



FL - 393

Mitigation for Emergency Managers

ACTIVITY PACKET

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Your Role in Mitigation

Unit 2, Activity 1

Think about the role you play in mitigation in your community, considering your current and past involvement in mitigation activities.

Task 1 – Personal mitigation

In column 1: list the ways you encourage and participate in mitigation activities within your jurisdiction.

Task 2 – Group formation & discussion

After forming groups, in column 2: discuss group differences in column one and write them down.

Task 3 – Brief out & new ideas

Groups will brief out on columns 1 and 2. In column 3: As others brief out, write down ideas you have not yet explored but would like to engage in upon completing this course.

1	2	3
List the ways <i>you currently</i> encourage and/or participate in mitigation activities within your jurisdiction.	List the ways <i>others</i> encourage and participate in mitigation activities within their jurisdiction.	Mitigation activities you would like to accomplish in your community.

Unit 2, Activity 2

What problems do you face trying to promote mitigation within your jurisdiction?

Building the Working Group

Unit 3, Activity 1

Use this worksheet to identify potential members of the Local Mitigation Strategy (LMS) Working Group. While not every group will need to participate in all planning decisions, each plays an important role in supporting community resilience. All stakeholders should be provided the opportunity to engage throughout the process.

Stakeholders – Individuals or groups that affect or can be affected by a mitigation project or policy. The LMS must document how each of the following were – at minimum – given the *opportunity* to participate:

1. Local and regional agencies involved in hazard mitigation activities.
 - Public works including dam owners and safety officials, emergency management, local floodplain administration, and Geographic Information Systems (GIS) departments.
2. Agencies that have the authority to regulate development.
 - Zoning, planning, community, and economic development departments; building officials; planning commissions, or other elected officials.
3. Neighboring communities.
 - Adjacent local governments, including special districts, such as those that are affected by similar hazard events or may share a mitigation action or project that crosses boundaries. Neighboring communities may be partners in hazard mitigation and response activities, or may be where critical assets, such as dams, are located.
4. Representatives of businesses, academia, and other private organizations.
 - Private utilities, including dam owners, or major employers that sustain community lifelines.
5. Representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations, among others.
 - Housing, healthcare, or social service agencies.
6. General public

Review the instructions on the next page.

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Identify at least two individuals, groups, or agencies that may be part of the LMS Working Group (stakeholders) in each category. List existing or new meetings or contact methods that may be used to engage them.

Stakeholder	How might they be engaged?
Local and regional agencies involved in hazard mitigation activities	
Agencies that have the authority to regulate development	
Neighboring communities	
Representatives of businesses, academia, and other private organizations	

Group	How might they be engaged?
Representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations, among others	
General Public	

Are there stakeholders you may lean on more frequently or stakeholders special to your community?

Identifying Your Community Assets

Unit 4, Activity 1

As a group, think of natural hazards that could affect and may impact your community in the future. Examples include but are not limited to: hurricanes, flooding, wildfires, severe weather, extreme heat, and drought.

Next, identify specific community assets that could be impacted by those hazards and what makes them vulnerable.

Identifying Vulnerable Assets	What makes this group or asset vulnerable?
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Structures (Community centers, historic places, planned capital improvement)	

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Identifying Vulnerable Assets	What makes this group or asset vulnerable?
Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications, etc.)	
Natural, Historic, and Cultural Resources (Areas of preservation and conservation, beaches, parks, critical habitats)	
Critical Facilities and Infrastructure (Hospitals, law enforcement, water, power, dams, levees, etc.)	

Identifying Hazards in Your Community

Unit 4, Activity 2

Your group was brought in to consult with a county LMS Working Group looking to profile a particular hazard.

You attended a meeting where you gathered information from conversations, emails, calls, and other correspondence between stakeholders. Now, use the following table to build a hazard profile using the information gathered.

Hazard Name	
Element	Profile Information
Description (R1)	
Location (R3)	
Extent (R4)	
Previous Occurrences (R5)	
Future Probability (R6)	
Potential Impacts (R8)	
Vulnerability Summary (R9)	

Drafting Problem Statements, Goals, and Objectives

Unit 5, Activity 1

A risk assessment – in short – analyzes and organizes a community’s vulnerabilities by compiling and condensing information from hazard profiles. Once a risk assessment is complete, the LMS Working Group can utilize its findings to develop problem statements.

A single problem statement concisely describes vulnerability within the planning area. Altogether, these statements focus a working group to address community vulnerabilities.

