

Monroe County Hazard Mitigation Plan Update

Draft Hazard Mitigation Plan

Public Meeting

March 9, 2016

Monroe County Hazard Mitigation Plan Update Draft Mitigation Plan Public Meeting

Agenda

- What is Hazard Mitigation Planning
- Review the update process
- Risk Assessment Section
- Mitigation Strategy Section
- Next Steps
- Conclusion

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Why is a Hazard Mitigation Plan necessary?

Disaster Mitigation Act of 2000 (DMA 2000) which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act), requires **all local jurisdictions** to have a mitigation plan in order to receive certain types of disaster assistance and hazard mitigation funding.

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Current Hazard Mitigation Plan

- Adopted and Promulgated by Monroe County Commissioners
- Municipality Adoption of the Monroe County Plan
- Used as support for disasters and emergencies since promulgation

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2016 Hazard Mitigation Plan Update

- Required to be updated every 5 years
- Update process is continuous
- All plans are reviewed annually:
 - County reviews all mitigation actions.
 - Municipalities provide progress reports on project opportunities.
- Annual progress reports are required by PEMA

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2016 Hazard Mitigation Plan Update

- Monroe County Hazard Mitigation Grant
- Hired MCM Consulting Group, Inc.
 - Kick off meeting was July 1, 2015
- Local Planning Team Developed
- Update process
 - Capabilities Assessment
 - Risk Assessment
 - Mitigation Strategy Develop
 - Draft Plan

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2016 Hazard Mitigation Plan Update

- Municipality involvement:
 - Complete surveys and assessments:
 - Capability Assessment Survey
 - Hazard Identification Worksheet
 - Mitigation Opportunity Form
 - Provide input into the draft plan.
 - Participate in meetings.
 - Adopt the County Plan as the Municipal Plan.

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2016 Hazard Mitigation Plan Update

- Public involvement:
 - Identify hazard areas in your municipality.
 - Participate in surveys and assessments.
 - Provide input into the draft plan.
 - Participate in meetings.

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Capabilities Assessment

- Assessed the county and the municipalities.
- Capability assessment forms provided.
- Assessed the following:
 - Planning and regulatory capability
 - Administrative and technical capability
 - Fiscal capability
 - Community political capability
- Capability assessment information is in section 5 of the 2016 Monroe County Hazard Mitigation Plan.

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Risk Assessment Review Identifying Hazards

44 CFR Requirement

Part 201.6(c)(2)(i): The risk assessment shall include a description of the type of all [hazards] that can affect the jurisdiction.

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Risk Assessment

Identifying Hazards

- Note and Document Past Presidential Disaster Declarations
 - Hurricane Sandy – 2012
 - Hurricane Irene and Tropical Storm Lee - 2011
- Develop a List of Natural and Human-made Hazards
 - Review previous hazards in current plan
 - Flooding, Winter Storms, Drought, Wildfire, etc.
 - Identify new hazards
 - Extreme Temperature, Invasive Species, Disorientation, Drowning, Etc.
- Use a Hazard Identification and Risk Evaluation Worksheet:
 - Municipality Worksheet completed by Municipalities.
 - County Worksheet completed by the local planning team.

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Risk Assessment Review

Profiling Hazards

44 CFR Requirement

Part 201.6(c)(2)(i): The risk assessment shall include a description of the location and extent of all [hazards] that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

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Risk Assessment

Profiling Hazards

- Identify the location and geographic extent
 - Mapping utilized
 - Local knowledge
- Define the range and magnitude
 - Use of Enhanced Fujita Scale
 - Use of Richter Scale
- Profile past occurrences
 - Dates
 - Impact

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Risk Assessment

Profiling Hazards

- Establish probability of future occurrences
 - Based on past occurrence frequency
 - Special Flood Hazard Area (Previously 100 year flood data)
- Determine environmental impacts
 - Flooding causes polluted streams
 - Tornado causes scattering of debris over large areas
 - Droughts kill crops and trees

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Risk Assessment

Assessing Vulnerability

- Inventory and summarize vulnerable assets:
 - Existing buildings
 - Critical facilities
 - New development
 - Hazardous material facilities
 - Utility Systems
 - Utilize GIS data

