gaps

Study results showed the following gaps between hazard mitigation principles and comprehensive plans. These 17 hazard mitigation principles were the least likely to be found in Comprehensive Plans within the study area:

- Protect Critical Facilities, Infrastructure, and Systems – 5 jurisdictions, 25%
- Improve and Retrofit Public Buildings – 5 jurisdictions, 25%
- Explicitly Identify Hazards – 2 jurisdictions, 10%
- Identify Hazard Areas – 4 jurisdictions, 20%
- Enhance Public Warning & Information Systems – 2 jurisdictions, 10%
- Provide & Promote Communication Systems – 2 jurisdictions, 10%
- Consider Vulnerable Populations – 2 jurisdictions, 10%
- Improve Sheltering Capabilities – 5 jurisdictions, 25%
- Plan for Continuity of Local Government Operations – 4 jurisdictions, 20%
- Protect Business Continuity and Economic Vitality – 2 jurisdictions, 10%
- Address Transportation Functionality during Disasters – 4 jurisdictions, 20%
- Reduce the Number of At-Risk and Repetitive Loss Properties – 2 jurisdictions, 10%
- Promote the National Flood Insurance Program – 3 jurisdictions, 15%
- Limit Expenditures in Hazard Areas – 2 jurisdictions, 10%
- Include Funding for Mitigation Projects – 4 jurisdictions, 20%
- Identify Needs and Projects from Post-Disaster Damage Assessments – 0 jurisdictions
- Develop and Maintain Hazards-Related Research/Shared Resources – 4 jurisdictions, 20%

The following chart graphically depicts the tallied results for these 17 principles identified as gaps.



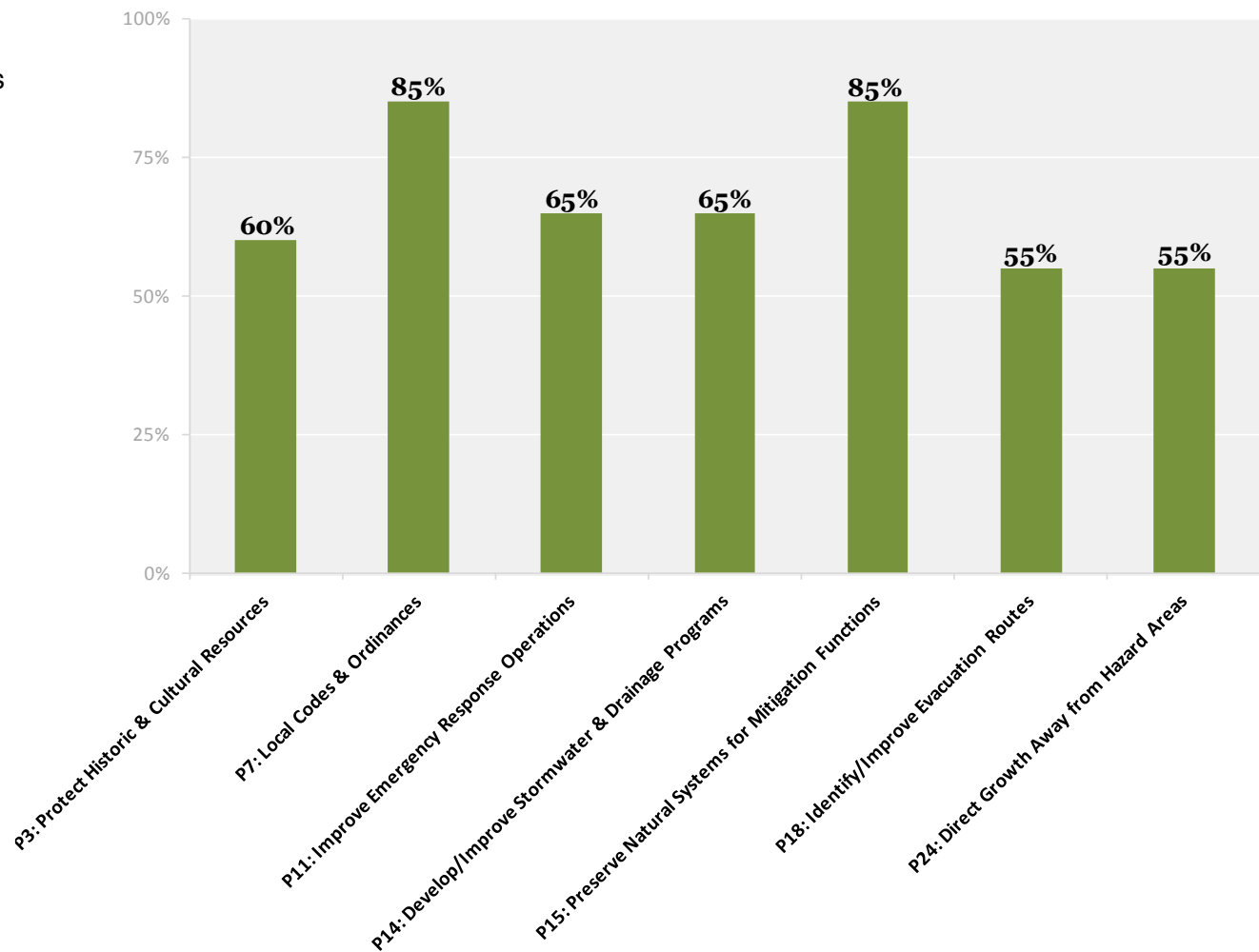
Connections

Study results showed the following connections between hazard mitigation principles and comprehensive plans. These 7 hazard mitigation principles were the most likely to be found in Comprehensive Plans within the study area:

- Protect Historic and Cultural Resources – 12 jurisdictions, 60%
- Encourage Adoption, Improvement, and Enforcement of Local Codes and Ordinances – 17 jurisdictions, 85%
- Improve Emergency Response Operations – 13 jurisdictions, 65%
- Develop or Improve Stormwater /Drainage Programs – 13 jurisdictions, 65%
- Preserve, Create, and Restore Natural Systems to Serve Natural Mitigation Functions – 17 jurisdictions, 85%
- Identify and Improve Evacuation Routes – 11 jurisdictions, 55%
- Direct Growth Away from Hazard Areas to Safe Areas – 11 jurisdictions, 55%

Connections Identified from Matrix Tally

Percentages of communities that **include** these hazard mitigation principles in their Comprehensive Plans.



General Recommendations for Integrating Hazard Mitigation Principles into Comprehensive Plans

Based on the results derived from the matrix, tally, and other tools, Investigators selected ten broad recommendations that should be applied to every jurisdiction within the study area.

1. Comprehensive Plans written prior to Hurricane Katrina (August 2005) should be updated as soon as possible. In addition, Comprehensive Plans should be carefully reviewed and updated within 2 years following a major disaster.
2. Comprehensive Plans should include a separate section that specifically addresses public safety/emergency management/hazard mitigation.
3. Comprehensive Plans should be updated on the same five-year schedule as Hazard Mitigation Plans to streamline the planning process and enhance the correlation between the Plans.
4. There should be cross-pollination for the development of Hazard Mitigation Plans and Comprehensive Plans. It may not be feasible for the same consultant to prepare both plans, but the guiding committee for each should include both Planners and Emergency Managers for the jurisdiction.
5. Cities/Counties should ensure that the local Hazard Mitigation Plan and the local Comprehensive Plan have complementary goals and objectives. They need not be identical, but should be similar to and supportive or reflective of each other.
6. Establishing goals, objectives, and policies that are clearly linked to risk reduction and resiliency should be a priority in comprehensive plans and all other local plans.
7. Each of the mandatory 4 components of the Comprehensive Plan can and should include actions that clearly connect to hazard mitigation planning. Specific sample policy recommendations for the inclusion of the 29 Hazard Mitigation Principles are in the Appendix.
8. Hazard mitigation actions should be included in the capital improvements program (which should be part of the Comprehensive Plan) to increase the likelihood of funding for specific mitigation projects. This also helps to ensure that hazard mitigation actions are implemented through government expenditures.
9. Jurisdictions should use hazard risk geography and mapping to guide land use and redevelopment intensity patterns. This helps to enhance the power of mapping as a tool to aid in decision-making.
10. Jurisdictions should conduct an audit of local codes and ordinances to identify opportunities to incrementally build a more sustainable community for the future.

Specific Recommendations – City/County Jurisdiction Profiles

In addition to the ten general recommendations for every jurisdiction, Investigators also developed specific recommendations for each reviewed jurisdiction within the study area. Profiles were created for each jurisdiction to summarize individual results and share some specific recommendations with jurisdictional officials. Those profiles follow in alphabetical order.



Jurisdiction Profile:

City of Bay St. Louis

JURISDICTION PROFILE: CITY OF BAY ST. LOUIS

INTRODUCTION: The City of Bay St. Louis adopted the current Comprehensive Plan on March 23, 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Bay St. Louis Plan also includes chapters titled “Existing Land Use”, “Demographic and Economic Profile”, and “Implementation Recommendations and Plan Maintenance”. The Capital Improvements Program is contained within the chapter on Implementation Recommendations. Appendices contain the Hancock County Greenways Plan and the Mississippi Renewal Forum document “Rebuilding Bay St. Louis”.

GENERAL ANALYSIS: The review showed that the Bay St. Louis Comprehensive Plan was among the most effective in the Coast counties in addressing hazard mitigation principles, and had successfully integrated 15 of the 29 HM principles surveyed, or 52% of the total. Of the 20 communities included in the study, only 3 outperformed Bay St. Louis in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Bay St. Louis Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Historic and Cultural Resources
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes *
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program

- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Including Funding for Mitigation Projects
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

* No goal was included for this principle, but there was a section in the Transportation component that dealt specifically with Hurricane Evacuation, including a map of routes.

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protecting Critical Facilities, Infrastructure and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Addressing Transportation Functionality During Disasters
- Limiting Expenditures in Hazard Areas
- Identifying Needs and Projects from Post-Disaster Damage Assessments

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Bay St. Louis has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Bay St. Louis and Hancock County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Bay St. Louis Hazard Mitigation Plan was written in September 2011 and is due to expire in 2016. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2016 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

The Bay St. Louis Plan is sprinkled with references to public safety and emergency management, as well as references to Hurricane Katrina and its impacts. These existing connections to hazard mitigation should be strengthened and emphasized.

Goals and Objectives Recommendations: We recommend that Bay St. Louis add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Bay St. Louis is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Bay St. Louis will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]**
- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**
- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**

- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Bay St. Louis and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. **[Addresses HM Principles 5 and 6.]**
2. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**

2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Biloxi

JURISDICTION PROFILE: CITY OF BILOXI

INTRODUCTION: The City of Biloxi adopted the current Comprehensive Plan in December, 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Biloxi plan also includes chapters titled “Natural, Cultural and Historic Resources”, “Housing”, “Economic Development”, “Neighborhood Improvement Strategies”, “Downtown Revitalization Strategy”, and “Regional Planning Context”. The Capital Improvements Program is contained within the chapter on “Implementation”.

GENERAL ANALYSIS: The review showed that the Biloxi Comprehensive Plan was about average relative to other Coast cities and counties in addressing hazard mitigation principles, and had successfully integrated 10 of the 29 HM principles surveyed, or 34% of the total. Of the 20 communities included in the study, 1 matched Biloxi’s results and 7 outperformed Biloxi in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Biloxi Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Critical Facilities, Infrastructure and Systems
- Protection of Historic and Cultural Resources
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Increasing Property Acquisitions
- Directing Growth Away from Hazard Areas to Safe Areas
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality During Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Assessments
- Developing and Maintaining Hazards-Related Research-Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Biloxi has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Biloxi and Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Biloxi Hazard Mitigation Plan was written in 2012 and is due to expire in 2017. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2017 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

While the Biloxi Plan references public safety and emergency management, as well as Hurricane Katrina and its impacts, these existing connections to hazard mitigation should be strengthened and emphasized.

Goals and Objectives Recommendations: We recommend that Biloxi add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Biloxi is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Biloxi will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]

- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Biloxi and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]
3. 3Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]
4. Adopt an ordinance that prohibits development within, or filling of,

wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**

5. Add building code provisions that require new construction to be strengthened to withstand hazard forces and that require elevation of structures to withstand hazard forces. **[Addresses HM Principle 23.]**
6. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**
7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**

8. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 26.]**
9. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of D'Iberville

JURISDICTION PROFILE: CITY OF D'IBERVILLE

INTRODUCTION: The City of D'Iberville adopted the current Comprehensive Plan on November 16, 2010. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the D'Iberville Plan also includes chapters titled “General Elements”, “Demographic Analysis”, “Economic Development Strategy” and “Special Analyses”. The Capital Improvements Program is contained within the chapter on Special Analyses.

GENERAL ANALYSIS: The review showed that the D'Iberville Comprehensive Plan was about average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 9 of the 29 HM principles surveyed, or 31% of the total. Of the 20 communities included in the study, 1 matched D'Iberville's rating and 9 outperformed D'Iberville in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the D'Iberville Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Critical Facilities, Infrastructure, and Systems
- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Identifying Hazard Areas
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Explicitly Identifying Hazards
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, D'Iberville has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in D'Iberville and Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The D'Iberville Hazard Mitigation Plan was written in 2011 and is due to expire in 2016. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2016 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No specific references to public safety, emergency management or mitigation of hazards were noted.

Goals and Objectives Recommendations: We recommend that D'Iberville add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that D'Iberville is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. D'Iberville will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response

capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]

- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect D'Iberville and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. [Addresses HM Principle 20.]
3. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. [Addresses HM Principle 21.]
4. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]
5. Adopt a policy that restricts land use in hazard areas, including

the provision of public utilities and services, where these facilities and services might encourage development in hazard areas.

[Addresses HM Principle 25.]

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure

that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**
2. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
3. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
6. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26 and 28.]**
7. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Gautier

JURISDICTION PROFILE: CITY OF GAUTIER

INTRODUCTION: The City of Gautier adopted the current Comprehensive Plan on June 16, 2009. In addition to three of the four required components – Land Use Plan, Transportation Plan, and Community Facilities Plan – the Gautier Plan includes Goals and Objectives in a chapter titled “Community Vision”. Other chapters in the Plan are devoted to “Existing Conditions”, “Housing”, and “Capital Improvement Plan”.

GENERAL ANALYSIS: The review showed that the Gautier Comprehensive Plan was above average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 12 of the 29 HM principles surveyed, or 41% of the total. Of the 20 communities included in the study, 6 outperformed Gautier in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Gautier Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Protection of Historic and Cultural Resources
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Increasing Property Acquisitions
- Including Funding for Mitigation Projects
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Gautier has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Gautier and Jackson County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Jackson County Hazard Mitigation Plan (including the City of Gautier and other unincorporated areas) was approved by FEMA in January 2013 and is due to expire in 2018. A review of the Gautier Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2018 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Community Facilities chapter contains an Implementation and Action Section, which includes a table (Table 25) detailing specific steps that should be taken. There is a category for Disaster Preparedness actions.

Goals and Objectives Recommendations: We recommend that Gautier add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Gautier is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Gautier will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]**
- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**

- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**
- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Gautier and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. **[Addresses HM Principles 5 and 6.]**
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
3. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**

4. Add building code provisions that require new construction to be strengthened to withstand hazard forces and that require elevation of structures to withstand hazard forces. **[Addresses HM Principle 23.]**
5. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23 and 24.]**
6. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
2. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
3. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
4. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**
5. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
6. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
7. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

George County

JURISDICTION PROFILE: GEORGE COUNTY

INTRODUCTION: The George County Comprehensive Plan reviewed for this project was adopted by the County on June 26, 2009. Two of the four required components – Land Use Plan and Transportation Plan are chapters of the Plan. A chapter or section addressing Communities Facilities, one of the required components, could not be found. The fourth required element, Long-Term Goals and Objectives (called Goals, Strategies and Actions in this Plan), was addressed throughout the Plan and organized within individual chapters. Additional chapters are titled “Communities”, “Parks, Open Space, and Recreation”, “Safe Communities”, “Economic Vitality”, “Intergovernmental Cooperation”, “Capital Improvement Element”, and “Background Assessment”. The Capital Improvements Plan was included in the chapter on Capital Improvement.

GENERAL ANALYSIS: The review showed that the George County Comprehensive Plan was among the most effective relative to other Coast cities and counties in addressing hazard mitigation principles, and had successfully integrated 15 of the 29 HM principles surveyed, or 52% of the total. Of the 20 communities included in the study, 1 matched George County and only 2 outperformed the County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the George County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Protecting Critical Facilities, Infrastructure and Systems
- Improving and Retrofitting Public Buildings
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Providing and Promoting Communication Systems
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation

- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protection of Historic and Cultural Resources
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Considering Vulnerable Populations
- Developing or Improving Stormwater/Drainage Programs
- Addressing Transportation Functionality During Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, George County has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in George County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The George County Hazard Mitigation Plan was adopted on March 25, 2008 and is expiring in 2013. An update of the Hazard Mitigation Plan is currently under review by MEMA/FEMA for approval; once approved and adopted, this update will expire in 2018. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2018 (or earlier) Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Safe Communities chapter is an excellent way to begin integrating hazard mitigation principles into the Comprehensive Plan. Specific suggestions for the expansion of this chapter and other sections of the Plan are detailed below.

Goals and Objectives Recommendations: We recommend that George County expand their integration of hazard mitigation principles and enhance the chapter on Safe Communities to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that George County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. George County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the County. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. This section should include a narrative that explicitly identifies the hazards most likely to affect George County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]

3. Adopt a policy to address stormwater and drainage issues. **[Addresses HM Principle 14.]**
4. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
5. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
6. Adopt a policy that promotes the National Flood Insurance Program. **[Addresses HM Principle 22.]**
7. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
8. Add building code provisions that require new construction to be strengthened to withstand hazard forces and that require elevation of structures to withstand hazard forces. **[Addresses HM Principle 23.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
2. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**
3. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26 and 28.]**
4. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Gulfport

JURISDICTION PROFILE: CITY OF GULFPORT

INTRODUCTION: The City of Gulfport adopted the current Comprehensive Plan on March 2, 2004. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Gulfport Plan includes additional chapters titled “Introduction” and “Population and Economy”. Attachments include “Comprehensive Drainage Study”, “Comprehensive Master Plan for Water Utilities System”, and “Comprehensive Master Plan for Sewer Utilities System”.

GENERAL ANALYSIS: The review showed that the Gulfport Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 6 of the 29 HM principles surveyed, or 21% of the total. Of the 20 communities included in the study, 1 matched Gulfport’s results and 12 outperformed Gulfport in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Gulfport Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Protection of Historic and Cultural Resources
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Reducing Potential Damage to Future Buildings and Infrastructure

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings

- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Gulfport has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Gulfport and Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The City of Gulfport Hazard Mitigation Plan that was reviewed for this project was adopted by the City on October 2, 2007 and was due to expire in 2012. It is believed that Gulfport may be in the process of updating the 2007 version of the Hazard Mitigation Plan, but that update was not available for review. A review of the Gulfport Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, or as soon as practicable afterward, and a 2013 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No references were found to emergency management or mitigation of hazards. The Community Facilities section contained a reference to public safety; however, the review showed that this was primarily an analysis of police and fire buildings and did not include a discussion about services or a statement about the City's policies regarding public safety.

Goals and Objectives Recommendations: We recommend that Gulfport add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Gulfport is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Gulfport will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Gulfport and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]

2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
3. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
4. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
5. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23 and 24.]**
6. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**

2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**

6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

Hancock County

JURISDICTION PROFILE: HANCOCK COUNTY

INTRODUCTION: Hancock County adopted the current Comprehensive Plan on November 17, 2010. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – Hancock County’s Plan includes additional chapters titled “Housing Plan”, “Natural Resources”, “Economic Development Plan”, and “Plan Administration and Implementation”.