Goals and objectives are created from problem statements. They both address vulnerabilities and ultimately aim to reduce the risks of the identified hazards within a community. By outlining problem statements derived from the risk assessment, Working Groups can formulate goals and determine objectives: the *core* of Local Mitigation Strategy (LMS) Plans.

Goals are broad, forward-thinking statements that succinctly describe the working group’s intent in addressing risk/vulnerabilities. Several problem statements *can* lead to one broad goal. Goals should articulate a community’s desire to protect people & structures, reduce costs of disaster response & recovery, and minimize disruption after a disaster.

Objectives determine achievable, measurable ways to meet goals. Objectives define strategies or steps to achieve the goals that have been set. Objectives are specific and narrower in scope than goals.

This activity will task groups with developing, formulating, and determining the above components for a single neighborhood.

Task 1 – Develop problem statements

Task 2 – Formulate goals

Task 3 – Determine objectives

Task 1 – Develop Problem Statements

Use the table below to develop 1-2 problem statements regarding your neighborhood.

Each team will brief out before moving on to [Task 2](#).

Neighborhood:	
Problem Statement:	
Problem Statement:	

Task 2 – Formulate Goals

Use the table below to formulate 2 goals.

Each team will brief out before moving on to [Task 3](#).

Neighborhood	
Goal Statement #1	
Goal Statement #2	

Task 3 – Determine Objectives

Use the table below to determine 2 objectives for each goal listed above. Each team will brief out before moving on.

Neighborhood	
<i>Goal Statement #1</i>	
Objective:	
Objective:	
<i>Goal Statement #2</i>	
Objective:	
Objective:	

Identifying Mitigation Projects

Unit 5, Activity 2

With developed goals and objectives for the corresponding scenarios, the next step is to identify mitigation projects. After reviewing the goals and objectives, identify several alternative mitigation projects for each scenario. It is important to look at all types of projects when developing your plan. Some will move forward, others may not. The plan must document *all* projects to be considered. Keep in mind that projects identified may be possible in the future, even if your community does not have the capacity to carry them out now.

The following list describes the different types of mitigation measures:

Local Plans and Regulations

- Government authorities, policies, or codes which influence the way land and infrastructure are developed and maintained.

Structure and Infrastructure

- Modify existing infrastructure to remove it from a hazard area or new construction which reduces impacts of hazards

Natural Systems Protection

- Actions that minimize damage and losses by preserving or restoring the functions of natural systems.

Education and Awareness Programs

- Sustained programs to educate the public and decision makers about hazard risks and community mitigation program

Use the table below to identify 3 or more mitigation projects for one of your neighborhood and identify which goal and/or objective the project corresponds to.

Neighborhood		Goal/Objective
Mitigation Project		
Mitigation Project		
Mitigation Project		
Mitigation Project		
Mitigation Project		

Prioritizing Mitigation Projects

Unit 6, Activity 1

Once mitigation projects are identified, you can begin evaluating and prioritizing them. Prioritization is important as funding is not typically readily available to accomplish all identified actions/projects. STAPLEE is a commonly used, standard method of prioritization.

STAPLEE CRITERIA
SOCIAL
➤ Will the action be socially acceptable to the community? ➤ Will it cause any one segment of the population to be treated unfairly? ➤ Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of low- or reduced-income people? ➤ Is the action compatible with present and future community values?
TECHNICAL
➤ What consequences are created by this approach? ➤ Most importantly, will it solve the problem? ➤ Considering other community goals, is it the most useful?
ADMINISTRATIVE
➤ Does the community have the capability to implement the action? ➤ Can the community provide any maintenance necessary? ➤ Are staff, technical experts, and funding (match) sufficient? ➤ Can it be accomplished in a timely manner?
POLITICAL
➤ Have all the stakeholders been offered an opportunity to participate in the planning process? ➤ How can the mitigation goals be accomplished at the lowest cost to the stakeholders? ➤ Is there public support both to implement and maintain this measure? ➤ Is the political leadership willing to propose and support the measure?
LEGAL
➤ Does the community have the authority to implement the proposed measure? ➤ Is there a clear legal basis for the mitigation action? ➤ Is enabling legislation necessary? ➤ What are the legal ramifications? ➤ Will the community be liable for the actions or support of actions, or lack of action? ➤ Is it likely to be challenged?
ECONOMIC
➤ What are the costs and benefits of the measure (BCA)? ➤ How will the implementation of this measure affect the fiscal capability of the community? ➤ What burden will be placed on the tax base or the local economy? ➤ Does the action contribute to other community economic goals, such as capital improvements or economic development?
ENVIRONMENTAL
➤ How will this action affect the environment? ➤ Will this measure comply with local, state, and federal environmental regulations? ➤ Is the action consistent with community environmental goals?

