

# foreword

The Federal Emergency Management Agency (FEMA) has developed this series of mitigation planning "how-to" guides to assist states, tribes, and communities in enhancing their hazard mitigation planning capabilities.

These guides are designed to provide the type of information states, tribes, and communities need to initiate and maintain a planning process that will result in safer and more disaster resistant communities. These guides are applicable to states, tribes, and communities of various sizes and varying ranges of financial and technical resources.

This how-to series is not intended to be the last word on any of the subject matter covered; rather, it is meant to provide easy to understand guidance for the field practitioner. In practice, these guides may be supplemented with more extensive technical data and the use of experts when necessary.



**mit-i-gate\ 1:** to cause to become less harsh or hostile; **2:** to make less severe or painful.

*As defined by DMA 2000—*

**hazard mitigation\ :** any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

**plan-ning\ :** the act or process of making or carrying out plans; *specif:* the establishment of goals, policies and procedures for a social or economic unit.

## DMA

### The Disaster Mitigation Act of 2000

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 (DMA 2000) is the latest legislation to improve the hazard mitigation planning process. DMA 2000 (Public Law 106-390) was signed by the President on October 30, 2000. The new legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. As such, DMA 2000 establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP).

Section 322 of DMA 2000 specifically addresses mitigation planning at the state and local levels. This Section identifies new requirements that allow HMGP funds to be used for planning activities, and increases the amount of HMGP funds available to states that have developed a comprehensive, enhanced mitigation plan prior to a disaster. States, tribes, and communities must have an approved mitigation plan in place before receiving HMGP funds. Local and tribal mitigation plans must demonstrate that their proposed mitigation actions are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities.

State governments have certain responsibilities for implementing Section 322, including:

- Preparing and submitting a standard or enhanced state mitigation plan;
- Reviewing and updating the state mitigation plan every three years;
- Providing technical assistance and training to local governments to assist them in developing local mitigation plans and applying for HMGP grants; and
- Reviewing and approving local plans if the state has an approved enhanced plan and is designated a managing state.

DMA 2000 is intended to facilitate cooperation between state and local authorities. It encourages and rewards local, tribal, and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network will better enable local, tribal, and state governments to articulate their needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects. To implement the new DMA 2000 requirements, FEMA prepared an Interim Final Rule, published in the Federal Register on February 26, 2002, at 44 CFR Part 201 and 206, which establishes planning and funding criteria for states, tribes, and local communities.



The how-to guides cover the following topics:

- Getting started with the mitigation planning process, including important considerations for how you can organize your efforts to develop an effective mitigation plan (FEMA 386-1);
- Identifying hazards and assessing losses to your community, tribe, or state (FEMA 386-2);
- Setting mitigation goals and priorities for your community, tribe, or state and writing the plan (FEMA-386-3);
- Implementing the mitigation plan, including project funding and maintaining a dynamic plan that changes to meet new developments (FEMA 386-4);
- Evaluating and prioritizing potential mitigation actions through the use of benefit-cost analysis and other techniques (FEMA 386-5);
- Incorporating special considerations into hazard mitigation planning for historic structures and cultural resources (FEMA 386-6);
- Incorporating mitigation considerations for human-caused hazards into hazard mitigation planning (FEMA 386-7);
- Using multi-jurisdictional approaches to mitigation planning (FEMA 386-8); and
- Finding and securing technical and financial resources for mitigation planning (FEMA 386-9).

## Why should you spend the time to read these guides?

- It simply costs too much to address the effects of disasters only after they happen;
- State and federal aid is usually insufficient to cover the extent of physical and economic damages resulting from disasters;
- You can prevent a surprising amount of damage from hazards if you take the time to anticipate where and how they occur, and then take appropriate action to minimize damages;
- You can lessen the impact of disasters and speed the response and recovery process for both natural and human-caused hazards; and



- The most meaningful steps in avoiding the impacts of hazards are taken at the state, tribal, and local levels by officials and community members who have a personal stake in the outcome and the ability to follow through on a sustained process of planning and implementation.