GENERAL ANALYSIS: The review showed that Hancock County’s Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 6 of the 29 HM principles surveyed, or 21% of the total. Of the 20 communities included in the study, 2 matched Hancock County’s results and had outperformed Hancock County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Hancock County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Historic and Cultural Resources
- Providing and Promoting Communication Systems
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes
- Increasing Property Acquisitions
- Directing Growth Away from Hazard Areas to Safe Areas

HM Principles Not Addressed: The gap analysis indicated that the se hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings

- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Enhancing Public Warning and Information Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research-Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Hancock County has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Hancock County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Hancock County Hazard Mitigation Plan Update, 2006 was adopted by the Hancock County Board of Supervisors on August 7, 2006 and was due to expire in 2011. It is believed that Hancock County may be in the process of updating the 2006 version of the Hazard Mitigation Plan, but that update was not available for review. A review of the Hancock County Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, or as soon as practicable afterward, and a 2013 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Comprehensive Plan did include a map of hurricane evacuation routes and the Community Facilities chapter included a list of all fire protection districts describing services and listing the current equipment inventory.

Goals and Objectives Recommendations: We recommend that Hancock County add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Hancock County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Hancock County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12,**

18, 19, 20, and 24.]

- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**
- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**
- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Hancock County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the County. **[Addresses HM Principles 5 and 6.]**
2. Adopt a policy that encourages adoption, improvement, and enforcement of local codes and ordinances. **[Addresses HM Principle 7.]**
3. Adopt a policy that develops or improves stormwater and/or

drainage programs. **[Addresses HM Principle 14.]**

4. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
5. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
6. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the County's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the County's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8 and 11.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Add a provision for reducing potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
8. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to

address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**

9. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

Harrison County

JURISDICTION PROFILE: HARRISON COUNTY

INTRODUCTION: Harrison County adopted the current Comprehensive Plan in July, 2008. The Plan does not follow the typical format outlining the four required components. Rather, some of these elements are contained within other chapters. Two of the four required components – Land Use Plan and Transportation Plan – are chapters of the Plan. The Long Term Goals and Objectives are contained in a chapter entitled “Communities”, which contains six (6) separate Community Plans that were developed for the unincorporated areas. The Harrison County Plan also includes chapters titled “Healthy Communities”, “Safe Communities”, “Economic Vitality”, “Tourism”, “Intergovernmental Cooperation”, “Background Assessment”, “Public Involvement” and “Potential Funding Sources”. The Community Facilities component is a subsection of the chapter titled “Background Assessment”. The Capital Improvements Program is contained in the chapter entitled “Fiscal Plan”.

GENERAL ANALYSIS: The review showed that the Harrison County Comprehensive Plan was among the most effective in the Coast counties in addressing hazard mitigation principles, and had successfully integrated 16 of the 29 HM principles surveyed, or 55% of the total. Of the 20 communities included in the study, only 1 outperformed Harrison County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Harrison County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Protecting Critical Facilities, Infrastructure and Systems
- Identifying Hazard Areas
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Enhancing Public Warning and Information Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation

- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Providing and Promoting Communication Systems
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Addressing Transportation Functionality During Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Harrison County has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Harrison County Hazard Mitigation Plan was written in August, 2008 and is due to expire in 2013. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2013 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. A map of hurricane evacuation routes could be added to the chapter on Transportation. While the Land Use and Community Facilities chapters address protection of historic sites and cultural heritage, an additional goal could be added to protect historic and cultural resources from disasters.

Goals and Objectives Recommendations: We recommend that Harrison County expand its chapter on “Safe Communities” to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Harrison County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Harrison County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM

Principles 2, 3, 4, 7, 14, 15, 20, and 21.]

- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community’s preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the County. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. This section should include a narrative that explicitly identifies the hazards most likely to affect Harrison County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan’s Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the County. [Addresses HM Principle 5.]
3. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]

4. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
5. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Adopt a policy that protects historical and cultural resources. **[Addresses HM Principle 3.]**

2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principle 9.]**
3. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
6. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26.]**
7. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

Jackson County

JURISDICTION PROFILE: JACKSON COUNTY

INTRODUCTION: Jackson County adopted the current Comprehensive Plan in 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Jackson County Plan includes additional chapters titled “Population”, “Housing”, “Economics”, and “Intergovernmental Coordination”. The Appendices include four Neighborhood Plans that contain the growth policies and strategies for each unincorporated area.

GENERAL ANALYSIS: The review showed that the Jackson County Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 6 of the 29 HM principles surveyed, or 21% of the total. Of the 20 communities included in the study, 1 matched Jackson County’s results and 12 outperformed the County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Jackson County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Increasing Property Acquisitions

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems

- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Jackson County has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Jackson County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Jackson County Hazard Mitigation Plan was adopted by the County in September, 2012 and is due to expire in 2017. A review of the Jackson County Comprehensive Plan should be done concurrently with the next Hazard Mitigation Plan update and a 2017 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Community Facilities chapter includes a public safety assessment that describes fire, law enforcement, and E911 services and future needs. This chapter could include a section on public safety and emergency response during disasters. The Transportation chapter could add sections on hurricane evacuation routes and addressing transportation functionality during disasters.

Goals and Objectives Recommendations: We recommend that Jackson County add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Jackson County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Jackson County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]**

- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**
- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**
- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that protects historical and cultural resources. **[Addresses HM Principle 3.]**
2. This section should include a narrative that explicitly identifies the hazards most likely to affect Jackson County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the County. **[Addresses HM Principles 5 and 6.]**
3. Add a provision for the development or improvement of stormwater and/or drainage programs. **[Addresses HM Principle 14.]**
4. Adopt a policy that reduces the number of at-risk and repetitive

loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps.

[Addresses HM Principle 20.]

5. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
6. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23 and 24.]**
7. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
8. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the County's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the County's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for the protection of historic and cultural resources. **[Addresses HM Principle 3.]**
3. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8 and 9.]**
4. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
5. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
6. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
7. Add a provision that reduces potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
8. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**

9. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
10. Add a provision for identifying needs and projects from post-disaster damage assessments. **[Addresses HM Principle 27.]**
11. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Long Beach

JURISDICTION PROFILE: CITY OF LONG BEACH

INTRODUCTION: The City of Long Beach has a Comprehensive Plan that is dated between October 2008 and August 2009; it is unclear if or when the Plan was formally adopted by the City. However, there is a section that was missing from the reviewed Plan that could account for the details regarding adoption, titled “Postscript”. The Plan does not follow the typical format outlining the four required components. Rather, these elements are contained within other chapters. The first required component, Long Term Goals and Objectives, could not be found. However, within a section titled “Guiding Framework”, Key Principles and Key Goals are addressed in subsections. The Land Use component is divided into three separate sections. Future Land Use Recommendations are contained in a section titled “Recommendations & Strategies”. Existing Land Use is contained in a section titled “Physical Setting” and again in a section titled “Special Analyses”. The Transportation Plan is contained in a section titled “Implementation Priorities”, and the Community Facilities Plan is a subsection of that section as well. The Capital Improvements Plan is contained within the chapter on Special Analyses.

GENERAL ANALYSIS: The review showed that the Long Beach Comprehensive Plan was about average relative to other Coast cities and counties in addressing hazard mitigation principles, and had successfully integrated 10 of the 29 HM principles surveyed, or 35% of the total. Of the 20 communities included in the study, 1 matched Long Beach’s rating and 7 outperformed Long Beach in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Long Beach Comprehensive Plan, either as Key Principles/Key Goals or in other chapters.

- Improving and Retrofitting Public Buildings
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing or Improving Stormwater/Drainage Programs
- Planning for Continuity of Local Government Operations

- Identifying and Improving Evacuation Routes
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Protection of Historic and Cultural Resources
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Protecting Business Continuity and Economic Vitality
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Long Beach has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Long Beach and Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Long Beach Hazard Mitigation Plan is dated February 2013 and will be due to expire in 2018. Adoption status of the Plan is unclear, and the Plan may still be pending approval by FEMA. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2018 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. A paragraph in the Key Principles section titled “Flood Hazard Avoidance and Mitigation” briefly acknowledges the need to address hazard mitigation issues, and recommends the continued exploration of these issues. Again in the Special Analyses chapter, a subsection called “Flood Hazard Mitigation & Emergency Management Strategies” provides an excellent overview of hazard mitigation.

Goals and Objectives Recommendations: We recommend that Long Beach add a subsection that specifically addresses goals and objectives for the combined issues of Public Safety/Emergency Management/Hazard Mitigation. Considering the format of the Long Beach Plan, this subsection would likely fit best in the chapter for “Recommendations & Strategies”. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Long Beach is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Long Beach will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community’s preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the City. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. This section should include a narrative that explicitly identifies the hazards most likely to affect Long Beach and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan’s Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]

3. Adopt policies that encourage the maintenance and restoration of protective ecosystems. **[Addresses HM Principle 15.]**
4. Adopt a policy to provide incentives to develop in areas outside protective ecosystems. **[Addresses HM Principle 15.]**
5. Identify and delineate on land use maps any natural systems that serve beneficial functions and protection from hazards. **[Addresses HM Principle 15.]**
6. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. **[Addresses HM Principle 20.]**
7. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
8. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comp Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision that will protect community facilities of historic and/or cultural significance. Identify these facilities on community maps. **[Addresses HM Principle 3.]**
3. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
6. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26 and 28.]**

7. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan.

[Addresses HM Principle 27.]

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Lucedale

JURISDICTION PROFILE: CITY OF LUCEDALE

INTRODUCTION: The City of Lucedale adopted the current Comprehensive Plan in 2005. The Plan does not follow the typical format outlining the four required components. Rather, these elements are contained within other chapters. The four required components were found throughout the Plan. The Long Term Goals and Objectives component was included in a chapter titled “Study Findings and Goals and Objectives”. Portions of the Land Use Plan component were found in chapters titled “Background and Analysis of Changes Since 1973” (existing land use); “Conceptual Alternatives” (future land use); and “Community Development Plan Update” (general discussion of land use). Similarly, the Transportation Plan was divided between the chapter titled “Background and Analysis of Changes Since 1973” (transportation facilities) and the chapter titled “Community Development Plan Update”. The chapter titled “Implementation” also included some recommendations regarding transportation. The Community Facilities component was not clearly defined but discussion regarding “capital facilities” was found in chapters “Background and Analysis of Changes since 1973” and “Community Development Plan Update”. A Capital Improvements Program could not be found in the Plan.

GENERAL ANALYSIS: The review showed that the Lucedale Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 3 of the 29 HM principles surveyed, or 10% of the total. Of the 20 communities included in the study, 19 outperformed Lucedale in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Lucedale Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Historic and Cultural Resources
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Lucedale has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Lucedale and George County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The City of Lucedale Hazard Mitigation Plan was approved by FEMA and will be adopted by the City on August 6, 2013. It will be slated to expire in 2018. A review of the Lucedale Comprehensive Plan should be done as soon as practicable, and a 2013 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan. All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No references were found to emergency management or mitigation of hazards.

Goals and Objectives Recommendations: We recommend that Lucedale add a chapter to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This chapter should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Lucedale is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Lucedale will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]

- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Lucedale and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that provides for the development or improvement of stormwater and drainage programs. [Addresses HM Principle 14.]
3. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]
4. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. [Addresses HM Principle 21.]
5. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]

6. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23 and 24.]**
7. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
8. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**

8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan.

[Addresses HM Principle 27.]

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Moss Point

JURISDICTION PROFILE: CITY OF MOSS POINT

INTRODUCTION: The City of Moss Point adopted the current Comprehensive Plan on September 15, 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Moss Point Plan also includes chapters titled “Population Study and Projections”, “Housing Characteristics”, “Economic and Employment Analysis” and “Implementation Plan”. The Capital Improvements Program is outlined in the chapter “Implementation Plan”. A list of community projects is outlined in “Community Facilities and Services”.

GENERAL ANALYSIS: The review showed that the Moss Point Comprehensive Plan was about average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 9 of the 29 HM principles surveyed, or 31% of the total. Of the 20 communities included in the study, 1 matched Moss Point’s rating and 9 outperformed Moss Point in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Moss Point Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Critical Facilities, Infrastructure, and Systems
- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Moss Point has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Moss Point and Jackson County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Moss Point Hazard Mitigation Plan was written in February 2013 and is due to expire in 2018. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2018 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No specific references to public safety, emergency management or mitigation of hazards were noted.

Goals and Objectives Recommendations: We recommend that Moss Point add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Moss Point is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Moss Point will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response

capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]

- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Moss Point and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that provides for the development or improvement of stormwater and drainage programs. [Addresses HM Principle 14.]
3. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. [Addresses HM Principle 20.]
4. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. [Addresses HM Principle 21.]
5. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]

6. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
7. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
8. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects

of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8 and 9.]**
2. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
3. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**
6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Ocean Springs

JURISDICTION PROFILE: CITY OF OCEAN SPRINGS

INTRODUCTION: The Ocean Springs Comprehensive Plan reviewed for this project was dated March 2010 and called a Public Review Draft. Three of the four required components – Long-Term Goals and Objectives (titled Goals & Policies in this Plan), Land Use Plan, and Community Facilities Plan are chapters in the Plan. The required Transportation Plan is a subsection of the Community Facilities chapter. The Ocean Springs Plan also includes chapters titled “Vision & Guiding Principles”, “Community Growth & Development”, “Planning Places”, “Community Design”, “Natural Resources”, and “Implementation”. The Capital Improvements Plan is in the “Implementation” chapter.

GENERAL ANALYSIS: The review showed that the Ocean Springs Comprehensive Plan was among the most effective in the Coast counties in addressing hazard mitigation principles, and had successfully integrated 13 of the 29 HM principles surveyed, or 45% of the total. Of the 20 communities included in the study, 1 matched Ocean Springs’ score and only 4 outperformed Ocean Springs in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Ocean Springs Comprehensive Plan, either in the Goals & Policies section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Protection of Historic and Cultural Resources
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Identifying and Improving Evacuation Routes

- Addressing Transportation Functionality During Disasters
- Directing Growth Away from Hazard Areas to Safe Areas
- Including Funding for Mitigation Projects
- Supporting or Promoting Hazard Mitigation Planning and Projects

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protecting Critical Facilities, Infrastructure and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Limiting Expenditures in Hazard Areas
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Ocean Springs has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Ocean Springs and Jackson County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Ocean Springs Hazard Mitigation Plan was adopted on December 20, 2005 and was due to expire in 2010. It is believed that an updated version of this Plan has been completed; however, a copy was not available to review for this project. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, or as soon as practicable afterward, and a 2015 Addendum (or earlier) to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Community Facilities section has an Emergency Management & Hazard Mitigation subsection that is an excellent overview with many details about emergency shelters, the National Flood Insurance Program, a FEMA flood zone table, and other miscellaneous data. Maps are included for flood zones, evacuation zones and routes, and storm surge. The Implementation chapter also includes specific policies addressing hazard mitigation.

Goals and Objectives Recommendations: We recommend that Ocean Springs add a subsection under Goals & Policies to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Ocean Springs is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Ocean Springs will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

➤ **Objective 1:** Protect residents & visitors to minimize potential for

loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]

➤ **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]

➤ **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]

➤ **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]

➤ **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]

➤ **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]

➤ **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]

➤ **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Ocean Springs and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]

3. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
4. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
5. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
6. Add building code provisions that require new construction to be strengthened to withstand hazard forces and that require elevation of structures to withstand hazard forces. **[Addresses HM Principle 23.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

The gap analysis did not reveal any specific deficiencies in the Transportation sections of the Ocean Springs Plan. However, it is recommended that the City review the suggestion below to ensure that vulnerable populations are adequately covered in the Comprehensive Plan.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish,

and Vietnamese to target non-English speaking communities.

[Addresses HM Principle 10.]

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**

7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

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Jurisdiction Profile:

City of Pascagoula

JURISDICTION PROFILE: CITY OF PASCAGOULA

INTRODUCTION: The City of Pascagoula Comprehensive Plan reviewed for this project was dated 2006. Pascagoula's Plan contains chapters for three of the four required components – Land Use Plan (titled “Land Use & Community Design”), Transportation, and Community Facilities Plan (titled “Community Services and Facilities”). Rather than a separate chapter on Long-Term Goals and Objectives, the other required component, this Plan offers a subsection under each chapter for “Goals, Policies, and Programs”. In addition to these required elements, the Plan also includes chapters titled “Housing”, “Natural Environment”, “Business & Economics”, “Governance”, and “Comprehensive Plan Implementation.” The Capital Improvements Plan could not be found in this document.

GENERAL ANALYSIS: The review showed that the Pascagoula Comprehensive Plan was among the most effective in the Coast counties in addressing hazard mitigation principles, and had successfully integrated 13 of the 29 HM principles surveyed, or 45% of the total. Of the 20 communities included in the study, 1 matched Pascagoula's score and only 4 outperformed Pascagoula in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the components of the Pascagoula Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protection of Historic and Cultural Resources
- Explicitly Identifying Hazards
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions

- Identifying and Improving Evacuation Routes
- Increasing Property Acquisitions
- Including Funding for Mitigation Projects
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protecting Critical Facilities, Infrastructure and Systems
- Improving and Retrofitting Public Buildings
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Addressing Transportation Functionality During Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Identifying Needs and Projects from Post-Disaster Damage Assessments

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Pascagoula has made good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Pascagoula and Jackson County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Pascagoula Hazard Mitigation Plan reviewed for this project was updated in 2006 and due to expire in 2011. The City issued an RFP for a Plan revision in August 2011, and it is believed that an updated version of the 2006 Plan has been completed. However, a copy was not available to review for this project. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, or as soon as practicable afterward, and a 2016 Addendum (or earlier) to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Natural Environment section contains goals and policies that address “Natural Hazards”. According to the Index, the chapter titled Comprehensive Plan Implementation also includes some specifics regarding the Natural Environment; however, this chapter was missing from the Plan and could not be reviewed.

Goals and Objectives Recommendations: We recommend that Pascagoula add a separate chapter to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This chapter should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Pascagoula is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Pascagoula will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community’s preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Pascagoula and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan’s Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]

3. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
4. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
5. Add building code provisions that require new construction to be strengthened to withstand hazard forces and that require elevation of structures to withstand hazard forces. **[Addresses HM Principle 23.]**
6. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**

7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Pass Christian

JURISDICTION PROFILE: PASS CHRISTIAN

INTRODUCTION: The Pass Christian Comprehensive Plan reviewed for this project is dated October 26, 2007 (Revised). In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Pass Christian Plan also includes chapters titled “Economy”, “Population and Housing”, and “Recommendations”. The Capital Improvements Plan could not be located in any chapter of the Comprehensive Plan.

GENERAL ANALYSIS: The review showed that the Pass Christian Comprehensive Plan was the most effective relative to other Coast counties and cities in addressing hazard mitigation principles, and had successfully integrated 17 of the 29 HM principles surveyed, or 59% of the total. Of the 20 communities included in the study, Pass Christian outperformed all the rest in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Pass Christian Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Minimizing the Loss of Life and Injury
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Encouraging the Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Reducing the Number of At-Risk and Repetitive Loss Properties

- Increasing Property Acquisitions
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Developing and Maintaining Hazards-Related Research and Shared Resources

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Protecting Critical Facilities, Infrastructure and Systems
- Protection of Historic and Cultural Resources
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Addressing Transportation Functionality During Disasters
- Promoting the National Flood Insurance Program
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Pass Christian has made very good progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Pass Christian and Harrison County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Pass Christian Hazard Mitigation Plan was adopted on August 2, 2011 and is due to expire in 2016. A review of the Comprehensive Plan should be done concurrently with the Hazard Mitigation Plan update, and a 2016 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The Recommendations chapter contains a subsection titled “Appendix B: Incorporate Goals and Objectives from Existing Plans (Hazard Mitigation Plan/Storm Water Management Plan)”. This subsection includes 5 hazard mitigation goals. This is a very good way to begin to ensure that hazard mitigation principles are integrated into the Comprehensive Plan.