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Choose 3 of the alternative (different) mitigation projects identified in the last activity and use the STAPLEE criteria to evaluate and prioritize the projects.

Result of STAPLEE Analysis		
Action/Project	Score	Method Used (How)
Mitigation Project #1:		
Mitigation Project #2:		
Mitigation Project #3:		

Post-Disaster Mitigation Exercise

Unit 9, Group Exercise

Part 1: Background

Read the background information about Palm Water Creek and follow the instructions that appear below.

The first coal-mining operations took place along the banks of Palm Water Creek in the 1820s. Palm Water Creek was also the first source of industrial and municipal water in the city of Blurple, until the mid-1870s when the creek became insufficient to supply the water. A canal was dug in 1887 to supplement the water system from Five Minute River. By the late 1920s, the city grew into the South's foremost industrial center. Both industry and working-class residential districts formed, causing worker housing to fill the floodplain of the creek.

Flooding started occasionally in the neighborhoods by the mid-1920s and by the late 1970s, residents watched flood water enter their homes at least once per year. As further industrial development increased, flooding grew worse. Some flood control measures aggravated the flooding problem.

In 1930, Blurple attempted to alleviate flooding of the creek by widening and clearing the creek channel. However, the flow of the creek was still restricted below the city limits and backed up in the low-lying areas of the neighborhoods. A corporation then constructed an artificial bank along the creek, allowing the dike to divert flood waters from the company's buildings, but made the flooding deeper on the opposite side of the creek. In 1951, 3,000 residents were marooned temporarily in their homes by floodwaters. The city and county were unable to tame the creek, and floodwaters grew more damaging and more deadly in the 1960s. By 1976, the residents demanded something be done about the creek, but no immediate action could be taken by the local governments.

Since 1977, 11 federally declared flooding events have occurred.