The guides show how mitigation planning:

- Can help your community become more *sustainable and disaster resistant* through selecting the most appropriate mitigation actions, based on the knowledge you gained in the hazard identification and loss estimation process;
- Can be incorporated as an *integral component* of daily government business;
- Allows you to *focus your efforts on the hazard areas most important to you* by determining and setting priorities for mitigation planning efforts; and
- Can *save you money* by providing a forum for engaging in partnerships that provide the technical, financial, and/or staff resources in your effort to reduce the effects, and hence the costs, of natural and human-caused hazards.

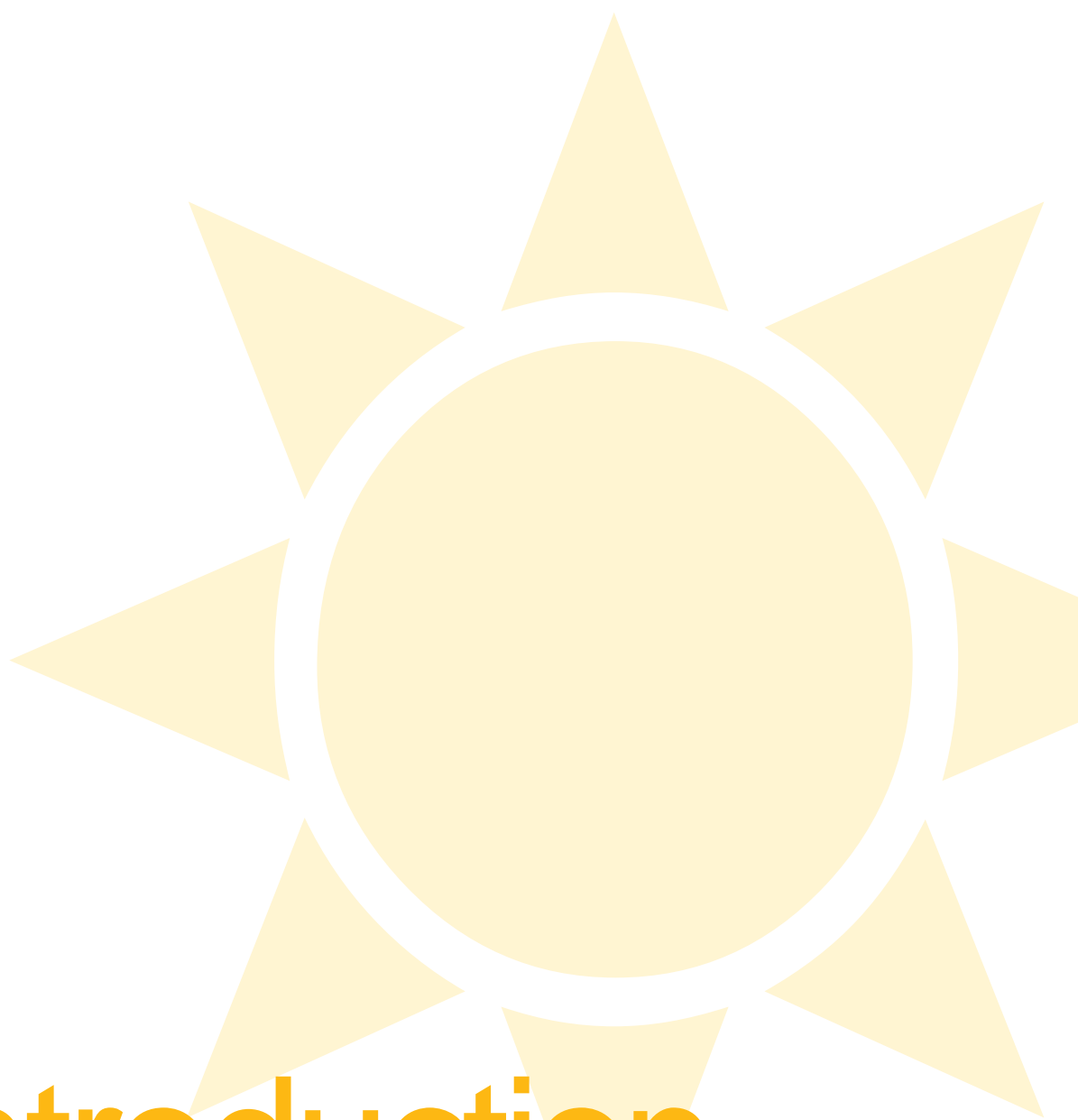
These guides present a range of approaches to preparing a hazard mitigation plan. There is no one right planning process; however, there are certain central themes to planning, such as engaging citizens, developing goals and objectives, and monitoring progress. Select the approach that works best in your state, tribe, or community.