Goals and Objectives Recommendations: We recommend that Pass Christian expand their integration of hazard mitigation principles and add a subsection in the Goals and Objectives chapter to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Pass Christian is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Pass Christian will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community’s preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the City. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the

enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**

3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principle 26 and 28.]**
5. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

Pearl River County

JURISDICTION PROFILE: PEARL RIVER COUNTY

INTRODUCTION: The Pearl River County Board of Supervisors adopted the current Comprehensive Plan on May 27, 2010. While the Plan does not follow the typical comprehensive plan format, it does have separate chapters for two of the four required components: Transportation and Land Use. Goals and Objectives are listed in both the Transportation and Land Use components and are also listed in other chapters of the plan. These chapters are titled “Housing”, “Community Character and Image” and “Economic Development”. The review did not find the required component for Community Facilities. A Capital Improvements Program also could not be found in any of the chapters.

GENERAL ANALYSIS: The review showed that Pearl River County’s Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 5 of the 29 HM principles surveyed, or 17% of the total. Of the 20 communities included in the study, 2 matched Pearl River County’s results and 14 outperformed the County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Pearl River County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Increasing Property Acquisitions
- Directing Growth Away from Hazard Areas to Safe Areas

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems

- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research-Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Pearl River County has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Pearl River County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Pearl River County Hazard Mitigation Plan Update was adopted by the Pearl River Board of Supervisors in August, 2011 and would be due to expire in 2016. A review of the Pearl River County Comprehensive Plan should be done concurrently with the next Hazard Mitigation Plan update, and a 2016 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No specific references to emergency management or mitigation of hazards were found.

Goals and Objectives Recommendations: We recommend that Pearl River County add a chapter to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Pearl River County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Pearl River County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]
- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]

- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the County. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. This section should include a narrative that explicitly identifies the hazards most likely to affect Pearl River County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the County. [Addresses HM Principles 5 and 6.]
3. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]
4. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]

5. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
6. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital

expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the County's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the County's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision that will protect community facilities of historic and/or cultural significance. Identify these facilities on community maps. **[Addresses HM Principle 3.]**
3. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**
4. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
5. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
6. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
7. Add a provision for reducing potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
8. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
9. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**

10. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan.

[Addresses HM Principle 27.]

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Picayune

JURISDICTION PROFILE: PICAYUNE

INTRODUCTION: The City of Picayune adopted the current Comprehensive Plan on March 24, 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – Picayune’s Plan includes additional chapters titled “Population and Economy”, “Infrastructure”, “Civic Pride and Beautification”, and “Special Analyses”. The Capital Improvements Plan is included in the chapter titled Special Analyses.

GENERAL ANALYSIS: The review showed that the City of Picayune’s Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 4 of the 29 HM principles surveyed, or 14% of the total. Of the 20 communities included in the study, 18 outperformed Picayune in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Picayune Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Developing and Maintaining Hazards-Related Research-Shared Resources

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Protection of Historic and Cultural Resources
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas

- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Picayune has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Picayune and Pearl River County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Pearl River County Hazard Mitigation Plan Update of August, 2011 was adopted by the City of Picayune on August 16, 2011, and is due to expire in 2016. A review of the Picayune Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, and a 2016 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No specific references were found to emergency management or mitigation of hazards. However, there was a section on Disaster Preparedness/Contraflow in the Transportation chapter.

Goals and Objectives Recommendations: We recommend that Picayune add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Picayune is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. The City of Picayune will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM

Principles 2, 3, 4, 7, 14, 15, 20, and 21.]

- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the city/county. Identify these sites on land use maps. [Addresses HM Principle 3.]
2. This section should include a narrative that explicitly identifies the hazards most likely to affect the City of Picayune and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
3. Adopt and enforce local codes and ordinances that support hazard mitigation principles. [Addresses HM Principle 7.]
4. Adopt a policy to address stormwater and drainage issues. [Addresses HM Principle 14.]
5. Adopt policies that encourage the maintenance and restoration of

protective ecosystems. **[Addresses HM Principle 15.]**

6. Adopt a policy to provide incentives to develop in areas outside protective ecosystems. **[Addresses HM Principle 15.]**
7. Identify and delineate on land use maps any natural systems that serve beneficial functions and protection from hazards. **[Addresses HM Principle 15.]**
8. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
9. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
10. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
11. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
12. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
13. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision that will protect community facilities of historic and/or cultural significance. Identify these facilities on community maps. **[Addresses HM Principle 3.]**
3. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**

4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Add a provision for reducing potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

Stone County

JURISDICTION PROFILE: STONE COUNTY

INTRODUCTION: Stone County adopted the current Comprehensive Plan on January 20, 2009. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – the Stone County Plan includes additional chapters titled “Community Vision”, “History of the County”, “Demographics”, “Natural Resources”, “Housing”, and “Implementation Strategy”. The Goals and Objectives chapter is brief, with only 3 broad goals noted. In addition, each individual chapter contains recommendations, most of them excellent suggestions, but these are not stated as goals; rather, they are presented as considerations. The Implementation chapter reiterates the Goals and Objectives, suggesting tools to help implement the objectives. The Plan also includes development models for various land use types and development plans for the unincorporated towns of Perkinston and McHenry. These models are consistent with Smart Growth principles. The Capital Improvements Plan is contained in the Implementation Strategy.

GENERAL ANALYSIS: The review showed that the Stone County Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 7 of the 29 HM principles surveyed, or 24% of the total. Of the 20 communities included in the study, 11 had outperformed Stone County in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Stone County Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Historic and Cultural Resources
- Enhancing Public Warning and Information Systems
- Improving Emergency Response Operations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Directing Growth Away from Hazard Areas to Safe Areas

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing the Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research and Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Stone County has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Stone County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Stone County Hazard Mitigation Plan that was reviewed for this project was adopted by the County on April 2, 2012 and is due to expire in 2017. A review of the Stone County Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, and a 2017 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. The three broad goals in the Goals and Objectives chapter include objectives that relate to hazard mitigation principles, although no specific references to emergency management or mitigation of hazards were found. The Plan strongly promotes implementing Smart Growth principles, some of which have linkages to hazard mitigation principles.

Goals and Objectives Recommendations: We recommend that Stone County add a broad goal under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Stone County is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The County recognizes the vital importance of public safety, emergency management, and mitigation of hazards. Stone County will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]**

- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**
- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**
- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect Stone County and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. **[Addresses HM Principles 5 and 6.]**
2. Adopt and enforce local codes and ordinances that support hazard mitigation principles. **[Addresses HM Principle 7.]**
3. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**

4. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
5. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
6. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23 and 24.]**
7. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the County's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the County's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders and also for the enhancement of public warning and information systems. **[Addresses HM Principles 8 and 9.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Adopt a policy that all community public facilities and structures will be constructed to 2006 International Construction Code standards and will meet or exceed minimum FEMA requirements. **[Addresses HM Principle 23.]**
7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**

8. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
9. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Waveland

JURISDICTION PROFILE: WAVELAND

INTRODUCTION: The City of Waveland adopted the current Comprehensive Plan on April 21, 2010. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – Waveland's Plan includes additional chapters titled "Population Study and Projections", "Housing Characteristics", "Economic and Employment Analyses", and "Implementation Plan".

GENERAL ANALYSIS: The review showed that the City of Waveland's Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 5 of the 29 HM principles surveyed, or 17% of the total. Of the 20 communities included in the study, 2 matched Waveland's results and 15 outperformed Waveland in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Waveland Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Protection of Historic and Cultural Resources
- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Increasing Property Acquisitions

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards

- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Developing and Improving Outreach Programs about Risk and Mitigation
- Planning for Continuity of Local Government Operations
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects
- Developing and Maintaining Hazards-Related Research-Shared Resources

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Waveland has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Waveland and Hancock County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The City of Waveland Hazard Mitigation Plan Update of June, 2007 was adopted by the City of Waveland on July 1, 2008, and is due to expire in 2013. It is believed that Waveland may be in the process of updating the 2007 version of the Hazard Mitigation Plan, but that update was not available for review. A review of the Waveland Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, or as soon as practicable afterward, and a 2013 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. No specific references were found to emergency management or mitigation of hazards.

Goals and Objectives Recommendations: We recommend that Waveland add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Waveland is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. The City of Waveland will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. [Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]
- **Objective 2:** Protect existing resources. [Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]

- **Objective 3:** Protect future resources. [Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]
- **Objective 4:** Enhance the community's preparedness and response capabilities. [Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]
- **Objective 5:** Plan for continuity of public and private operations after a disaster. [Addresses HM Principles 16 and 17.]
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. [Addresses HM Principles 26 and 27.]
- **Objective 7:** Inform the public through education/outreach. [Addresses HM Principles 13, 22, and 28.]
- **Objective 8:** Plan and prepare for shared services/resources. [Addresses HM Principle 29].

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. This section should include a narrative that explicitly identifies the hazards most likely to affect the City of Waveland and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. [Addresses HM Principles 5 and 6.]
2. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. [Addresses HM Principle 20.]
3. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. [Addresses HM Principle 22.]

4. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
5. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
6. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8, 9 and 11.]**
3. Add a provision that covers providing and/or improving community sheltering capabilities for emergencies or hazards. **[Addresses HM Principle 12.]**
4. Add a provision for developing a continuity plan for local government operations. **[Addresses HM Principle 16.]**
5. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
6. Add a provision for reducing potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
7. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**

8. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
9. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

Sample policies or provisions for these recommendations can be found in the Appendix.



Jurisdiction Profile:

City of Wiggins

JURISDICTION PROFILE: WIGGINS

INTRODUCTION: The City of Wiggins Comprehensive Plan was written in 2006; however, the Plan did not indicate whether there was an official adoption by the City. In addition to the four required components – Long-Term Goals and Objectives, Land Use Plan, Transportation Plan, and Community Facilities Plan – Wiggins’ Plan includes additional chapters titled “Infrastructure Element” and “Civic Pride and Beautification”. The Community Facilities Inventory is included as Appendix B. A Capital Improvements Program was not found in any component or chapter of the Plan.

GENERAL ANALYSIS: The review showed that the City of Wiggins’ Comprehensive Plan was below average relative to other Coastal cities and counties in addressing hazard mitigation principles, and had successfully integrated 5 of the 29 HM principles surveyed, or 17% of the total. Of the 20 communities included in the study, 2 matched Wiggins’ results and 15 outperformed Wiggins in integrating the two plans.

HM Principles Addressed: These specific hazard mitigation principles were addressed in the Wiggins Comprehensive Plan, either in the Goals and Objectives section or in other Plan components.

- Encouraging Adoption, Improvement, and Enforcement of Local Codes and Ordinances
- Improving Emergency Response Operations
- Improving Sheltering Capabilities
- Planning for Continuity of Local Government Operations
- Developing and Maintaining Hazards-Related Research-Shared Resources

HM Principles Not Addressed: The gap analysis indicated that these hazard mitigation principles were not specifically addressed as goals or objectives in the Comprehensive Plan.

- Minimizing Loss of Life and Injury
- Protection of Critical Facilities, Infrastructure, and Systems
- Protection of Historic and Cultural Resources

- Improving and Retrofitting Public Buildings
- Explicitly Identifying Hazards
- Identifying Hazard Areas
- Enhancing Public Warning and Information Systems
- Providing and Promoting Communication Systems
- Considering Vulnerable Populations
- Developing and Improving Outreach Programs about Risk and Mitigation
- Developing or Improving Stormwater/Drainage Programs
- Preserving, Creating, and Restoring Natural Systems to Serve Natural Mitigation Functions
- Protecting Business Continuity and Economic Vitality
- Identifying and Improving Evacuation Routes
- Addressing Transportation Functionality during Disasters
- Reducing the Number of At-Risk and Repetitive Loss Properties
- Increasing Property Acquisitions
- Promoting the National Flood Insurance Program
- Reducing Potential Damage to Future Buildings and Infrastructure
- Directing Growth Away from Hazard Areas to Safe Areas
- Limiting Expenditures in Hazard Areas
- Including Funding for Mitigation Projects
- Identifying Needs and Projects from Post-Disaster Damage Assessments
- Supporting or Promoting Hazard Mitigation Planning and Projects

*For the number that corresponds with each Hazard Mitigation Principle, refer to the Tally of Results in the **Tools** section.*

RECOMMENDATIONS: In general, Wiggins has made some progress in incorporating hazard mitigation principles into the Comprehensive Plan and other local planning documents. Planners and Emergency Managers in Wiggins and Stone County can enhance the integration of hazard mitigation principles into local plans by reviewing and considering the broad recommendations given elsewhere in this study, as well as the following specific recommendations.

Overall Recommendation: The Stone County Multi-Jurisdictional Hazard Mitigation Plan Update of 2011 was adopted by the City of Wiggins on April 3, 2012, and is due to expire in 2017. A review of the City of Wiggins Comprehensive Plan should be done concurrently with this Hazard Mitigation Plan update, and a 2017 Addendum to the Comprehensive Plan should be adopted to incorporate additional hazard mitigation principles into the Comp Plan.

All existing connections to hazard mitigation should be strengthened and emphasized, as well as expanded. While the Community Facilities chapter contained a section on Hurricane and Disaster Preparedness, only a pre-disaster fuel agreement, a commitment from the City to work with the County during disasters, and an objective relating to locating funding for a shelter were specified.

Goals and Objectives Recommendations: We recommend that Wiggins add a subsection under Goals and Objectives to specifically address the combined issues of Public Safety/Emergency Management/Hazard Mitigation. This subsection should include an overarching hazard mitigation goal, plus 8 (or more) objectives.

SAMPLE GOAL: Ensure that Wiggins is a disaster-resistant community that can survive, recover from, and thrive after a disaster. The City recognizes the vital importance of public safety, emergency management, and mitigation of hazards. The City of Wiggins will implement this goal through eight major objectives, as well as through the integration of concepts, strategies, and policies that are specific to Land Use, Transportation, and Community Facilities.

- **Objective 1:** Protect residents & visitors to minimize potential for loss of life or injury. **[Addresses HM Principles 1, 8, 9, 10, 11, 12, 18, 19, 20, and 24.]**

- **Objective 2:** Protect existing resources. **[Addresses HM Principles 2, 3, 4, 7, 14, 15, 20, and 21.]**
- **Objective 3:** Protect future resources. **[Addresses HM Principles 7, 14, 15, 20, 21, 23, 24, and 25.]**
- **Objective 4:** Enhance the community's preparedness and response capabilities. **[Addresses HM Principles 5, 6, 8, 9, 10, 11, 12, 18, and 19.]**
- **Objective 5:** Plan for continuity of public and private operations after a disaster. **[Addresses HM Principles 16 and 17.]**
- **Objective 6:** Plan and prepare for hazard mitigation costs, before and after a disaster. **[Addresses HM Principles 26 and 27.]**
- **Objective 7:** Inform the public through education/outreach. **[Addresses HM Principles 13, 22, and 28.]**
- **Objective 8:** Plan and prepare for shared services/resources. **[Addresses HM Principle 29].**

Land Use Recommendations: In general, the Land Use component of the Comprehensive Plan offers opportunities to guide future growth and development away from areas with known hazards. Design standards for new or improved construction can take potential hazards into account. By taking into consideration the location, frequency, and severity of hazards, land use policies can build community resilience by setting forth recommendations that influence development in a way that does not increase risks to life and property.

1. Adopt a policy that affords protection for historic and cultural resources in the city/county. Identify these sites on land use maps. **[Addresses HM Principle 3.]**
2. This section should include a narrative that explicitly identifies the hazards most likely to affect the City of Wiggins and the hazard areas where these are most likely to occur. One easy way to accomplish this is to include the Hazard Mitigation Plan's Risk Analysis section as an attachment and to refer to the attachment as part of the narrative in the Land Use section. Current and future Land Use maps should also identify natural hazard areas (including flood zones) of the City. **[Addresses HM Principles 5 and 6.]**
3. Adopt a policy to address stormwater and drainage issues. **[Addresses HM Principle 14.]**

4. Adopt policies that encourage the maintenance and restoration of protective ecosystems. **[Addresses HM Principle 15.]**
5. Adopt a policy to provide incentives to develop in areas outside protective ecosystems. **[Addresses HM Principle 15.]**
6. Identify and delineate on land use maps any natural systems that serve beneficial functions and protection from hazards. **[Addresses HM Principle 15.]**
7. Adopt a policy that reduces the number of at-risk and repetitive loss properties through stricter codes and/or elevating or retrofitting properties. Delineate these properties on the Land Use Maps. **[Addresses HM Principle 20.]**
8. Adopt a policy concerning public buy-out or acquisition of properties known to be in hazard areas and converting these properties to open space or parks. **[Addresses HM Principle 21.]**
9. Adopt a policy that promotes the National Flood Insurance Program and Community Rating System participation. **[Addresses HM Principle 22.]**
10. Adopt an ordinance that prohibits development within, or filling of, wetlands, floodways, and floodplains and that discourages and/or disallows development and redevelopment within natural hazard areas. **[Addresses HM Principle 23.]**
11. Adopt a zoning ordinance that prevents and/or restricts development in hazard areas; identify these areas as restricted development areas on land use maps. **[Addresses HM Principle 24.]**
12. Adopt a policy that restricts land use in hazard areas, including the provision of public utilities and services, where these facilities and services might encourage development in hazard areas. **[Addresses HM Principle 25.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Transportation Recommendations: In general, the Transportation component of the Comprehensive Plan can reflect land use principles that reduce the community's vulnerability to hazards and build community resilience. Adopting transportation policies that direct growth away from known hazard areas helps to build community resilience. Transportation systems should be designed to withstand the effects of

known hazards so that they retain their functionality in the event of an emergency or disaster.

1. Provisions and policies should be included to address the evacuation needs of vulnerable populations (those with barriers to mobility and/or limited ability to respond appropriately to a risk). Outreach for this evacuation support should be prepared in English, Spanish, and Vietnamese to target non-English speaking communities. **[Addresses HM Principle 10.]**
2. Proposed improvements to evacuation routes should be included in narrative and shown in maps. **[Addresses HM Principle 18.]**
3. Designs of evacuation routes should ensure adequate and safe functionality (ingress and egress) during disasters. **[Addresses HM Principle 19.]**

Sample policies or provisions for these recommendations can be found in the Appendix.

Community Facilities Recommendations: In general, the Community Facilities component of the Comprehensive Plan should provide linkages to both the Land Use and Transportation sections. To help discourage development in known hazard areas, policies can be established to limit the extension of public facilities and services into areas that are vulnerable to hazards and also to limit capital expenditures in these areas. Policies should be established to ensure that critical facilities and key infrastructure are protected from the effects of hazards. This component also presents opportunities for goals and policies that support mitigation projects, such as stormwater drainage improvements or public acquisition of properties to retain as open space in hazard areas.