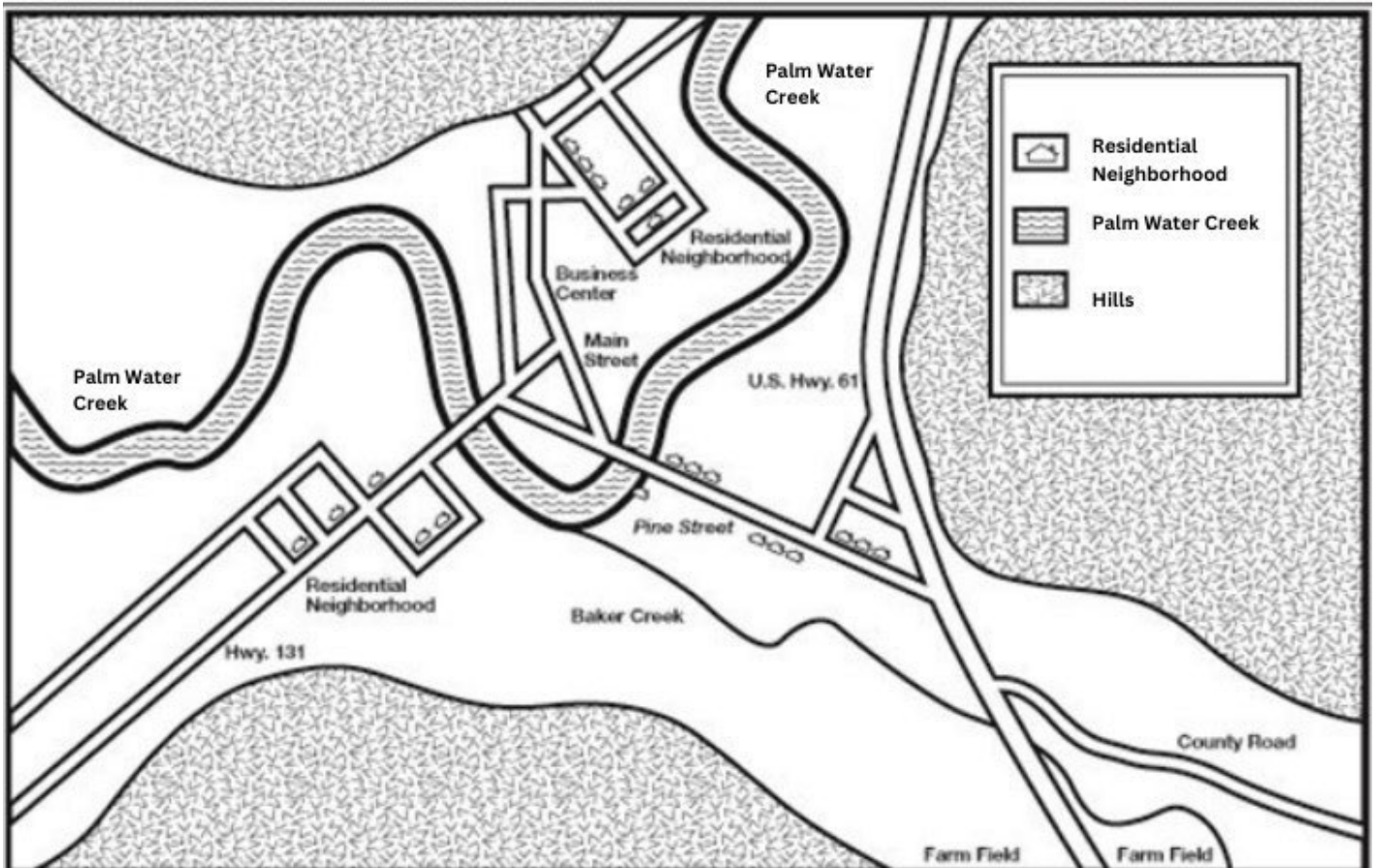
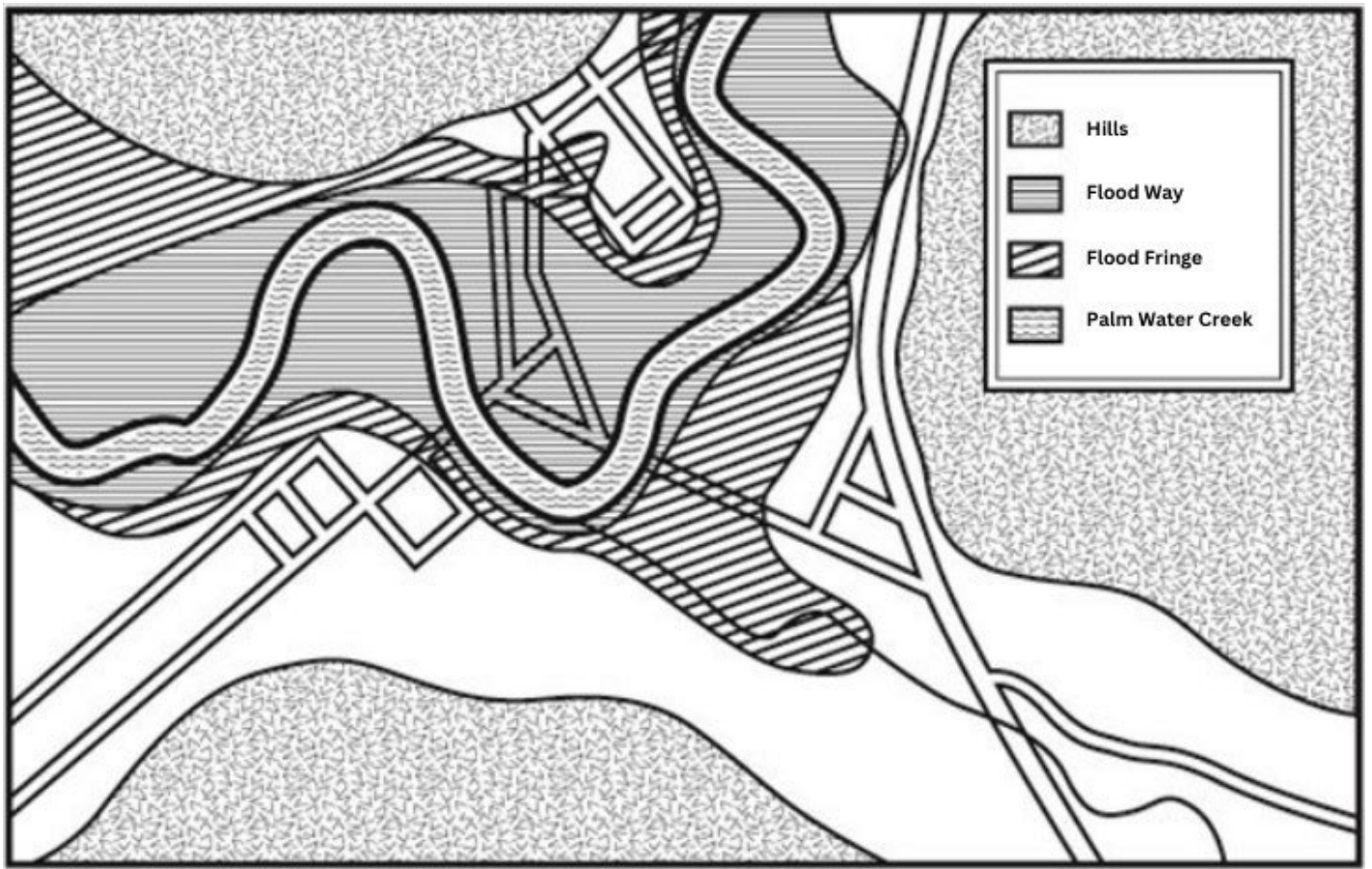
Instructions