**The process used to develop a successful hazard mitigation plan**

is just as important as the plan itself. This how-to guide focuses on the third phase of the hazard mitigation planning process and will help you develop a mitigation plan that meets DMA 2000 requirements.





# introduction

This third guide in the state and local mitigation planning how-to series is about developing your community's mitigation strategy and documenting the planning process. It builds on the resources and organizational framework discussed in *Getting Started: Building Support for Mitigation Planning* (FEMA 386-1) and the results of the loss estimation conducted according to *Understanding Your Risks: Identifying Hazards and Estimating Losses* (FEMA 386-2). This guide provides you and your planning team with the tools necessary to develop mitigation goals and objectives, identify and prioritize mitigation actions, formulate an implementation strategy, and assemble the planning document.

## How do you use this how-to guide?

*Developing the Mitigation Plan*, the third of the how-to guides, addresses the third phase of the mitigation planning process. In this phase, you and your planning team will develop goals and objectives that will guide the identification of actions to address the potential losses identified in Phase 2. Once you have prioritized these actions, you can then formulate an implementation strategy, identify responsible agencies, and set appropriate time frames for completing mitigation actions. The final step in this phase is to write a plan that documents the planning process and includes your implementation strategy.

The figure on the next page illustrates the process involved in completing this phase of the planning process, including how to use the worksheets and job aids. The relationships between state and local planning activities that should occur are also shown.

### This guide will help you address the following questions:

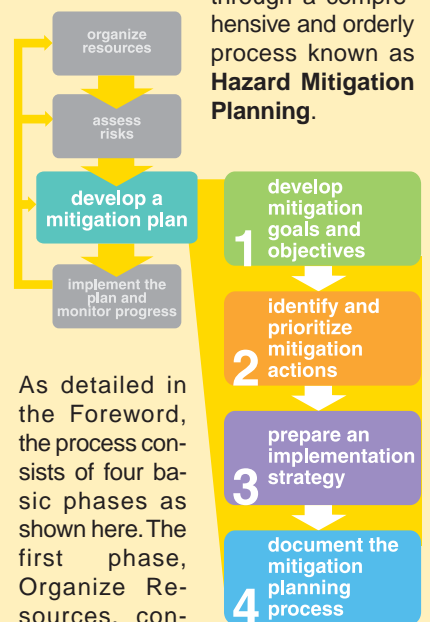
**Has your initial understanding of the hazards affecting your community changed as a result of completing the loss estimation?**

*How did your loss estimation change your initial perceptions of the hazards affecting your community? Did you discover "new" hazards or threats? Is a*

### Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies

is the third in a series of guides that will help you identify, plan, and implement cost-effective actions to reduce the effects of hazards