1. Add a provision for the protection of the City's critical facilities, infrastructure, and systems (such as water, power, etc.). These are identified in the City's Hazard Mitigation Plan and the list can be attached, with a reference in this section to the attachment. **[Addresses HM Principle 2.]**
2. Add a provision that will protect community facilities of historic and/or cultural significance. Identify these facilities on community maps. **[Addresses HM Principle 3.]**
3. Add a provision for providing and promoting communication systems among public safety agencies and/or first responders, for the

enhancement of public warning and information systems, and for the improvement of emergency response operations. **[Addresses HM Principles 8 and 9.]**

4. Add a provision for developing a continuity plan to protect local businesses and economic vitality during and following a disaster. **[Addresses HM Principle 17.]**
5. Add a provision for reducing potential damage to future buildings and infrastructure. **[Addresses HM Principle 23.]**
6. Add a provision that restricts the extension of public utilities and services into hazard areas, when these utilities and services would encourage development in those areas. **[Addresses HM Principle 25.]**
7. Be sure to include funding amounts and funding sources for mitigation projects in the Capital Improvements Program, and to address these projects in the narrative of the Community Facilities section of the Comp Plan. **[Addresses HM Principles 26 and 28.]**
8. Include needs and projects from post-disaster damage assessments in the Capital Improvements Plan and discuss these in the Community Facilities section of the Comprehensive Plan. **[Addresses HM Principle 27.]**

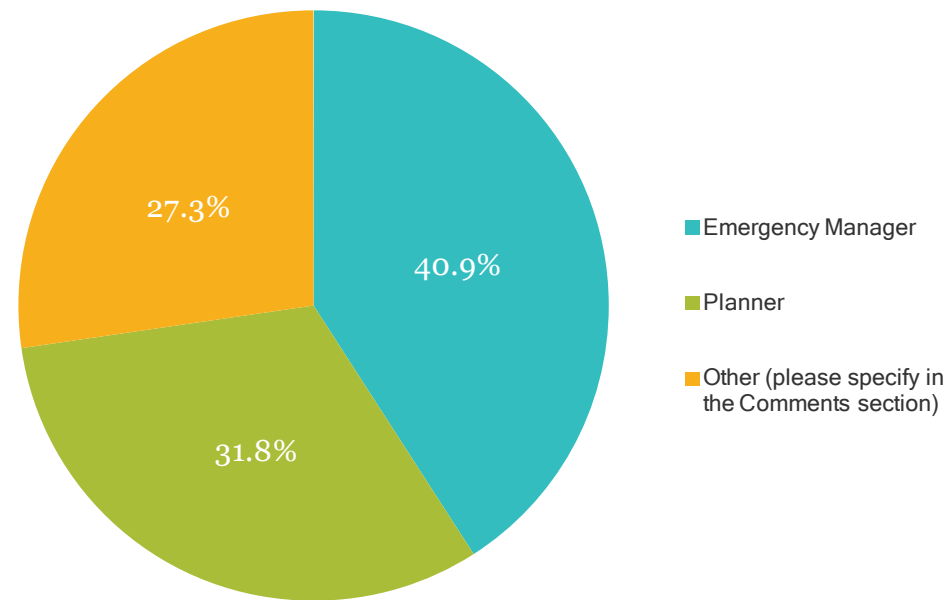
Sample policies or provisions for these recommendations can be found in the Appendix.

Analysis of Survey Results and Recommendations

Introduction

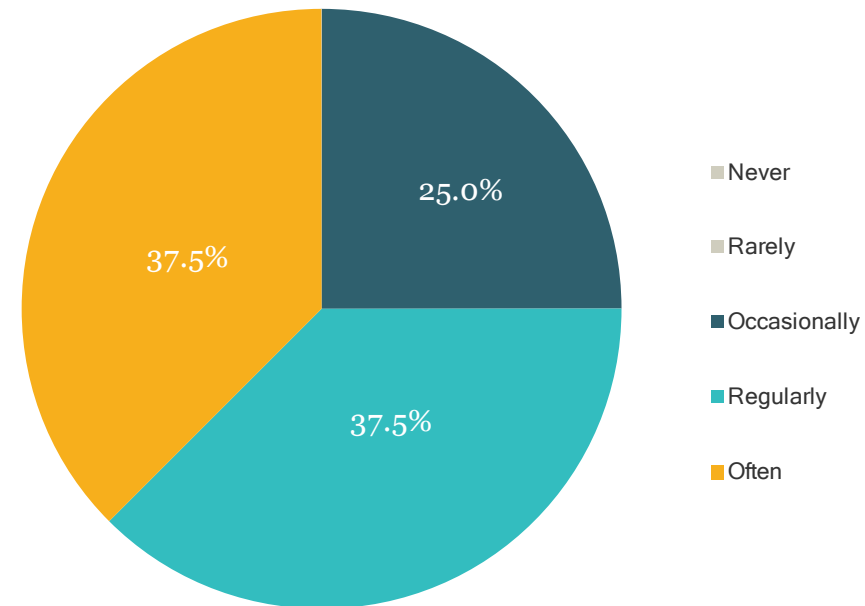
Survey results are depicted using charts, graphs, and/or tables, with the analysis of the results below the associated chart.

“ Which of the following best describes your job function?”



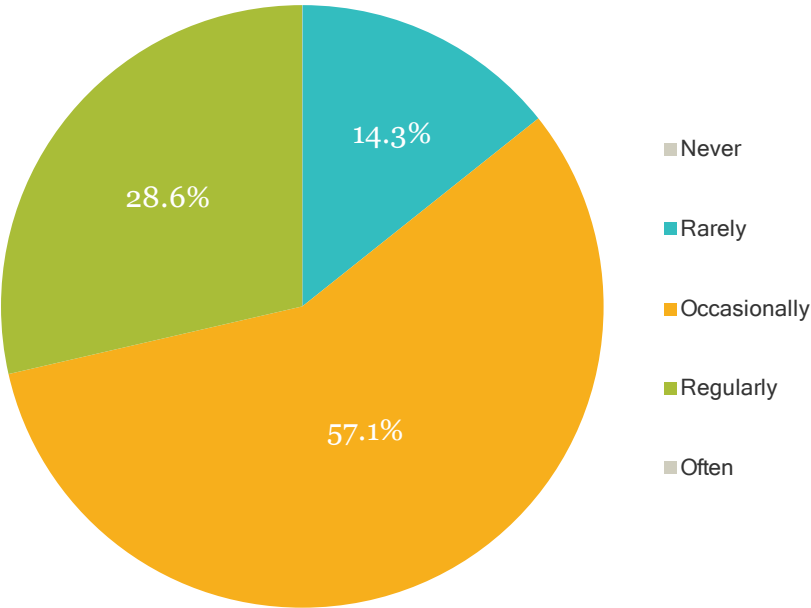
Responses to the survey were fairly equally spread across the 3 categories of Emergency Manager, Planner, or Other. Of the 22 responses received, 9, or 40.9%, were from those who identified themselves as Emergency Managers; 7, or 31.8%, were from those who identified themselves as Planners; and 6, or 27.3%, were from those who identified themselves as something other than an Emergency Manager or a Planner. Of the 6 “Others”, 4 had responsibilities more closely associated with planning, and 2 had responsibilities more closely associated with emergency management. This would indicate that their responses would be more in line with those functions. Assuming that they were, this creates an even 11/11 split, with responses from Planners and associated respondents equal to those from Emergency Managers and associated respondents.

“ As an Emergency Manager, how often would you say that you collaborate with the staff planners in your community?”



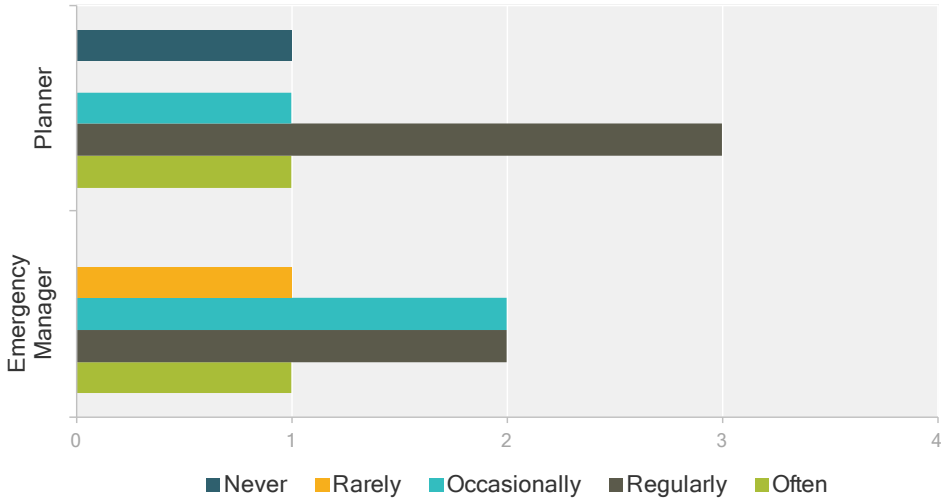
Of the 9 emergency managers responding to the survey, one responded that there was no staff planner with whom to collaborate. Of the remaining 8, 2 (25%) reported that they “occasionally” collaborated with planners; 3 or 37.5% reported that they “regularly” collaborated with planners; and 3 or 37.5% reported that they “often” collaborated with planners.

“ As a Planner, how often would you say that you collaborate with local emergency managers in your community?”



Of the 7 planners responding to the survey, a majority of 57.1% (4) reported that they “occasionally” collaborate with emergency managers; 2 or 28.6% reported that they “regularly” collaborate with emergency managers, and 1 or 14.3% reported that they “rarely” collaborate with emergency managers.

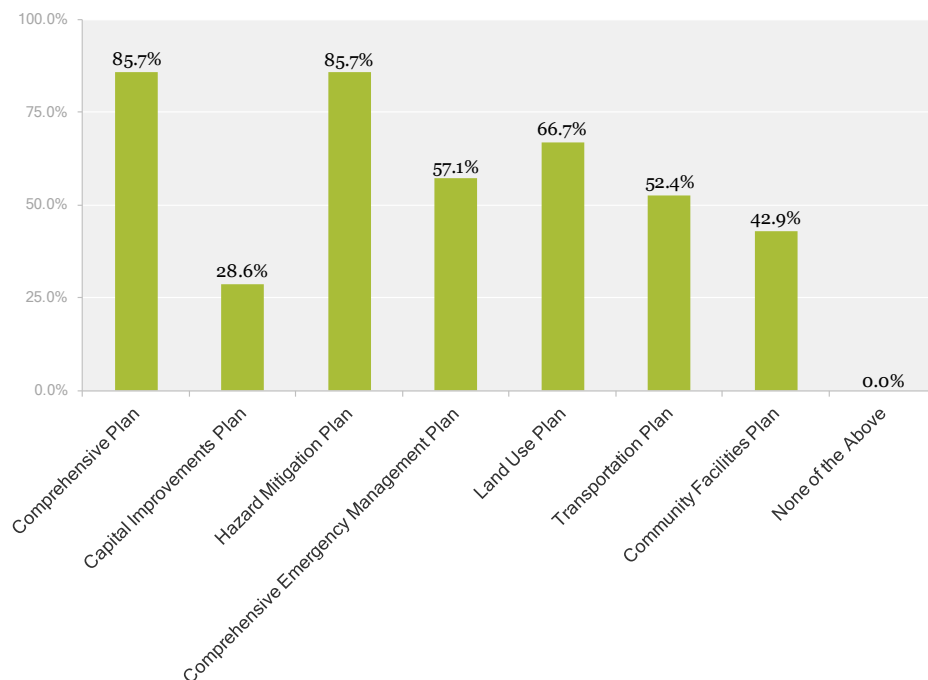
“ How often would you say that you collaborate with Emergency Managers or Planners in your community? (asked only of those who categorized themselves as ‘ Other’)”



Of the 6 Other survey respondents, a majority of 3 reported that they “regularly” collaborate with Planners; the remaining responses were fairly evenly split, with 1 reporting that they “never” collaborate with planners, 1 reporting that they “occasionally” collaborate with planners, and 1 reporting that they “often” collaborate with planners. For the Others who collaborate with emergency managers, 1 reported that they collaborate “rarely” and 1 reported that they collaborate “often”. Two reported the frequency of collaboration as “occasionally” and 2 as “regularly”.

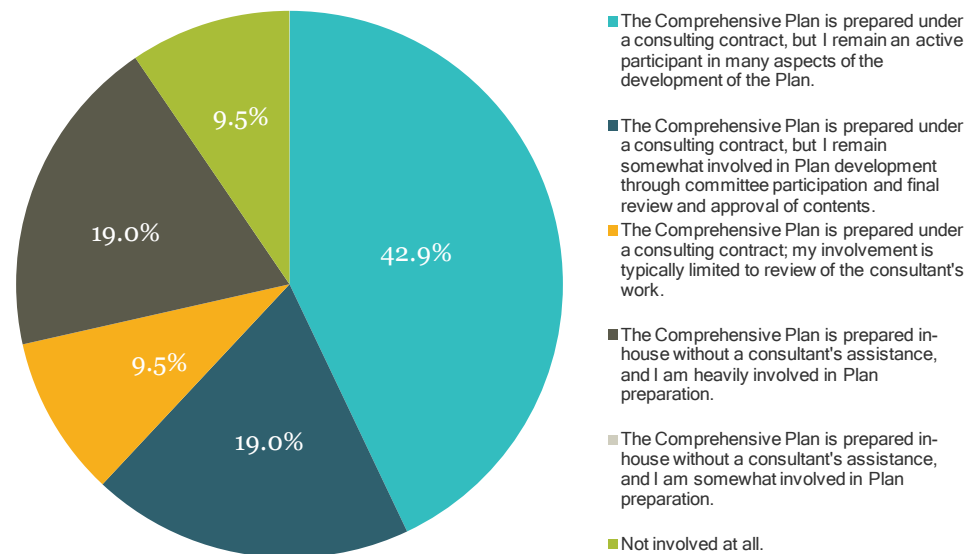
From this point forward, there were only 21 responses total, as the 22nd responder did not complete the survey.

“In your regular job role, do your duties include participating in the development and/or preparation of any of the following plans? Choose all that apply.”



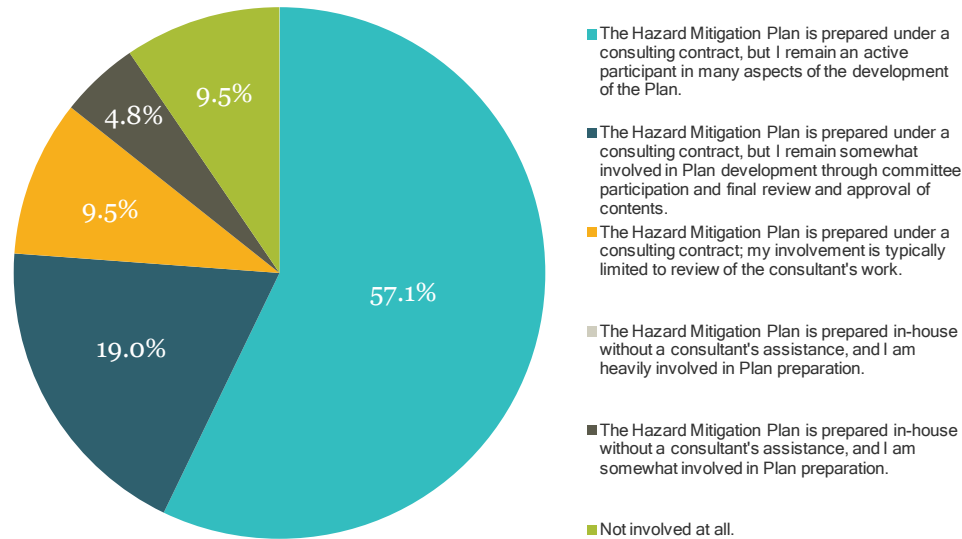
Of the 21 responses, large majorities (18, or 85.7%), reported that they participate in the development and/or preparation of both Comprehensive Plans and Hazard Mitigation Plans. 66.7% of respondents (14) help develop land use plans; 57.1% (12) help develop comprehensive emergency management plans; 52.4% (11) help develop transportation plans; 42.9% (9) help develop community facilities plans; and 28.6% (6) help develop capital improvements plans.

“How would you describe your level of involvement in the development and preparation of your community’s Comprehensive Plan?”



Based on these results, at least 71.43% of Comprehensive Plans are outsourced to consulting firms for development and preparation. Most respondents (9 or 42.9%) indicated that they remain actively involved in the Plan’s preparation. Two respondents indicated that they are not at all involved in preparation of Comprehensive Plans; these 2 were identified by Investigators as emergency managers.

“ How would you describe your level of involvement in the development and preparation of your community’s Hazard Mitigation Plan?”



Based on these results, at least 85.72% of hazard mitigation plans are outsourced to consulting firms for development and preparation. A majority of respondents (12 or 57.1%) indicate that they remain actively involved in the Plan’s preparation. Two respondents indicated that they are not at all involved in preparation of Hazard Mitigation Plans; these 2 were identified by Investigators as planners.

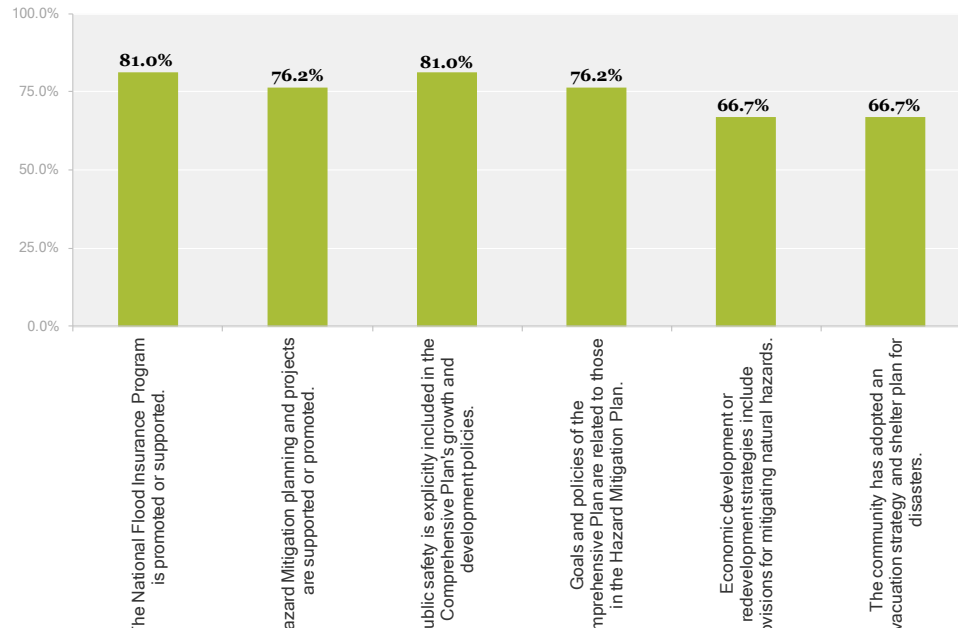
“ Describe your level of involvement in the development and preparation of other local plans. Please provide one answer for each type of plan listed.”

The majority of respondents reported that they were least involved in preparation of Capital Improvements Plans, with 11 (52.38%) reporting that they had no significant involvement with these plans. The majority of respondents reported that they were most involved in preparation of Land Use Plans, with 10 (47.62%) reporting that their involvement in these plans was “Significant”. Respondents also indicated that they were not significantly involved in developing community facilities plans, with 9 (42.86%) reporting their involvement as “none or insignificant”. However, 7 respondents (33.34%) reported that they were “Moderately” involved in the development of community facilities plans.

“ In your community’s local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans), how much emphasis would you say is given to the issues of public safety, emergency management, and/or mitigation of hazards that affect the community?”