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Risk Assessment

Assessing Vulnerability

- Review high risk groups
 - Elderly
 - Children
 - Special needs
- Flooding hazards
 - Utilize Flood Insurance Rate Maps
 - Develop maps with critical facilities and impacted structures

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Risk Assessment

Assessing Vulnerability

- Estimate loss
 - Determine potential dollar loss estimates for hazards:
 - Flooding
 - Wind/Tornadoes
 - Utilize assessed values from county records
 - HAZUS Software from FEMA

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Risk Assessment

Assessing Vulnerability

- Develop risk factor for hazards
 - 19 hazards identified and profiled
 - Assessed risk factor to 25 hazards
 - Utilized a risk factor tool (next slide)
 - Relies on historical data
 - Relies on local planning team knowledge
 - Completed by the local planning team

Summary of Risk Factor (RF) Approach				
Risk Assessment Category	Degree of Risk			Weight Value
	Level	Criteria	Index	
PROBABILITY <i>What is the likelihood of a hazard event occurring in a given year?</i>	UNLIKELY	LESS THAN 1% ANNUAL PROBABILITY	1	30%
	POSSIBLE	BETWEEN 1% & 49.9% ANNUAL PROBABILITY	2	
	LIKELY	BETWEEN 50% & 90% ANNUAL PROBABILITY	3	
	HIGHLY LIKELY	GREATER THAN 90% ANNUAL PROBABILITY	4	
IMPACT <i>In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?</i>	MINOR	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	1	30%
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	2	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	3	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	4	
SPATIAL EXTENT <i>How large of an area could be impacted by a hazard event? Are impacts localized or regional?</i>	NEGLIGIBLE	LESS THAN 1% OF AREA AFFECTED	1	20%
	SMALL	BETWEEN 1 & 10.9% OF AREA AFFECTED	2	
	MODERATE	BETWEEN 11 & 25% OF AREA AFFECTED	3	
	LARGE	GREATER THAN 25% OF AREA AFFECTED	4	
WARNING TIME <i>Is there usually some lead time associated with the hazard event? Have warning measures been implemented?</i>	MORE THAN 24 HRS	SELF-DEFINED	1	10%
	12 TO 24 HRS	SELF-DEFINED	2	
	6 TO 12 HRS	SELF-DEFINED	3	
	LESS THAN 6 HRS	SELF-DEFINED	4	
DURATION <i>How long does the hazard event usually last?</i>	LESS THAN 6 HRS	SELF-DEFINED	1	10%
	LESS THAN 24 HRS	SELF-DEFINED	2	
	LESS THAN 1 WEEK	SELF-DEFINED	3	
	MORE THAN 1 WEEK	SELF-DEFINED	4	

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Risk Assessment Review
Assessing Vulnerability

High Risk Hazards: Risk Factor of 2.5-4.0

Moderate Risk Hazards: Risk Factor of 2.4-2.0

Low Risk Hazards: Risk Factor of 1.9-0.0

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Risk Factor
Utility Interruptions	4	3	4	4	4	3.7
WinterStorm	4	3	4	1	3	3.3
Transportation Accidents	4	2	4	4	2	3.2
Invasive Species	4	2	4	1	4	3.1
Wildfire	4	2	3	4	3	3.1
Dam Failure	2	4	3	3	3	3
Hazardous Materials - Transportati	4	1	4	4	2	2.9
Pandemic	1	4	4	1	4	2.8
Terrorism - Domestic	3	2	3	4	3	2.8
Extreme Temperature	3	2	4	1	3	2.7
Levee Failure	1	4	3	3	3	2.7
Terrorism - International	2	2	3	4	4	2.6
Hurricane/Tropical Storm	2	3	3	1	3	2.5
Drowning	4	2	1	4	1	2.5
Flooding	3	2	2	2	3	2.4
Windstorms	4	1	1	4	2	2.3
Epidemic	3	2	2	1	3	2.3
Nuclear Incidents	1	2	3	4	4	2.3
Disorientation	4	1	1	4	1	2.2
Drought	2	1	4	1	4	2.2
Hazardous Materials - Fixed Faciliti	1	2	2	4	3	2
Flash Flooding	2	2	1	4	1	1.9
Tornado	2	2	1	4	1	1.9
Earthquake	1	1	3	4	1	1.7
Ice Jam Flooding	1	1	1	2	2	1.2

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Mitigation Strategy

44 CFR Requirement

Part 201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

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Mitigation Strategy Goals and Objectives Review

What is a goal?