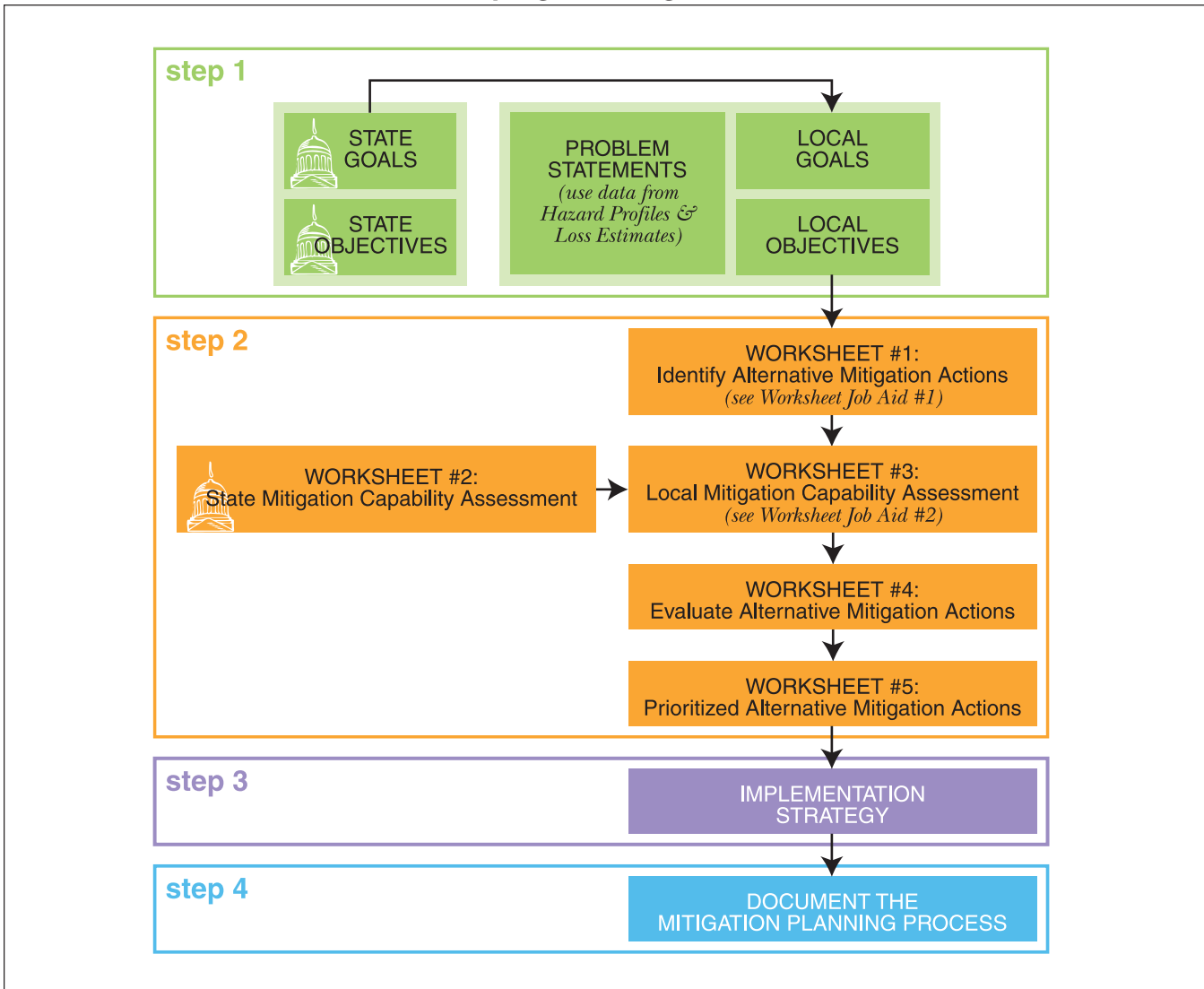
through a comprehensive and orderly process known as **Hazard Mitigation Planning**.



As detailed in the Foreword, the process consists of four basic phases as shown here. The first phase, Organize Resources, consists of organizing resources, mobilizing the community, and getting started with the planning process. The second phase, Assess Risks, identifies hazards and estimates the losses associated with these hazards. The third phase, Develop the Mitigation Plan, consists of identifying mitigation actions and implementation strategies, and is covered in this guide. The fourth phase, Implement the Plan and Monitor Progress, discusses how to implement, monitor, and evaluate mitigation actions to keep the mitigation plan current.