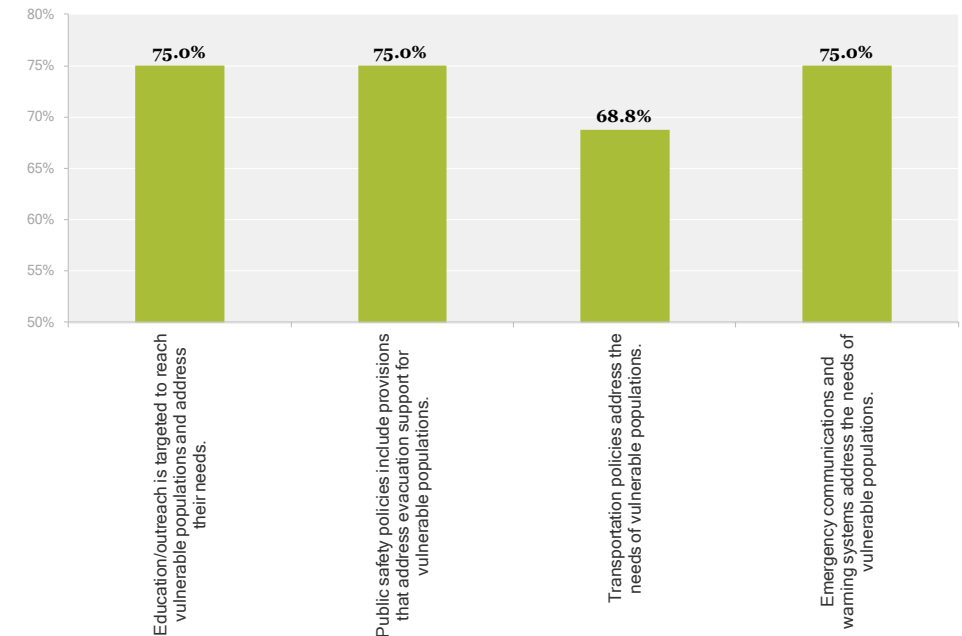
A majority of respondents reported that the issues of public safety, emergency management and hazards mitigation were significantly emphasized in the community’s local plans (such as the comprehensive plan) other than the hazard mitigation plans or CEMPs. 57.15% (12) believed that public safety and emergency management were well-emphasized; 11 (52.38%) believed that hazards mitigation was well-emphasized. Only 14.29% (3) reported that the level of emphasis on public safety in other local plans was “limited” or “very little”. Only 13.8% (4) reported that the level of emphasis on emergency management and hazards mitigation was “limited” or “very little”.

“ Which of the following general principles are addressed in your community’s local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans)? Choose all that apply.”



A large majority of responders (81%, or 17 of the 21 responses) reported that the National Flood Insurance Program is promoted or supported in other local plans, and that public safety is explicitly included in the Comprehensive Plan’s growth and development policies. Sixteen responders (76.2%) reported that hazard mitigation planning and projects are supported and promoted, and that goals and policies of the comprehensive plan are related to those in the hazard mitigation plan. 66.7% (14) reported that economic development or redevelopment strategies include provisions for mitigating natural hazards and that their communities have adopted an evacuation strategy and shelter plan for disasters.

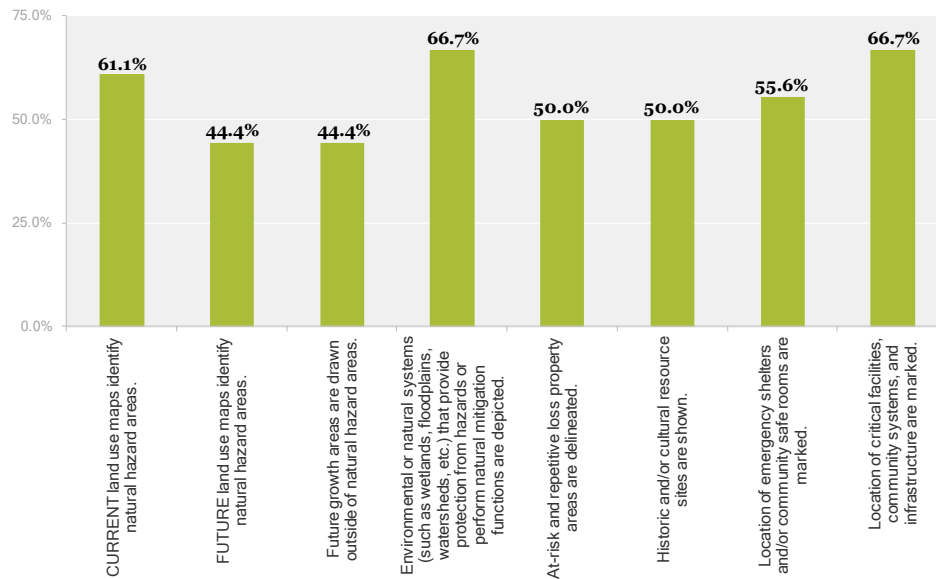
“ When considering Vulnerable Populations within your community (sick, elderly, homebound, low income, non-English speaking, etc.), which of the following policies are addressed in local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans)? Choose all that apply.”



A large majority of responders (75%, or 12 responders) reported that their communities’ other local plans contain provisions that address the needs of vulnerable populations through targeted education/outreach; that their public safety policies address evacuation support for vulnerable populations; and that emergency communications and warning systems address the needs of vulnerable populations. 68.6% (11) of responders reported that their transportation policies address the needs of vulnerable populations.

Five respondents chose not to answer this question.

“ Which of the following are identified in your community’s Land Use maps? Choose all that apply.”



Only 8 respondents (44.4%) reported that natural hazard areas are depicted on Future Land Use maps and that future growth areas are drawn outside of natural hazard areas. Also, only 9 respondents (50%) reported that at-risk and repetitive loss property areas and cultural and historic sites are delineated on land use maps.

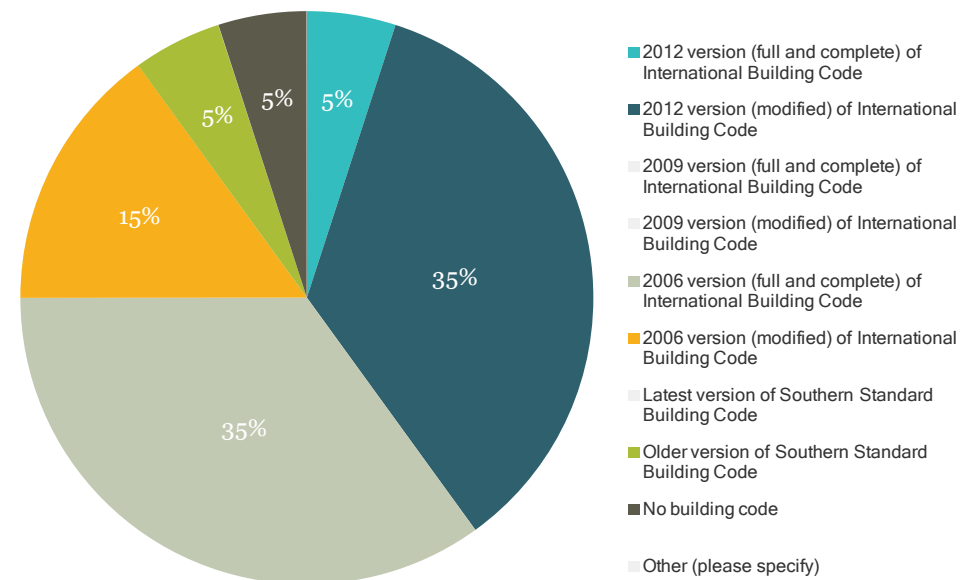
Three respondents chose not to answer this question. Two respondents indicated that they had no involvement with land use maps.

“ Does your community’s building code contain provisions to strengthen or elevate construction to withstand hazard forces?”

The vast majority of respondents, 95%, reported that their building codes contain provisions to strengthen and/or elevate construction to withstand hazard forces. Most of the coastal communities were required to adopt the International Code Council’s 2006 International Building Code (commonly referred to as 2006 IBC or 2006 ICC) following Hurricane Katrina to ensure that higher standards for construction were in place.

One responder skipped this question.

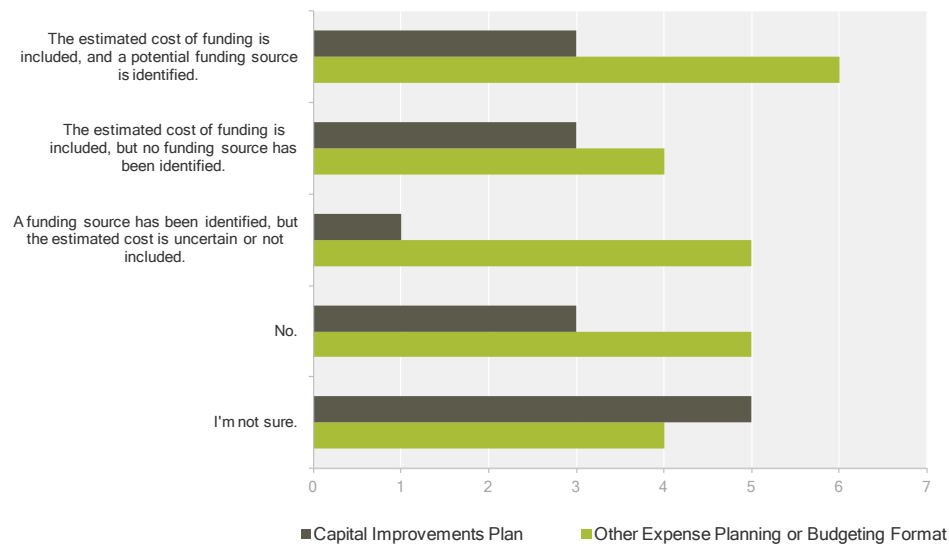
“ Identify your community’s building code.”



Most jurisdictions have either the 2006 version of the IBC that they were required to adopt after Hurricane Katrina or the modified version of the 2012 IBC. Eight jurisdictions have upgraded from the 2006 IBC to the 2012 IBC in recent months.

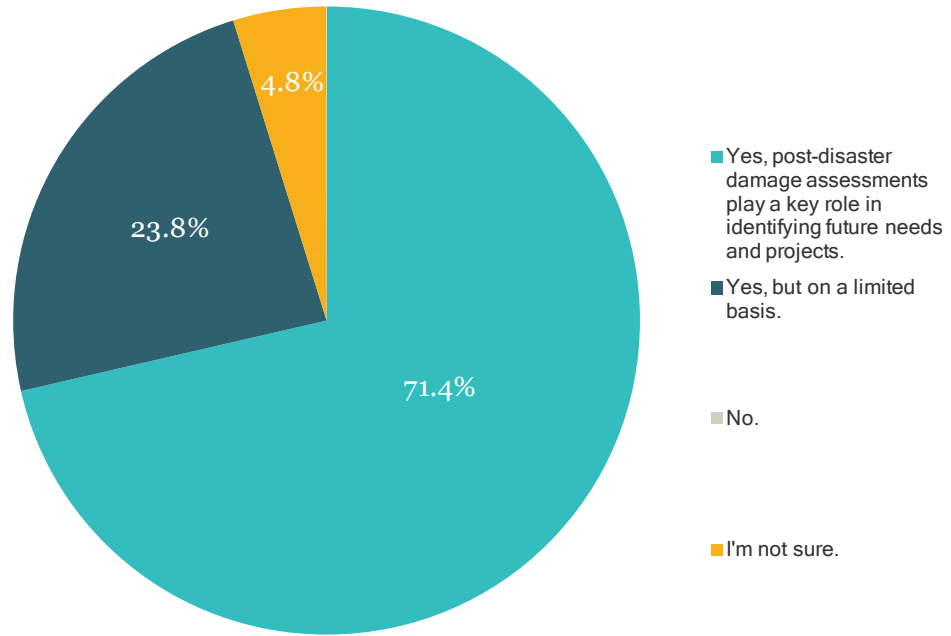
One responder skipped this question.

“ Does your community include funding for hazard mitigation projects in either the Capital Improvements Plan or in another expense planning or budgeting format?”



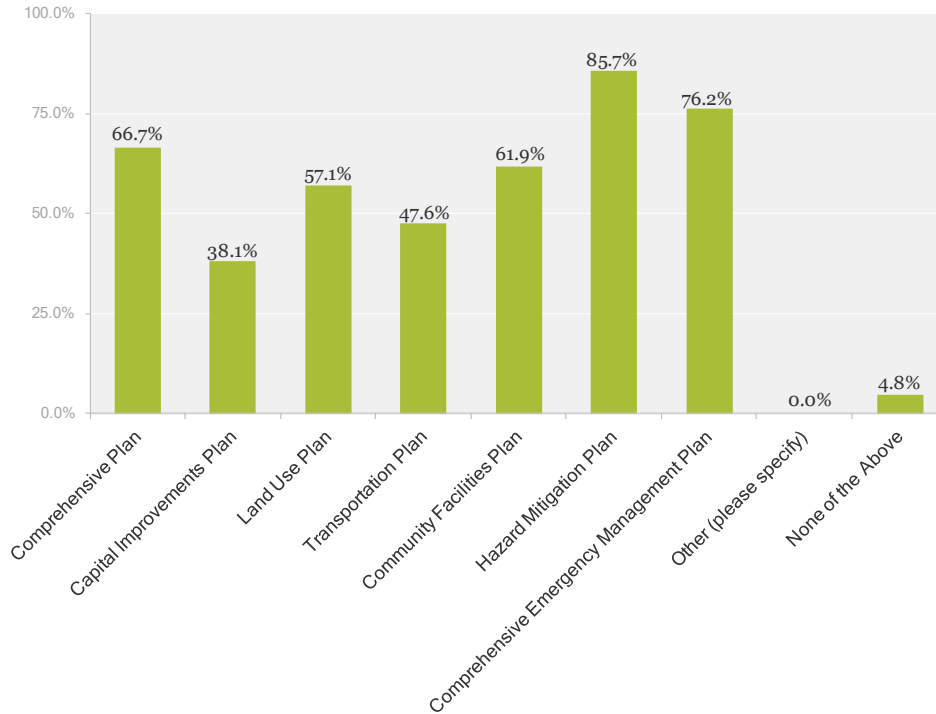
Only 7 communities (35%) reported that hazard mitigation projects were included in the Capital Improvements Plan. One responder reported that these projects were planned on an “as needed” basis.

“ Does your community prepare post-disaster damage assessments that identify needs and projects?”



The majority of responders reported that they conduct post-disaster damage assessments (71.4%) and that these help to identify future projects.

“ Are these post-disaster damage assessments used when developing the following plans? Choose all that apply.”



85.7% (18) of responders reported that post-disaster damage assessments are used when developing the Hazard Mitigation Plan and 76.2% (16) reported that these are used when preparing the Comprehensive Emergency Management Plan. But only 66.7% (14) reported that these projects are considered when developing the Comprehensive Plan and only 38.1% (8) reported that they are included in the Capital Improvements Plan.

Survey Conclusions/Recommendations

Our review of Comprehensive Plans revealed that not all jurisdictions are making a full and clear connection to the hazard mitigation aspect of the community’s codes and ordinances.

Through mapping, jurisdictions can make important connections that directly enhance the community’s resilience and that will guide future development in becoming more sustainable. Each of the mapping options in Survey Question 13 is a key ingredient that can ensure a community’s safe growth.

Communities are doing a good job of identifying needs and projects through post-disaster damage assessments. They simply need to take this activity one step further by adding these projects to the Capital Improvements Plan so that funding for the project can be planned and accommodated. By incorporating these identified needs and projects into the Capital Improvements Plan, jurisdictions will be much better positioned to effectively and efficiently manage the costs for disaster repairs. Pre-planning and accounting for hazard mitigation projects by including them in the Capital Improvements Plan is another key way that jurisdictions can enhance the integration of hazard mitigation principles into the comprehensive planning process.

While it’s true that disaster damages cannot be known in advance, these projects are no less vital to the community than other capital improvements that have been planned and accommodated in the Plan. This underscores the need to review and consider updating the community’s Comprehensive Plan and Capital Improvements Plan following a disaster. It also underscores the need to more closely coordinate the planning processes for all local plans. Tying the review and planning process to a similar time frame, i.e. when the Hazard Mitigation Plan is due for its five-year update, is a valuable tool to ensure that local plans are up-to-date and coordinated with each other.

Outreach

Investigators originally proposed establishing a Local Input Group made up of planners and emergency managers, but later decided it would be more efficient and effective to work through existing groups. Local planners and emergency managers were consulted as needed with any questions that came up during the collection and analysis of the comprehensive plans and hazard mitigation plans.

Some outreach actually began before the official project period started. Several local elected officials were briefed on the research plan, and they offered support during the application process. Support letters were included in the proposal from the City of Gulfport, City of Ocean Springs and City of Pass Christian.

A letter was mailed to Boards of Supervisors, Mayors, Council members and Aldermen informing them on the project process and objectives as well as inviting them to participate in the plan evaluations for their individual jurisdictions. The informational handouts were distributed at several venues during the study period, including the SMPDD/ MS Association of Supervisors Spring Meeting on May 29, 2012, and SMPDD board meetings in May 2012 and August 2012.

Additionally, Investigators hosted a table at the Association of Flood Plain Managers meeting in Biloxi on May 9-10, 2012. Handouts on the project and the process were available. Investigators were able to engage one-on-one with planners, flood plain managers, emergency management personnel and others in attendance at the conference. During the study period, a presentation was made to coastal area floodplain managers and building officials to share information about the study and potential intersections with floodplain management issues. Proposed ideas for integration of hazard mitigation principles into local plans were distributed to these officials and to FEMA and MEMA representatives on the Coastal Hazard Outreach Strategy Team (C-HOST) for review and comment. This white paper is included in the Tools section of this study.

A presentation of the study process was conducted at the Bays and Bayous Symposium in Biloxi in November 2012. Approximately 30 people were in attendance and were able to provide input and comments.

Preliminary findings were presented in the form of the Jurisdictional Profiles, which were sent to city and county staff for review and comment. The comments, though few, are included in the Appendix. While budget constraints may prohibit formal post-study outreach, Investigators intend on encouraging jurisdictions to utilize the document for plan integration. Over the next year, Investigators hope to present the research project to at least two audiences of a regional, statewide or national scope. Informational meetings with individual jurisdictions may also be requested of Investigators.

Once the project has been accepted by the Mississippi-Alabama Sea Grant Consortium, this final document will be uploaded to the Storm Smart Coasts website and may be used as a model for other coastal communities. The document will also be available on the SMPDD website at www.smpdd.com.

Conclusion

Application of Results

The Investigators believe that the study can produce some long-term, positive impacts on Gulf Coast resiliency, if the findings and recommendations are implemented by local government. Based on the survey responses, local planners and emergency managers appear to value the importance of integrating hazard mitigation principles into comprehensive plans. Therefore, the local governments should be amenable to implementing some of the suggestions.

By way of the Jurisdictional Profiles, the cities and counties are given clear recommendations on how local government can integrate hazard mitigation strategies into their comprehensive plan's goals and objectives. Specific examples and sample language have been provided. These easy-to-follow recommendations can also serve as a reference point for future planning efforts by the jurisdictions included in the study.

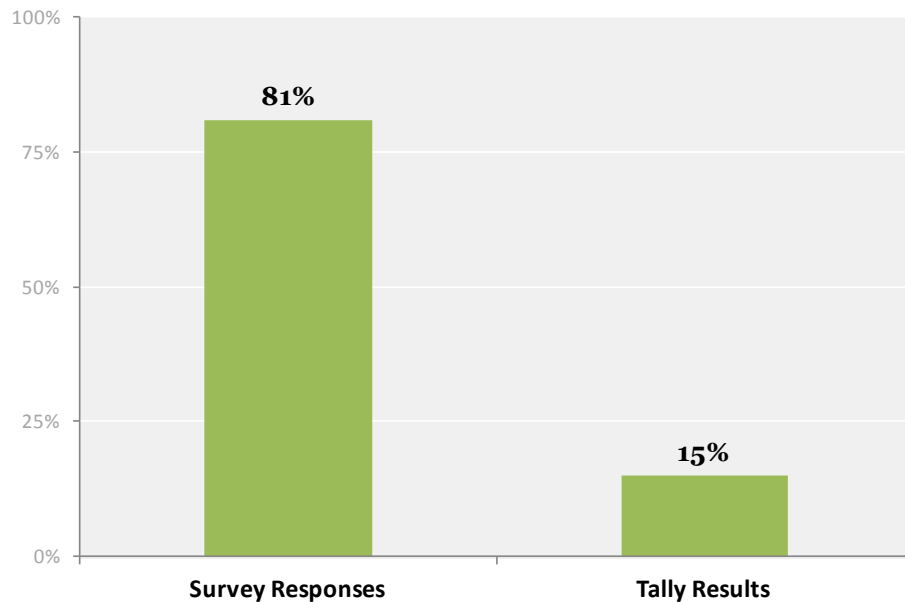
The recommendations may also serve as the impetus for hazard mitigation planners and future land use planners to collaborate on planning efforts.