- Palm Water Creek has appointed your group to serve as their emergency Local Mitigation Strategy Working Group.
- Your group is charged with the responsibility of coordinating an effort to solve the community's repetitive flooding problems.
- A street map and a floodplain map of Palm Water Creek neighborhoods are included below.

Actions

- Record your plan of action on the blank page provided, including the following information:
 1. Selection of your Chair & Vice Chair
 2. Organizations your LMS Working Group will need to engage or recruit
 3. A brief description of the process for developing a mitigation plan; what steps are needed?
- You do not need to develop a complete mitigation strategy at this point.
- Space for notetaking is provided on the next page.

Part 1 Notes



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Part 2: Impacts and Damages

Numerous neighborhoods sit in the floodway and floodplain of the Palm Water Creek, including approximately 4,574 residential dwellings, 196 commercial/industrial structures, and 87 critical facilities. The primary properties with recurring damage were structures located in the 100-year floodplain. Numerous structures were also in the floodway, which generally has higher velocity flow rates that cause more damage to structures.

Obstructions in the path of the water flow, such as undersized culverts and bridges, added to the problem. Other factors contributing to regular flooding included debris build-up and erosion from roadbeds.

In 1979, intense rainstorms resulted in the worst flood damage that Palm Water Creek neighborhoods had ever experienced. Preliminary damage assessments estimated total public and private damage in Palm Water Creek neighborhoods at over one million dollars. Flooding affected all properties and structures in the flood zones.

40 of the 196 commercial structures in the floodplain were substantially damaged, including a new, concrete- block grocery store. Every business suffered damage to some degree.

1,455 of the 4,574 residences in the floodplain were destroyed. All suffered flood damage.

High winds associated with the storms also resulted in lost electric power in Palm Water Creek neighborhoods for a 10-day period.

The continued heavy rains aggravated the situation as the ground was already saturated. Roads and highways throughout the affected area were flooded and temporarily closed. Businesses had to halt operations because of flood damage and many employees' inability to get to work.

Instructions

Your LMS Working Group must answer the following questions:

- What is the probability of flooding occurring in Blurple?
- What are the historical occurrences and impacts of flooding?
- What are the potential future impacts of flooding for the community?
- What is the Town of Blurple's overall vulnerability for flooding?

Part 3: Mitigation Strategy

Instructions

Your working group must complete the following actions:

- Identify any mitigation projects that are already in place and describe how effective they have been.
- Draft a problem statement, define at least one goal, and create at least one objective.
- Discuss several mitigation projects (minimum 3) that might prevent these damages in the future. Refer to Unit Five and your Resource Packet for ideas.
- Evaluate your choices using the STAPLEE criteria reviewed in Unit Six.
- Select one or more mitigation projects that satisfy the STAPLEE criteria and develop your overall mitigation strategy.
- Research possible resources for funding and technical assistance to implement the projects you have selected.
 - Refer to Unit Six for information about funding sources. Which of the state administered grants may the City of Blurple be eligible for and why?
 - It is not known whether the State will receive a Presidential disaster declaration. What funding options should your group explore for either event?

Future Application

Unit 10, Activity 1

Based on what you have learned, what practical steps can you take to overcome barriers to mitigation efforts and help build a more resilient community?

Unit 10, Course Feedback



* Student feedback provided through this survey is directly collected and analyzed by the FDEM Bureau of Mitigation. *