## Developing the Mitigation Plan



*particular community asset vulnerable to multiple hazards? Do hazards disproportionately affect a particular portion of your community?*

Now that you have the loss estimation findings, you can formulate goals and objectives to address the identified problems. These goals and objectives can be revised as necessary to accommodate changing community priorities.

**Step 1: Develop Mitigation Goals and Objectives** explains how to use the loss estimation developed in Phase 2 of the planning process in concert with your mission statement created in Phase 1 to determine where to focus your time and attention.

## How can future losses be reduced?

*How can existing plans, programs, procedures, and assets be augmented or strengthened to protect against future losses? What new actions will achieve your mitigation goals? What makes the most sense for your community, and what should be done first?*

Losses from hazards can be reduced if states, tribes, and communities take constructive action before the next disaster occurs. Some mitigation actions may be low-cost initiatives that can be readily adopted; others may depend on available funding or would be best implemented following a disaster when additional funding may become available. The challenges of involving the public and engaging them in decisions that can be costly to implement, yet are often invisible to the eye, require diligence and fortitude. The cost of implementing this list of mitigation opportunities will most likely be far greater than the funds that are or will be available. You will need to prioritize this list of initiatives to ensure that the projects you consider to be the most important get implemented as funding or resources become available.

**Step 2: Identify and Prioritize Mitigation Actions** explains how to identify, research, evaluate, and prioritize mitigation actions to reduce future losses.

## How do you prepare an implementation strategy?

*Who will implement the mitigation projects? What will be the funding sources for these projects? When will the projects be completed?*

Once mitigation actions are identified and prioritized, the planning team must identify the responsible agency or organization, funding source, and time frame for completing each project.

**Step 3: Prepare an Implementation Strategy** will help you identify the resources and appropriate steps necessary to implement mitigation projects.

## What should be included in the mitigation plan?

*Does the plan accurately depict the process that your planning team undertook? Is it written so that anyone who reads it can understand the community's risks and desired solutions? Will it meet the plan requirements of DMA 2000 and/or other programs?*

The mitigation plan provides a comprehensive strategy for addressing mitigation priorities. The plan should be easily readable, and it should convey a complete perspective of your community, tribe, or state's hazards and potential losses, as well as approaches to miti-



## Hazard Mitigation Planning

is the coordination of actions taken to reduce injuries, deaths, property damage, economic losses, and degradation of natural resources due to natural or human-caused hazard events. Hazard mitigation actions have long-term and cumulative benefits over time.

An effective mitigation plan provides documentation of valuable local knowledge on the most efficient and effective ways to reduce losses from hazard events. The benefits of preparing a mitigation plan include:

■ More direct access to a wide range of technical and financial resources for mitigation projects and initiatives. Not only will your jurisdiction have the benefit of a well-thought-out blueprint for executing projects efficiently, but several federal and state emergency management programs require hazard mitigation plans as prerequisites to awarding funds.

■ The mitigation planning process promotes the development of an informed citizenry who are knowledgeable about their vulnerability to hazards and the options for reducing their losses—creating an advocacy group that will support plan implementation.

■ Integration of mitigation strategies with other community needs and goals—the mitigation planning process encourages the mitigation strategy to be developed in light of economic, social, and political realities.

■ Improved ability to recover after a disaster. Having a hazard mitigation plan in place when a disaster strikes will greatly improve the response and recovery process and ensure that long-term mitigation issues are addressed.