Comparison Charts

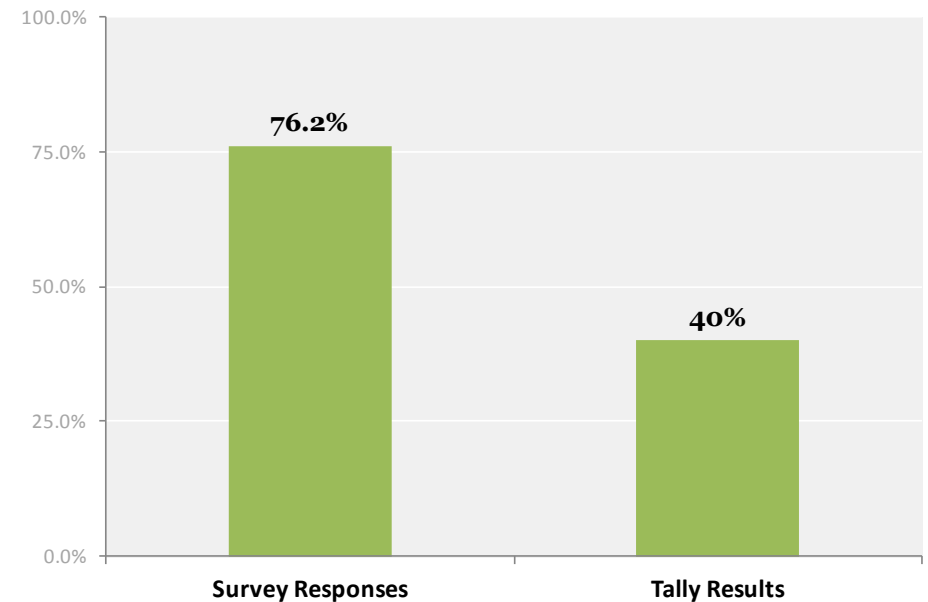
Self-Reporting Responses (Survey) versus Actual Review of Plans (Matrix & Tally Results)

Some interesting comparisons were found in the analysis of data collected from the matrix review and tally of responses, when compared to the data collected from survey responders. When looking at specific hazard mitigation principles found in local Comprehensive Plans, the analysis revealed that perceptions about the content in Comprehensive Plans did not always reflect what was found in the review of the Plans. The following charts, by Hazard Mitigation Principle or Survey Question, graphically illustrate that analysis.

Principle 22: The National Flood Insurance Program is promoted or supported in Comprehensive Plans or other local plans (excluding the Hazard Mitigation Plans and CEMPs).

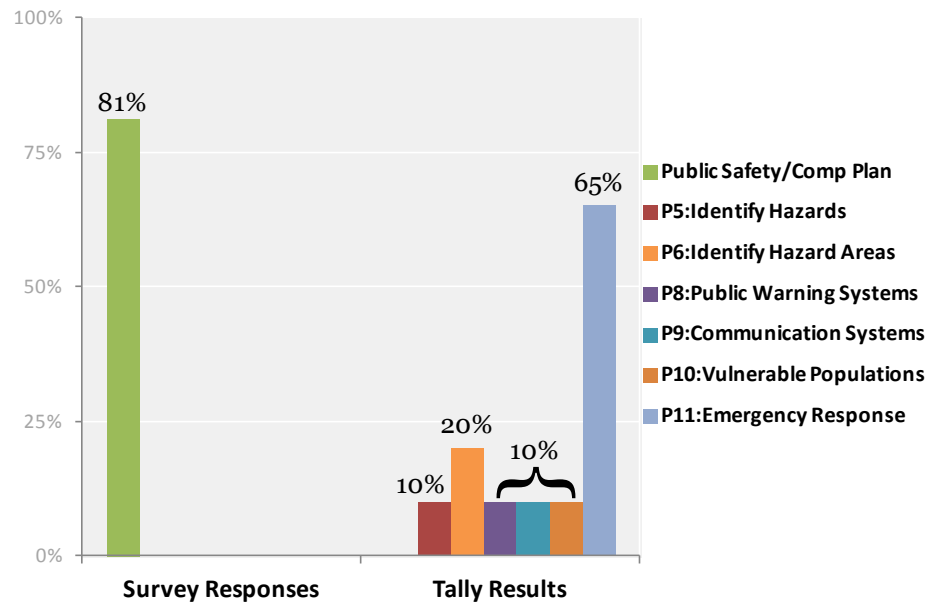


Principle 28: Hazard Mitigation planning and projects are supported or promoted.

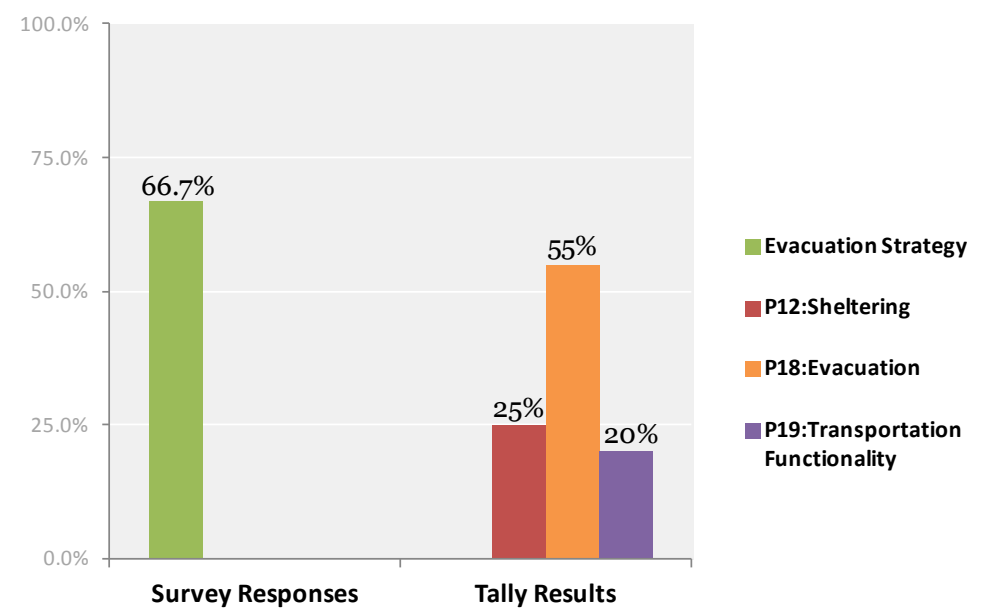


Survey Question 11: Which of the following general principles are addressed in your community's local plans other than Hazard Mitigation Plans or CEMPs?

A: Public Safety is explicitly included in the Comprehensive Plan's growth and development policies.



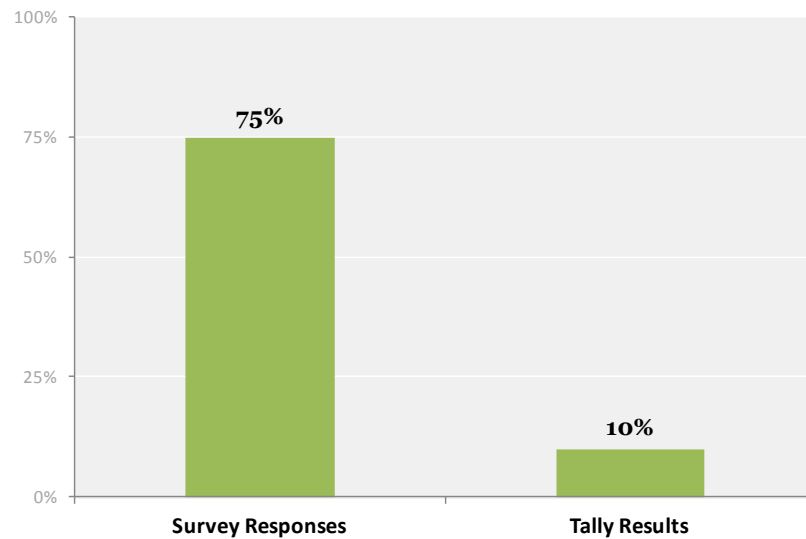
B: The community has adopted an evacuation strategy and shelter plan for disasters.



Survey Question 12: When considering Vulnerable Populations within your community (sick, elderly, homebound, low income, non-English speaking, etc.), which of the following policies are addressed in local plans other than Hazard Mitigation Plans or CEMPs?

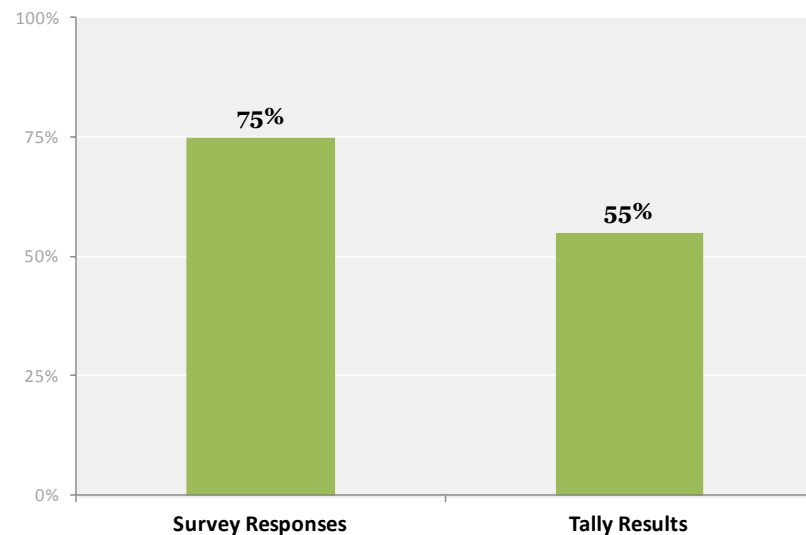
A: Education/Outreach is targeted to reach vulnerable populations and address their needs.

Principle 10: Consider Vulnerable Populations



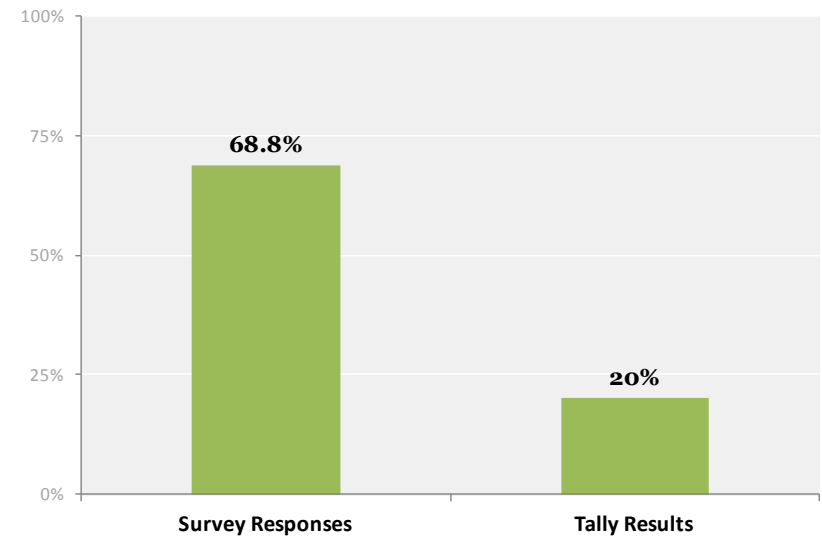
B: Public Safety policies include provisions that address evacuation support for vulnerable populations.

Principle 18: Identify and Improve Evacuation Routes

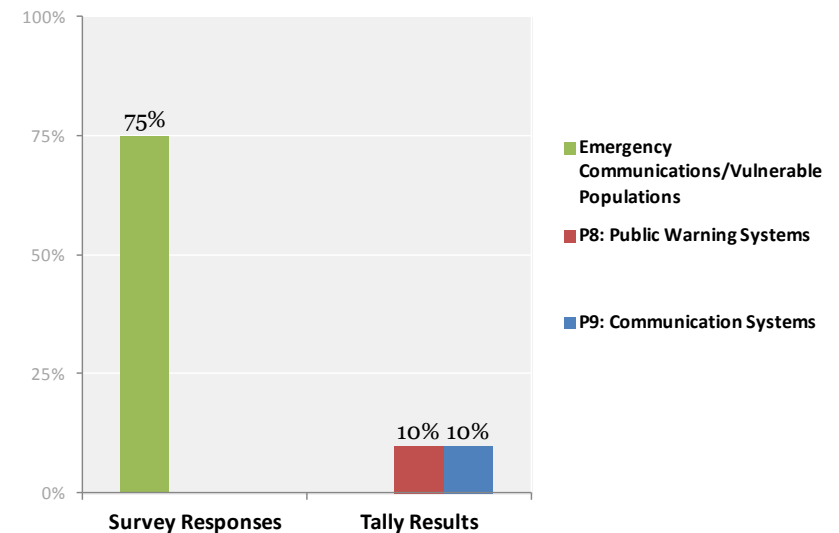


C: Transportation policies address the needs of vulnerable populations.

Principle 19: Address Transportation Functionality During Disasters



D: Emergency communications and warning systems address the needs of vulnerable populations.



Tools/Templates

Matrix Tally of Results

Comp Plan/Hazard Mitigation Plan -- TALLY OF RESULTS

	Principle 1	Principle 2	Principle 3	Principle 4	Principle 5	Principle 6	Principle 7	Principle 8	Principle 9	Principle 10
Communities	Minimize Loss of Life and Injury	Protect Critical Facilities, Infrastructure and Systems	Protect Historic and Cultural Resources	Improve and Retrofit Public Buildings	Explicitly Identify Hazards	Identify Hazard Areas	Encourage Adoption, Improvement, and Enforcement of Local Codes and Ordinances	Enhance Public Warning and Information Systems	Provide and Promote Communication Systems	Consider Vulnerable Populations
Bay St. Louis			1				1			
Biloxi		1	1			1	1			
D'Iberville		1	1	1		1	1			
Gautier	1		1				1			
Gulfport	1		1				1			
Hancock County			1						1	
Harrison County	1	1				1	1	1		1
Jackson County							1			
Long Beach				1			1			
Moss Point		1	1	1			1			
Ocean Springs	1		1				1			1
Pascagoula	1		1		1		1			
Pass Christian	1			1	1	1	1			
Waveland			1				1			
Diamondhead (in Hancock)										
George County	1	1		1			1		1	
Lucedale			1				1			
Pearl River County							1			
Picayune										
Stone County			1					1		
Wiggins							1			
TOTALS	7	5	12	5	2	4	17	2	2	2
	35%	25%	60%	25%	10%	20%	85%	10%	10%	10%

41.38%
Green/Yellow

58.62%
Red

25% or fewer
communities
address this
principle

50% or fewer
communities
address this
principle

More than 50% of
communities
address this
principle

Matrix Tally of Results (Continued)

Comp Plan/Hazard Mitigation Plan -- TALLY OF RESULTS

	Principle 11	Principle 12	Principle 13	Principle 14	Principle 15	Principle 16	Principle 17	Principle 18	Principle 19	Principle 20
Communities	Improve Emergency Response Operations	Improve Sheltering Capabilities	Develop and Improve Outreach Programs About Risk and Mitigation	Develop or Improve Stormwater/Drainage Programs	Preserve, Create, and Restore Natural Systems to Serve Natural Mitigation Functions	Plan for Continuity of Local Government Operations	Protect Business Continuity and Economic Vitality	Identify and Improve Evacuation Routes	Address Transportation Functionality During Disasters	Reduce the Number of At-Risk and Repetitive Loss Properties
Bay St. Louis	1		1	1	1			1		1
Biloxi	1			1	1					
D'Iberville				1	1					
Gautier	1	1		1	1			1	1	
Gulfport				1	1					
Hancock County					1			1		
Harrison County	1	1	1	1	1			1		
Jackson County	1				1			1	1	
Long Beach	1	1		1		1		1		
Moss Point	1				1			1	1	
Ocean Springs	1		1	1	1			1	1	
Pascagoula	1		1	1	1			1		
Pass Christian			1	1	1	1	1	1		1
Waveland				1	1					
Diamondhead (in Hancock)										
George County	1	1	1		1	1	1	1		
Lucedale					1					
Pearl River County				1	1					
Picayune	1	1				1				
Stone County	1		1	1	1					
Wiggins	1	1				1				
TOTALS	13	5	7	13	17	4	2	11	4	2
	65%	25%	35%	65%	85%	20%	10%	55%	20%	10%

41.38%
Green/Yellow

58.62%
Red

25% or fewer
communities
address this
principle

50% or fewer
communities
address this
principle

More than 50% of
communities
address this
principle

Matrix Tally of Results (Continued)

Comp Plan/Hazard Mitigation Plan -- TALLY OF RESULTS

	Principle 21	Principle 22	Principle 23	Principle 24	Principle 25	Principle 26	Principle 27	Principle 28	Principle 29		
Communities	Increase Property Acquisitions	Promote the National Flood Insurance Program	Reduce Potential Damage to Future Buildings and Infrastructure	Direct Growth Away From Hazard Areas to Safe Areas	Limit Expenditures in Hazard Areas	Include Funding for Mitigation Projects	Identify Needs and Projects From Post-Disaster Damage Assessments	Support or Promote Hazard Mitigation Planning and Projects	Develop and Maintain Hazards-Related Research-Shared Resources	TOTAL HM Principles Supported by Comp Plan	
Bay St. Louis	1	1	1	1		1		1	1	X-X	15
Biloxi	1			1				1		X	10
D'Iberville			1	1						XX	9
Gautier	1					1		1			12
Gulfport			1							X	6
Hancock County	1			1						X	6
Harrison County		1	1	1				1		XX	16
Jackson County	1									XX	6
Long Beach		1	1	1						XX	10
Moss Point								1		X	9
Ocean Springs				1		1		1		X	13
Pascagoula	1					1		1	1	X	13
Pass Christian	1		1	1	1				1		17
Waveland	1									X	5
Diamondhead (in Hancock)										X	0
George County				1	1			1		X	15
Lucedale										X	3
Pearl River County	1			1						X	5
Picayune									1		4
Stone County				1						X	7
Wiggins									1	X	5
TOTALS	9	3	6	11	2	4	0	8	4		
	45%	15%	30%	55%	10%	20%	0%	40%	20%		

41.38%
Green/Yellow

58.62%
Red

25 or fewer
communities
address this
principle

50 or fewer
communities
address this
principle

More than 50% of
communities
address this
principle

Allocation of HM Principles to Comprehensive Plan Components

ALLOCATION OF HAZARD MITIGATION PRINCIPLES INTO REQUIRED ELEMENTS OF COMPREHENSIVE PLANS

Long-Range Goals & Objectives	Land Use	Transportation	Community Facilities	Capital Improvements (or part of Community Facilities)
ALL: Include an overarching goal to enhance public safety/emergency management/hazard mitigation. Specific categories of HM principles should then be Objectives of that goal.	P3 - Protect Historic & Cultural Resources	P10 - Consider Vulnerable Populations	P2 - Protect Critical Facilities, Infrastructure, and Systems	P26 - Include Funding for Mitigation Projects
OBJ 1: (P1, P8, P9, P10, P11, P12, P18, P19, P20, P24) Protect residents & visitors to Minimize Potential for Loss of Life or Injury.	P5 & P6 - Explicitly Identify Hazards & Hazard Areas	P18 - Identify and Improve Evacuation Routes	P3 - Protect Historic & Cultural Resources	P27 - Identify Needs & Projects from Post-Disaster Damage Assessments
OBJ 2: (P2, P3, P4, P7, P14, P15, P20, P21) Protect existing resources.	P7 - Encourage Adoption, Improvement, & Enforcement of Local Codes & Ordinances	P19 - Address Transportation Functionality During Disasters	P8 - Enhance Public Warning and Information Systems	P28 - Support or Promote HM Planning and Projects
OBJ 3: (P7, P14, P15, P20, P21, P23, P24, P25) Protect future resources.	P14 - Develop or Improve Stormwater and/or Drainage Programs		P9 - Provide and Promote Communication Systems	
OBJ 4: (P5, P6, P8, P9, P10, P11, P12, P18, P19) Enhance community's preparedness and response capabilities.	P15 - Preserve, Create, and Restore Natural Systems to Serve Natural Mitigation Functions		P11 - Improve Emergency Response Operations	
OBJ 5: (P16, P17) Plan for continuity of public & private operations after a disaster.	P20 - Reduce the Number of At-Risk and Repetitive Loss Properties		P12 - Improve Sheltering Capabilities	
OBJ 6: (P26, P27) Plan and prepare for HM costs.	P21 - Increase Property Acquisitions		P16 - Plan for Continuity of Local Government Operations	
OBJ 7: (P13, P22, P28) Inform the public through education/outreach.	P22 - Promote the National Flood Insurance Program		P17 - Protect Business Continuity and Economic Vitality	
OBJ 8: (P29) Plan and prepare for shared services/resources.	P23 - Reduce Potential Damage to Future Buildings & Infrastructure		P23 - Reduce Potential Damage to Future Buildings & Infrastructure	
	P24 - Direct Growth Away from Hazard Areas to Safe Areas		P25 - Limit Expenditures in Hazard Areas	
	P25 - Limit Expenditures in Hazard Areas		P26 - Include Funding for Mitigation Projects	
			P27 - Identify Needs & Projects from Post-Disaster Damage Assessments	
			P28 - Support or Promote HM Planning and Projects	

Survey Questions

Basis of the Survey

Linkages are often limited between a community's plans for development and capital improvements and the community's plans to reduce their vulnerability to identified risks, but studies have shown that communities become more resilient when they find ways to create these linkages.