A general guideline that describes what your community would like to achieve.

What is an objective?

Defines strategies that must be implemented to achieve the goals. Objectives are specific and measurable.

2016 Mitigation Goals and Objectives next slides.

GOAL 1	Reduce potential injury, death, and damage to existing community assets due to natural hazards, especially flooding.
Objective 1.1	Continue to use stormwater management planning as a means to reduce flood losses.
Objective 1.2	Recommend that flood insurance policies remain affordable through government programs, especially through the NFIP's CRS.
Objective 1.3	Ensure adequate and consistent enforcement of ordinances and codes within and between jurisdictions.
Objective 1.4	Assess and implement historical preservation data to increase hazard mitigation planning.

GOAL 2	Reduce the potential impact and losses stemming from natural and human made disasters on public and private property.
Objective 2.1	Reduce wildfire potential through planning and outreach.
Objective 2.2	Ensure that existing streams and drainage systems are located, adequate and functioning properly, when funding and technical assistance is available.
Objective 2.3	Reduce the number of repetitive loss and severe repetitive loss properties in the County.
Objective 2.4	Develop and maintain GIS data that supports hazard mitigation planning.
Objective 2.5	Encourage and facilitate the development of continuity planning to reduce impact of natural and man-made hazards

GOAL 3	Increase public education awareness regarding natural and man-made hazard risk and vulnerability, preparedness, and mitigation.
Objective 3.1	Support public education programs for business, household and individual mitigation, safety measures and preparedness.
Objective 3.2	Advise the public on small-scale preservation and conservation measures.
GOAL 4	Improve emergency preparedness, warning and response procedures and capabilities.
Objective 4.1	Maintain and upgrade emergency services equipment.
Objective 4.2	Provide residents with adequate warning of potential floods and other weather related events.

GOAL 5	Reduce or redirect the impact of natural disaster away from at-risk environmental and population areas.
Objective 5.1	Research possible structural mitigation projects to redirect or reduce the impact of disasters.
Objective 5.2	Encourage and facilitate the development of comprehensive plan, zoning, land use, and, most importantly, floodplain management ordinances to appropriately direct development away from high-hazard areas.
GOAL 6	Reduce the potential impact and losses stemming from technological disasters on public and private property.
Objective 6.1	Provide education programs to public and private property owners and business owners.
Objective 6.2	Disseminate information to the private and public sectors on hazard specific plans, response procedures and post disaster restoration plans.

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Mitigation Strategy

Mitigation Actions

44 CFR Requirement

Part 201.6(c)(3)(ii): [The mitigation strategy shall include a section that identifies] a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

What is a Mitigation Action?

An action is more specific than an objective and should address previously identified objectives.

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Mitigation Strategy

Mitigation Actions

- 2016 Mitigation Actions:
 - 40 Actions updated or developed.
 - 5 NFIP related actions.
 - Renumbered all action numbers.
 - Located in Section 6 of the mitigation plan.

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Mitigation Strategy

Mitigation Actions

- 2016 Mitigation Action Plan:
 - Identifies a mitigation strategy and plan for future.
 - Identifies the following:
 - Category
 - Hazard Vulnerability
 - Benefit/Cost Prioritization
 - Schedule
 - Funding
 - Responsibility

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Mitigation Strategy

Mitigation Project Opportunities

- 2016 Mitigation Opportunities:
 - 51 new mitigation opportunities from 18 municipalities.
 - Information is in Appendix G

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Next Steps

- Available for public comment
 - Comment Period is March 9, 2016 – April 15, 2016
 - Hard copy available: Monroe County Office of Emergency Management, Monroe County Commissioners and Monroe County Planning Commission
 - Digital copies are available at: www.monroecountypa.org/haz-mit
 - All public comments **MUST** be submitted in writing to Maryellen Keegan, Monroe County Office of Emergency Management Deputy Director
- Draft submit to PEMA by April 20, 2016
- FEMA review and approval pending adoption
- County and municipality adoption
 - Completed by resolution (Appendix K)

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Conclusion

Questions??

Thank You