This survey is designed to assess how effectively your city/county's long-term development plans and growth policies are addressing the city/county's hazard risk.

Your responses to the survey questions will help in developing recommendations for the integration of hazard mitigation principles into other local plans. Responses by individual survey participants will only be released in aggregate form.

The survey is part of a study funded by MS-AL Sea Grant Consortium.

1. Please provide the following information for follow-up purposes.

Name:

Jurisdiction:

Contact Info (phone & email please):

2. Which of the following best describes your job function?

- ☐ Emergency Manager
- ☐ Planner
- ☐ Other (please specify in the Comments section)

Other (please specify) OR Comments

3. As an Emergency Manager, how often would you say that you collaborate with the staff planners in your community?

- ☐ Never
- ☐ Rarely
- ☐ Occasionally
- ☐ Regularly
- ☐ Often

Comments

Survey Questions (Continued)

4. As a Planner, how often would you say that you collaborate with local emergency managers in your community?

- ☐ Never
- ☐ Rarely
- ☐ Occasionally
- ☐ Regularly
- ☐ Often

Comments

5. How often would you say that you collaborate with Emergency Managers or Planners in your community?

	Never	Rarely	Occasionally	Regularly	Often
Emergency Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Survey Questions (Continued)

6. In your regular job role, do your duties include participating in the development and/or preparation of any of the following community plans? Choose all that apply.

- ☐ Comprehensive Plan
- ☐ Capital Improvements Plan
- ☐ Hazard Mitigation Plan
- ☐ Comprehensive Emergency Management Plan
- ☐ Land Use Plan
- ☐ Transportation Plan
- ☐ Community Facilities Plan
- ☐ None of the Above

Other (please specify) OR Comments

7. How would you describe your level of involvement in the development and preparation of your community's Comprehensive Plan?

- ☐ The Comprehensive Plan is prepared under a consulting contract, but I remain an active participant in many aspects of the development of the Plan.
- ☐ The Comprehensive Plan is prepared under a consulting contract, but I remain somewhat involved in Plan development through committee participation and final review and approval of contents.
- ☐ The Comprehensive Plan is prepared under a consulting contract; my involvement is typically limited to review of the consultant's work.
- ☐ The Comprehensive Plan is prepared in-house without a consultant's assistance, and I am heavily involved in Plan preparation.
- ☐ The Comprehensive Plan is prepared in-house without a consultant's assistance, and I am somewhat involved in Plan preparation.
- ☐ Not involved at all.

Other (please specify) OR Comments

8. How would you describe your level of involvement in the development and preparation of your community's Hazard Mitigation Plan?

- ☐ The Hazard Mitigation Plan is prepared under a consulting contract, but I remain an active participant in many aspects of the development of the Plan.
- ☐ The Hazard Mitigation Plan is prepared under a consulting contract, but I remain somewhat involved in Plan development through committee participation and final review and approval of contents.
- ☐ The Hazard Mitigation Plan is prepared under a consulting contract; my involvement is typically limited to review of the consultant's work.
- ☐ The Hazard Mitigation Plan is prepared in-house without a consultant's assistance, and I am heavily involved in Plan preparation.
- ☐ The Hazard Mitigation Plan is prepared in-house without a consultant's assistance, and I am somewhat involved in Plan preparation.
- ☐ Not involved at all.

Other (please specify) OR Comments

9. Describe your level of involvement in the development and preparation of other local plans. Please provide one answer for each type of plan listed.

	None or Insignificant	Limited	Moderate	Significant
Capital Improvements Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comprehensive Emergency Management Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Use Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Facilities Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify) OR Comments

10. In your community's local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans), how much emphasis would you say is given to the issues of public safety, emergency management, and/or mitigation of hazards that affect the community?

	Very Little	Limited	Moderate	Significant
Public safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mitigation of hazards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify) OR Comments

Survey Questions (Continued)

11. Which of the following general principles are addressed in your community's local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans)? Choose all that apply.

- ☐ The National Flood Insurance Program is promoted or supported.
- ☐ Hazard Mitigation planning and projects are supported or promoted.
- ☐ Public safety is explicitly included in the Comprehensive Plan's growth and development policies.
- ☐ Goals and policies of the Comprehensive Plan are related to those in the Hazard Mitigation Plan.
- ☐ Economic development or redevelopment strategies include provisions for mitigating natural hazards.
- ☐ The community has adopted an evacuation strategy and shelter plan for disasters.

Comments

12. When considering Vulnerable Populations within your community (sick, elderly, homebound, low income, non-English speaking, etc.), which of the following policies are addressed in local plans other than Hazard Mitigation Plans or CEMPs (Comprehensive Emergency Management Plans)? Choose all that apply.

- ☐ Education/outreach is targeted to reach vulnerable populations and address their needs.
- ☐ Public safety policies include provisions that address evacuation support for vulnerable populations.
- ☐ Transportation policies address the needs of vulnerable populations.
- ☐ Emergency communications and warning systems address the needs of vulnerable populations.

Other (please specify) OR Comments

13. Which of the following are identified in your community's Land Use maps? Choose all that apply.

- ☐ CURRENT land use maps identify natural hazard areas.
- ☐ FUTURE land use maps identify natural hazard areas.
- ☐ Future growth areas are drawn outside of natural hazard areas.
- ☐ Environmental or natural systems (such as wetlands, floodplains, watersheds, etc.) that provide protection from hazards or perform natural mitigation functions are depicted.
- ☐ At-risk and repetitive loss property areas are delineated.
- ☐ Historic and/or cultural resource sites are shown.
- ☐ Location of emergency shelters and/or community safe rooms are marked.
- ☐ Location of critical facilities, community systems, and infrastructure are marked.

Other (please specify) OR Comments

14. Does your community's building code contain provisions to strengthen or elevate construction to withstand hazard forces?

- ☐ Yes.
- ☐ No.
- ☐ I'm not sure.

Comments

15. Identify your community's building code.

- ☐ 2012 version (full and complete) of International Building Code
- ☐ 2012 version (modified) of International Building Code
- ☐ 2009 version (full and complete) of International Building Code
- ☐ 2009 version (modified) of International Building Code
- ☐ 2006 version (full and complete) of International Building Code
- ☐ 2006 version (modified) of International Building Code
- ☐ Latest version of Southern Standard Building Code
- ☐ Older version of Southern Standard Building Code
- ☐ No building code
- ☐ Other (please specify)

Comments

Survey Questions (Continued)

16. How would you describe the background, experience, and/or training of the members of the planning commission in your community?

	None or Insignificant	Limited Understanding, Knowledge, or Training	Basic Understanding, Knowledge, or Training	General Understanding, Knowledge, or Training	Broad Understanding, Knowledge, or Training
Land Use and Zoning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazard Mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Resilience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Best Management Practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

17. Using your descriptions in the previous question, what percentage of planning commission members would you say they best describe?

	75% or more	50% or more	25% or more	Fewer than 25%
Land Use and Zoning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazard Mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Resilience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Best Management Practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

18. Does your community include funding for hazard mitigation projects in either the Capital Improvements Plan or in another expense planning or budgeting format?

	Capital Improvements Plan	Other Expense Planning or Budgeting Format
The estimated cost of funding is included, and a potential funding source is identified.	<input type="checkbox"/>	<input type="checkbox"/>
The estimated cost of funding is included, but no funding source has been identified.	<input type="checkbox"/>	<input type="checkbox"/>
A funding source has been identified, but the estimated cost is uncertain or not included.	<input type="checkbox"/>	<input type="checkbox"/>
No.	<input type="checkbox"/>	<input type="checkbox"/>
I'm not sure.	<input type="checkbox"/>	<input type="checkbox"/>

Comments

19. Does your community prepare post-disaster damage assessments that identify needs and projects?

- ☐
 Yes, post-disaster damage assessments play a key role in identifying future needs and projects.
- ☐
 Yes, but on a limited basis.
- ☐
 No.
- ☐
 I'm not sure.

Comments

Survey Questions (Continued)

20. Are these post-disaster damage assessments used when developing the following plans? Choose all that apply.

- ☐ Comprehensive Plan
- ☐ Capital Improvements Plan
- ☐ Land Use Plan
- ☐ Transportation Plan
- ☐ Community Facilities Plan
- ☐ Hazard Mitigation Plan
- ☐ Comprehensive Emergency Management Plan
- ☐ Other (please specify)
- ☐ None of the Above

Comments

21. Is there a particular question or issue related to Hazard Mitigation Plans, Comprehensive Plans, or other local plans that you wish had been included or addressed in this survey? If yes, please provide that question and your response to it.

- ☐ Yes.
- ☐ No.

Question/Response

Thank you for participating in this survey. If you have additional comments, please answer "yes" in the following question and enter your comments in the box provided or email them to: abeasley@smpdd.com.

22. I have additional comments about this survey.

- ☐ Yes.
- ☐ No.

General Comments

23. Would you be interested in participating in a conference call to discuss the results of this survey?

- ☐ Yes.
- ☐ No.
- ☐ Maybe.

Contact Preference (phone or email)

Sources Cited

American Planning Association (APA), “Hazard Mitigation: Integrating Best Practices into Planning”, James C. Schwab, Editor, Planning Advisory Service, Report Number 560

Federal Emergency Management Agency (FEMA), “Integrating Hazard Mitigation into Local Planning, Case Studies and Tools for Community Officials”, March 1, 2013

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Bay St. Louis

Comprehensive Plan, City of Bay St. Louis; Adopted March 23, 2009
City of Bay St. Louis Local Hazard Mitigation Plan Update, September 2011

Biloxi

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City of Biloxi Hazard Mitigation/Floodplain Management Plan, 2013-2017

D’Iberville

City of D’Iberville 20 Year Comprehensive Plan, Adopted November 16, 2010
Hazard Mitigation Plan, D’Iberville, Mississippi, 2011 Update

Gautier

City of Gautier Comprehensive Plan 2030, Adopted June 16, 2009
2012 Jackson County Multi-Jurisdictional Hazard Mitigation Plan, Gautier • Vancleave • Escatawpa • Hurley

George County

George County Comprehensive Plan, Adopted June 26, 2009
George County, Mississippi Hazard Mitigation Plan 2013-2018

Gulfport

City of Gulfport Comprehensive Plan, 2002, Adopted March 2, 2004
City of Gulfport, Mississippi Hazard Mitigation & Flood Protection Plan Update 2007

Hancock County

Hancock County, Mississippi Comprehensive Plan, Adopted November 17, 2010
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Harrison County

2030 Harrison County Comprehensive Plan, July 2008
Harrison County Multi-Jurisdictional Hazard Mitigation Plan, Final Draft August 2008

Jackson County

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2012 Jackson County Multi-Jurisdictional Hazard Mitigation Plan, Gautier • Vancleave • Escatawpa • Hurley

Long Beach

Long Beach, Mississippi Comprehensive Plan – August 2009
City of Long Beach Local

Lucedale

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Lucedale, Mississippi Hazard Mitigation Plan 2013-2018

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City of Moss Point Local Hazard Mitigation Plan, February 2013

Ocean Springs

City of Ocean Springs Comprehensive Plan, March 2010
Ocean Springs Hazard Mitigation Plan, Ocean Springs, Mississippi,
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Pascagoula

City of Pascagoula Comprehensive Plan, 2006
City of Pascagoula Hazard Mitigation & Flood Protection Plan, Update
2006

Pass Christian

The City of Pass Christian Comprehensive Plan, Revised 26th October
2007
Pass Christian Hazard Mitigation Plan Update, Adopted August 2, 2011

Pearl River County

Pearl River County, Mississippi Comprehensive Plan, May 27, 2010
Pearl River County Hazard Mitigation Plan Update, August 2011

Picayune

City of Picayune, Mississippi 2009-2029 Comprehensive Plan, Approved
March 24, 2009
Pearl River County Hazard Mitigation Plan Update, August 2011

Stone County

Stone County 2030 Comprehensive Plan
Update 2011, Multi-Jurisdictional Hazard Mitigation Plan, Stone County
and Wiggins, Mississippi, April 2012

Waveland

City of Waveland Comprehensive Plan Update 2009, Adopted 21, 2010
Hazard Mitigation and Flood Protection Plan Waveland, Mississippi,
June 2007 Update

Wiggins

2006 Comprehensive Plan, City of Wiggins, Mississippi
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and Wiggins, Mississippi, April 2012

Photos

Cover: *Photography by Alex North*, www.naturallynorth.net

Appendix

The Appendix of the study contains some sample policies that were drawn from actual policies in Comprehensive Plans within the study area, as well as some examples of policies adopted by cities or counties in other areas of the United States. The policies are organized by the hazard mitigation principle that they address. These sample policies can be used cafeteria-plan style, so that a particular jurisdiction might find one or several that fit perfectly or can be readily adapted to the jurisdiction's needs. These policies can also be used by jurisdictions as "food for thought" and can help to initiate a valuable discussion among planners and emergency managers and other related professionals.

The Appendix contains comments received from jurisdictions following their reviews of the jurisdiction profile for their community.

The Appendix also includes a sample matrix tool that can be used as a template for a jurisdiction to use to help organize their planning process or in any other way that they choose. For further explanations or to request a digital file, contact SMPDD.

Sample Policies to Satisfy Hazard Mitigation Principles, Drawn from Study Area and Other Sources

Hazard Mitigation Principle 1: Minimize Loss of Life and Injury

- Set a planning agenda that clearly links local planning with preventing the loss of life and property.
- Commit to become a NWS StormReady Community. StormReady is a designation/recognition program of the National Weather Service. Participation is voluntary. StormReady helps community leaders and emergency managers strengthen local safety programs in order to save lives and property.
- Improve and develop City/County mitigation programs to reduce risks to people and property from natural and man-made hazards, with a reduction goal set to socially and economically acceptable levels.
- Throughout the City/County, protect life and property from natural hazards, including hurricanes, flooding and fire.
- Provide facilities, equipment and funds to hire staff to effectively protect the lives and property of citizens.
- Reduce the potential for loss of life, injury, property, and other economic damage resulting from natural hazards within the City/County by requiring structural strengthening of housing and elevations of properties in flood-prone areas.

- Reduce the potential for loss of life, injury, property, and other economic damage resulting from natural hazards within the City/County by adopting a policy for the acquisition of repetitive flood loss properties and/or other properties within hazard areas.
- Make personal and community safety a consideration in the development of all local planning documents and the future development within the City/County.

Hazard Mitigation Principle 2: Protect Critical Facilities, Infrastructure, and Systems

- Strengthen community facilities to protect against damage caused by natural hazards.
- Direct development and installation of new critical facilities out of hazard areas when possible.
- Require back-up generators for critical facilities and provide for regular testing. Pursue Hazard Mitigation Grant Funding to retrofit critical facilities with emergency generators and for building infrastructure hardening.
- Encourage utility companies to trim trees away from power lines.
- Mark the location of critical facilities, community systems, and infrastructure on maps in local plans.

Hazard Mitigation Principle 3: Protect Historic and Cultural Resources

- Identify, designate, protect, and preserve significant historic, archeological, and cultural sites, landmarks, buildings, districts, and landscapes.
- Guide the rehabilitation or adaptive reuse of historic and cultural resources.
- Work with the state Department of Archives and History to develop a Historic Preservation Ordinance for neighborhoods with significant historic housing stock.
- Create incentives and/or adopt policies that encourage or require owners of historically or architecturally significant buildings to incorporate disaster-resistance measures that minimize the likelihood of major damage and that enable the building to be feasibly repaired after a disaster.
- In anticipation of the aftermath of a disaster, establish preservation-sensitive measures such as including requirements for temporary shoring or stabilization where needed; arranging for consultation with preservationists; expediting permitting procedures for suitable repair or restoration of structures; and providing for replanting or landscaping. Encourage use of FEMA funds for these rehabilitations whenever possible.
- Protect and restore natural, cultural and historic resources and maximize the benefits they provide for the economy, environment, and community.
- Preserve and make accessible sites of historical and cultural significance.
- Mark the locations of historic or cultural resources on maps in local plans.

Hazard Mitigation Principle 4: Improve and Retrofit Public Buildings

- Pursue hazard mitigation grant funding to retrofit critical facilities with emergency generators and building infrastructure hardening.
- Design new civic structures to withstand water and wind damage expected from reasonable storms.
- Require that new critical facilities and infrastructure are built using the most sustainable and disaster-resistant methods for operation of the facility; e.g. buried power supply, elevated mechanical, electrical and HVAC, emergency generators, etc.
- Elevate and/or flood proof existing public buildings located in a floodplain.

Hazard Mitigation Principle 5: Explicitly Identify Hazards

- Clearly identify natural hazard areas on current and future land use maps.
- Conduct outreach campaigns that inform citizens of the hazard vulnerability of their community.
- Develop/Improve an Elevation Awareness Program in which the City/County maintains elevation certificates for all post-FIRM structures built within the jurisdiction.
- Attach the risk assessment portion of the community's Hazard Mitigation Plan as an annex to the Comprehensive Plan.

Hazard Mitigation Principle 6: Identify Hazard Areas

- Create uniform signage to provide flood information in areas most susceptible to high water events.
- Post flood elevation markers in flood prone areas.
- Develop a County/City hazard awareness map that identifies areas that are vulnerable to hazards.

Hazard Mitigation Principle 7: Encourage Adoption, Improvement, and Enforcement of Local Codes and Ordinances

- Establish stringent minimum building safety codes based upon ICB and IRC, and hurricane and flood resistant codes.
- Establish an ordinance to require maintenance of detention and retention ponds and structures that provide post construction runoff.
- Enforce subdivision regulations concerning developments in flood hazard areas.
- Require or recommend the use of native species in land development code and tree ordinances in order to decrease vegetation damage and increase wind tolerance.
- Adopt policies that encourage drought-resistant, pest-resistant, and fire-resistant plants to reduce water use, prevent erosion of soils, improve habitat, lessen fire danger, and minimize degradation of resources.

Hazard Mitigation Principle 8: Enhance Public Warning and Information Systems

- Establish consistent practices and organizational structures for emergency public information and warning.
- Acquire tools and technology necessary to provide emergency public information and warnings before, during, and after an incident.
- Develop and provide emergency public information and warning training, education, and exercise programs.

Hazard Mitigation Principle 9: Provide and Promote Communication Systems

- Pursue Homeland Security funding for the purchase of a computerized mapping system to move the emergency communication system to Phase II Compliance.
- Maximize coordination of telecommunications facilities with existing structures, buildings, and water towers.
- Coordinate with private telecommunication providers to ensure that countywide wireless internet and telephone service is available.

Hazard Mitigation Principle 10: Consider Vulnerable Populations

- Ensure emergency services and evacuation routes are adequate for projected demands and adequately marked and accessible to individuals with special needs during inclement weather.
- Ensure that emergency communications and warning systems address the needs of vulnerable populations, including sick, elderly, homebound, low income, non-English speaking (translations from English into Spanish and Vietnamese primarily).
- Develop and/or expand outreach strategies for vulnerable populations.
- Promote awareness of evacuation transportation for elderly or disabled citizens and other vulnerable populations, including sick, low income, non-English speaking.

Hazard Mitigation Principle 11: Improve Emergency Response Operations

- Establish and maintain an effective emergency response program that anticipates the potential for disasters, maintains continuity of life-support functions during an emergency, and institutes community-based disaster response planning involving businesses, non-governmental operations, and neighborhoods.
- Identify and prioritize road improvements and connections necessary to improve emergency response accessibility.
- Conduct routine emergency response drills to rehearse anticipated emergency scenarios.
- Pursue Hazard Mitigation Grant Funding to purchase equipment that will help to improve emergency response operations.

Hazard Mitigation Principle 12: Improve Sheltering Capabilities

- Identify zoning districts where emergency shelters shall be allowed by right, including a year-round emergency shelter.
- Develop directional signage for shelter locations.
- Mark the locations of emergency shelters and community safe rooms on maps in local plans.
- Pursue hazard mitigation grant funding for additional shelter space for special needs citizens, and the general population.
- Ensure that future schools and other public facilities are built to also serve as shelters during emergencies.

Hazard Mitigation Principle 13: Develop and Improve Outreach Programs about Risk and Mitigation

- Provide outreach brochures to individuals on family disaster plans at City/County functions.
- Through public safety venues such as Neighborhood Watch and through schools and fire prevention programs, hurricane fairs and the annual Mississippi Hurricane Conference, stress the need for the development of family disaster plans.
- Launch a coordinated education effort that teaches people who should evacuate during hurricanes, when evacuation should begin, and the routes people should take to evacuate.

Hazard Mitigation Principle 14: Develop or Improve Stormwater/Drainage Programs

- Continue to upgrade the City/County drainage facilities.
- Support the enforcement of stormwater Best Management Practices (such as silt fencing, detention/retention, and sediment basins) through a Stormwater Management Manual to protect water quality and reduce the effects of flooding, in accordance with EPA Phase II Stormwater requirements.
- Update or Develop City/County Comprehensive Drainage Plan.
- Ensure that new developments pay their fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

Hazard Mitigation Principle 15: Preserve, Create, and Restore Natural Systems to Serve Natural Mitigation Functions

- Require open space as part of development in new residential and commercial construction.
- Preserve natural wetlands and riparian areas through acquisitions or conservation easements.
- Limit the construction of structures in floodways that restrict or alter the free flow of waters.
- Implement policies that establish the waterfront as an area primarily for recreation, open space, and environmental uses, with preservation and enhancement of beaches, marshes, and other natural habitats.
- Ensure that environmental or natural systems (wetlands, floodplains, watersheds, etc.) that perform beneficial mitigation functions are depicted on land use maps.

Hazard Mitigation Principle 16: Plan for Continuity of Local Government Operations

- Encourage the development of business continuity plans for public and private business functions.
- Enhance the County/City government continuity plan to ensure that emergency operations within the County/City can function and that day-to-day operations and management functions of the County/City can be back on track as soon after an emergency as possible.
- Select Continuity Facilities or alternate facilities at which a government agency can perform essential functions in a threat-free environment.

Hazard Mitigation Principle 17: Protect Business Continuity and Economic Vitality

- Encourage the development of business continuity plans for public and private business functions.
- Work with utility providers to ensure that commercial districts are up and running as soon as possible post-disaster.
- Work with private sector leaders to build an Economic Recovery Response Team.

Hazard Mitigation Principle 18: Identify and Improve Evacuation Routes

- Provide for an Emergency Access and Evacuation Network map that identifies roadways in the City/County that must be maintained for emergency access and emergency evacuation in case of a major disaster.
- In local plans, include maps that identify evacuation routes.
- Make needed improvements along existing evacuation routes.
- Work cooperatively with MDOT and GRPC to identify potential new evacuation routes that can be developed along existing and/or new roads.
- Work cooperatively with MDOT and GRPC to ensure that signage is clearly visible to route citizens along evacuation routes.

Hazard Mitigation Principle 19: Address Transportation Functionality during Disasters

- Provide for emergency access to all parts of the City/County and safe evacuation routes.
- Carefully review all proposed transportation improvements for potential impacts to roads designated as evacuation routes; ensure that access to these roads remains unrestricted for ingress and egress.
- Routinely inspect and maintain local roads that are designated as evacuation routes or are access roads for evacuation routes.
- Coordinate with neighboring jurisdictions to ensure that the regional transportation network is adequately prepared to function before and during disasters.

Hazard Mitigation Principle 20: Reduce the Number of At-Risk and Repetitive Loss Properties

- Promote acquisition and elevation of repetitive loss structures.
- Conduct outreach campaigns to educate homeowners about flood mitigation opportunities
- Educate homeowners about grant opportunities available to mitigate SRL (Severe Repetitive Loss) properties.
- Include funding sources and estimated costs of acquisition for at-risk and repetitive loss properties in the Capital Improvements Plan.
- Identify at-risk and repetitive loss properties on land use maps.

Hazard Mitigation Principle 21: Increase Property Acquisitions

- Preserve natural wetlands and riparian areas through acquisitions or conservation easements.
- Purchase flood prone properties to create open space to assist with improving drainage, and to provide opportunities for passive recreation.
- Maintain and conserve undeveloped flood prone areas as open space and incorporate measures to increase resiliency in existing and new development.

Hazard Mitigation Principle 22: Promote the National Flood Insurance Program

- Conduct outreach programs, such as Flood Awareness Week, to advise residents of the flood hazard, availability of flood insurance, and flood protection methods in accordance with the National Flood Insurance Program.
- Coordinate with the libraries and other public agencies to ensure that there is a sufficient number of references on floodplain management and flood insurance available and promote public information campaigns with displays, lectures, and other projects regarding flood hazard awareness and the benefits of the National Flood Insurance Program.

Hazard Mitigation Principle 23: Reduce Potential Damage to Future Buildings and Infrastructure

- Encourage utility companies to trim trees away from overhead power lines to minimize the likelihood of damage from storms.
- Direct that development and installation of new critical facilities be out of hazard areas when feasible.
- Require that new critical facilities and infrastructure are built using the most sustainable and disaster-resistant methods for operation of the facility; e.g. buried power supply, elevated mechanical, electrical and HVAC, emergency generators, etc.
- Require elevations of new structures in new subdivisions, through site plan review and building codes that comply with disaster-resistant standards appropriate for the site.
- Adopt building codes that ensure that future buildings and infrastructure are built to the highest disaster-resistant standards.
- Promote the use of buried power lines in new developments to reduce damage and decrease the frequency of power outages.

Hazard Mitigation Principle 24: Direct Growth Away From Hazard Areas to Safe Areas

- Plan for and regulate the uses of land to minimize exposure to hazards from natural or man-made hazards and to contribute to the creation of a “disaster-resistant” community.
- Direct that development and installation of new critical facilities be out of hazard areas when feasible.
- Consider setback ordinances along streams, rivers, and other natural water systems.
- Prohibit development in floodways and control development in floodplains.
- Ensure that future growth areas are drawn outside of natural hazard areas.
- Ensure that environmental or natural systems (wetlands, floodplains, watersheds, etc.) that perform beneficial mitigation functions are depicted on land use maps.

Hazard Mitigation Principle 25: Limit Expenditures in Hazard Areas

- Ensure that land-use policies discourage development or redevelopment within natural hazard areas.
- Craft and adopt zoning ordinances that discourage development or redevelopment within natural hazard areas.
- Ensure the Capital Improvements Plan limits expenditures on projects that would encourage development in areas vulnerable to natural hazards.

Hazard Mitigation Principle 26: Include Funding for Mitigation Projects

- Ensure the Capital Improvements Plan identifies funding sources and amounts for hazard mitigation projects identified in the Hazard Mitigation Plan.
- Pursue Hazard Mitigation Grant Funding to fund projects and actions identified in the Hazard Mitigation Plan.

Hazard Mitigation Principle 27: Identify Needs and Projects from Post-Disaster Damage Assessments

- Incorporate post-disaster damage assessment into local Capital Improvements Plan.
- Establish a multi-stakeholder damage assessment team that will be trained and ready when needed.
- Routinely revisit post-disaster damage assessments to ensure that the identified needs and projects are being addressed.

Hazard Mitigation Principle 28: Support or Promote Hazard Mitigation Planning and Projects

- Conduct periodic meetings to review and revise the Hazard Mitigation Plan as conditions change or funding sources are identified for accomplishing the recommendations of the mitigation plan.
- Continue to implement the City/County Hazard Mitigation Plan/Floodplain Management Plan goals, objectives, and actions to improve emergency management capabilities for existing and future populations.
- Attach the Hazard Mitigation Plan to other local plans and approve it as an annex to those plans.
- Incorporate hazard mitigation principles into other local plans where they logically fit and are appropriate.

Hazard Mitigation Principle 29: Develop and Maintain Hazards-Related Research-Shared Resources

- Map the easements and rights-of-way of roadways and drainage ways for use by all County/City departments.
- Support the development of a regional shared geographic data system for land use and site planning.
- Develop mutual aid agreements for disaster response and recovery with the county or city and other jurisdictions within the county; where possible, consider regional mutual aid agreements that cross county lines.

Review Comments from Jurisdiction Profiles

From: Beth Ousley [mailto:bousley@smpdd.com]

Sent: Friday, July 12, 2013 4:30 PM

To: Various Recipients

Subject: Results from Study to Integrate Hazard Mitigation Principles into Comprehensive and other local Plans

We recently requested your participation in an online survey about how effectively long-term development plans and growth policies in Pascagoula and other coastal jurisdictions are addressing the hazard risks in our communities. Those survey results will be incorporated into our study of ways that cities and counties can enhance the integration of hazard mitigation principles into other local planning documents.

Another part of the study is our review and analysis of Pascagoula's Comprehensive Plan to see how well hazard mitigation principles have already been integrated. The results of that review are attached, profiling Pascagoula as compared to other coast cities and counties, along with some specific recommendations for you to consider when you update your Comp Plan.

We encourage you to take a close look at the analysis. If you have any comments about the results of our review, please send them to me no later than Friday, July 19, 2013.

Thanks,

Beth Ousley, Senior Project Manager
Southern Mississippi Planning and Development District
9229 Hwy 49
Gulfport, MS 39503
228-868-2311, x 1490; 228-868-7094 Fax
bousley@smpdd.com

Comment 1:

Thank you Beth! I and our team will review the plan and submit any comments shortly. Thanks again!

Jen Dearman
Director of Community and Economic Development
City of Pascagoula
630 Delmas Avenue
Pascagoula, MS 39568
(228) 938-6651 - office
(228) 990-1936 - cell
(228) 938-6637 - fax
jdearman@cityofpascagoula.com

Comment 2:

Beth:

I have no problems with your analysis. Thanks!

Leslie Robertson
Economic Development Project Coordinator
CITY OF D'IBERVILLE
10383 Automall Pkwy
D'Iberville, MS 39540
228-273-3334 office
228-343-1246 cell

Comment 3:

Beth

How are you? I have been rather busy over the last few weeks and am looking over suggestions recommendations, etc. Where do I locate HM Principles? Is there a certain document?

Thanks

Misha 601 528 0911

Comment 4:

After looking over the profile and reading the principles addressed and not addressed and about how effectively long-term development plans and growth policies in Jackson County and other coastal jurisdictions are addressing the hazard risks in our communities there are quite a few of the points addressed that are in our Jackson County Hazard Mitigation Plan update. Some of these principles may not have been addressed in the 2009 Comprehensive Plan and I agree that some should be included. These are two separate documents that complement each other as does our Jackson County Comprehensive Emergency Management Plan which was also just updated which also addresses some of these issues. I agree that when the 2009 Comprehensive Plan is updated there should be integrations of the HM plan and CEMP into it but the HM Plan and CEMP plan must be kept separate from the county comprehensive plan which addresses land use ordinances, RLP, and other codes and ordinances adopted by the Jackson County Planning Department.

Donald Langham
Emergency Management Coordinator
Office of Emergency Services
600 Convent Ave
Pascagoula, MS 39567

Response to Comment 4:

Thank you for your comments, and especially your careful review of our analysis of the County's Comprehensive Plan compared to the County's Hazard Mitigation Plan. We appreciate the time that you took to give us this feedback.

However, the study we are conducting is not about what is in the Hazard Mitigation Plan versus what is in other local plans, but rather, how to integrate and coordinate the elements across all local plans. This is an emerging trend across the country. Cities and counties are beginning to realize that communities that integrate hazard mitigation principles into all local plans are more resilient than communities that do not. Both FEMA and the American Planning Association are encouraging cities and counties to accomplish this objective, and the guidance they have provided toward this end is being used to help direct this study.

What we knew, and what has been confirmed through the study, is that the team that prepares the Comprehensive Plan is likely not the same team that prepares the Hazard Mitigation Plan; that most counties/cities outsource the preparation of these plans to different consulting firms; and that coordination between the two efforts is not always the best it can be. We are trying to help our coastal communities bridge those gaps in the simplest way possible.

We are not advocating the combination of any of the individual Plans into a single plan; they all are and should continue to be stand-alone plans. However, addressing land use ordinances and other codes and ordinances does not preclude taking those codes and ordinances one step further to incorporate hazard mitigation principles, and that is the basis of the study. The recommendations we have presented in the profile are designed to help Jackson County discover ways to take that next step. Perhaps this will be clearer when we release the full study, which is anticipated to be in August.

Beth Ousley, Senior Project Manager
Southern Mississippi Planning and Development District
9229 Hwy 49
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bousley@smpdd.com

Sample Matrix Tool Template for Community Use

Comp Plan|Hazard Mitigation Plan -- MATRIX

	Principle 1	Principle 2	Principle 3	Principle 4	Principle 5	Principle 6	Principle 7	Principle 8
Comp Plan Goals	Minimize Loss of Life and Injury	Protect Critical Facilities, Infrastructure and Systems	Protect Historic and Cultural Resources	Improve and Retrofit Public Buildings	Explicitly Identify Hazards	Identify Hazard Areas	Encourage Adoption, Improvement, and Enforcement of Local Codes and Ordinances	Enhance Public Warning and Information Systems
(Insert Goal 1)	Cite Section & Page # of Comp Plan							
(Insert Goal 2)		Cite Section & Page # of Comp Plan						
(Insert Goal 3)							Cite Section & Page # of Comp Plan	
(Insert Goal 4)				Cite Section & Page # of Comp Plan				
(Insert Goal 5)						Cite Section & Page # of Comp Plan		
(Insert Goal 6)			Cite Section & Page # of Comp Plan					
(Insert Goal 7)								
(Insert Goal 8)								
(Insert Goal 9)								
(Insert Goal 10)								

Comp Plan/Hazard Mitigation Plan -- MATRIX

	Principle 9	Principle 10	Principle 11	Principle 12	Principle 13	Principle 14	Principle 15	Principle 16
Comp Plan Goals	Provide and Promote Communication Systems	Consider Vulnerable Populations	Improve Emergency Response Operations	Improve Sheltering Capabilities	Develop and Improve Outreach Programs About Risk and Mitigation	Develop or Improve Stormwater/Drainage Programs	Preserve, Create, and Restore Natural Systems to Serve Natural Mitigation Functions	Plan for Continuity of Local Government Operations
<i>(Insert Goal 1)</i>								
<i>(Insert Goal 2)</i>								
<i>(Insert Goal 3)</i>								
<i>(Insert Goal 4)</i>								
<i>(Insert Goal 5)</i>								
<i>(Insert Goal 6)</i>								
<i>(Insert Goal 7)</i>				<i>Cite Section & Page # of Comp Plan</i>				
<i>(Insert Goal 8)</i>		<i>Cite Section & Page # of Comp Plan</i>						
<i>(Insert Goal 9)</i>						<i>Cite Section & Page # of Comp Plan</i>		
<i>(Insert Goal 10)</i>								

Sample Matrix Tool Template for Community Use (Continued)

Comp Plan Hazard Mitigation Plan -- MATRIX

	Principle 17	Principle 18	Principle 19	Principle 20	Principle 21	Principle 22	Principle 23	Principle 24
Comp Plan Goals	Protect Business Continuity and Economic Vitality	Identify and Improve Evacuation Routes	Address Transportation Functionality During Disasters	Reduce the Number of At-Risk and Repetitive Loss Properties	Increase Property Acquisitions	Promote the National Flood Insurance Program	Reduce Potential Damage to Future Buildings and Infrastructure	Direct Growth Away From Hazard Areas to Safe Areas
(Insert Goal 1)								
(Insert Goal 2)								
(Insert Goal 3)								
(Insert Goal 4)								
(Insert Goal 5)								
(Insert Goal 6)								
(Insert Goal 7)								
(Insert Goal 8)								
(Insert Goal 9)								
(Insert Goal 10)		Cite Section & Page # of Comp Plan						

Comp Plan|Hazard Mitigation Plan -- MATRIX

	Principle 25	Principle 26	Principle 27	Principle 28	Principle 29
Comp Plan Goals	Limit Expenditures in Hazard Areas	Include Funding for Mitigation Projects	Identify Needs and Projects From Post-Disaster Damage Assessments	Support or Promote Hazard Mitigation Planning and Projects	Develop and Maintain Hazards-Related Research-Shared Resources
<i>(Insert Goal 1)</i>					
<i>(Insert Goal 2)</i>					
<i>(Insert Goal 3)</i>					
<i>(Insert Goal 4)</i>					
<i>(Insert Goal 5)</i>					
<i>(Insert Goal 6)</i>					
<i>(Insert Goal 7)</i>					
<i>(Insert Goal 8)</i>					
<i>(Insert Goal 9)</i>					
<i>(Insert Goal 10)</i>					