## By identifying and prioritizing mitigation actions,

you will have a list of projects that will reduce future hazard vulnerabilities. FEMA publication 386-5, *Using Benefit-Cost Analysis in Mitigation Planning*, will help you prioritize actions by describing appropriate benefit-cost methodologies for evaluating the effectiveness of a range of potential mitigation actions. You may also require assistance from engineers, surveyors, or the appraiser's office to help estimate costs and benefits associated with particular mitigation actions. Contact your local, county, and state governments to find out who may be able to provide this technical assistance.



gate them, so that anyone who picks up the plan can understand the vulnerabilities and the specific strategies for addressing them. The content of the mitigation plan must meet planning requirements in 44 CFR Part 201 in order for the state, tribe, or community to be eligible for FEMA mitigation funds. See Table 1: Hazard Mitigation Planning Process – Local Planning Requirements by Program for a list of these requirements. The plan should include:

- Discussion of the planning process and partners involved;
- Discussion of the hazards and associated potential losses;
- Goals aimed at reducing or avoiding losses from the identified hazards;
- Mitigation actions that will help accomplish the established goals;
- Strategies that detail how the mitigation actions will be implemented and administered; and
- Description of how and when the plan will be updated.

**Step 4: Document the Mitigation Planning Process** helps you organize all of your information into a coherent, practical plan that will meet the DMA 2000 criteria.

The steps in this how-to guide suggest one possible planning approach. You may find it necessary to alter the sequence of steps or tasks to fit the needs of your particular jurisdiction. However, the process illustrated here is based on certain concepts common to all successful planning processes, and you should be sure to incorporate the major elements suggested in each step. A subsequent



## States and tribes that choose to serve as grantees

under HMGP must decide which level of mitigation plan to develop:

### ■ Standard State Mitigation Plans

After November 1, 2004, states and tribes with a FEMA-approved Standard State Mitigation Plan at the time of a disaster declaration will qualify to receive up to 7.5%\* of disaster outlays through HMGP funding. Standard State Mitigation Plans include all the requirements described above. These plans also discuss how states coordinate mitigation planning with local and tribal jurisdictions, and document funding and technical assistance they will provide to these jurisdictions.

### ■ Enhanced State Mitigation Plans

After November 1, 2004, states and tribes with a FEMA-approved Enhanced State Mitigation Plan at the time of a disaster declaration will qualify to receive up to 20% of disaster outlays through HMGP funding. In addition to all requirements in the Standard Plan, Enhanced State Mitigation Plans must demonstrate a broad, programmatic mitigation approach and systematic and effective administration of the mitigation program.

\* Consolidated Appropriations Resolution, 2003, P.L. 108-7 includes language that reduces the 15% maximum of Hazard Mitigation Grant Program funds generally available to a state under Section 404(a) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to 7.5%. This applies to all disasters declared after February 20, 2003.





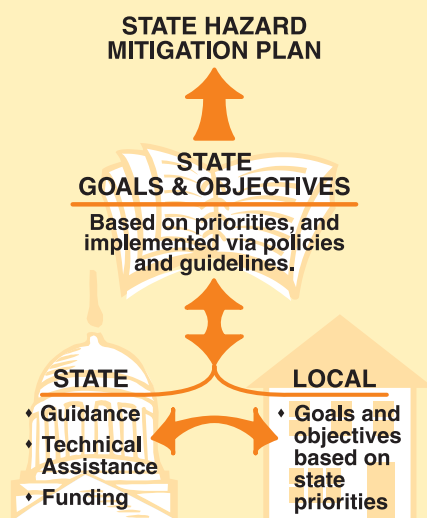
**Table 1: Hazard Mitigation Planning Process – Local Planning Requirements by Program**

FEMA mitigation programs such as those listed below have specific planning requirements that must be met in order to be eligible to participate in these programs. Therefore, when submitting a plan, you can either tailor it according to the specific criteria of the program, or you may submit a comprehensive, multi-hazard plan that explains which sections of the plan address which mitigation program requirements. This explanation is often called a “cross-walk” and it provides the reviewer with an easy way to link program requirements to specific sections of the plan. If you are completing a Flood Mitigation Assistance (FMA) Program or Community Rating System (CRS) plan, it may need to be expanded to receive credit under DMA 2000; however, if you complete a DMA plan, most other program requirements will probably be met. The planning process outlined in this series of how-to guides will help you meet the basic planning requirements of FEMA’s mitigation programs.

FEMA How-to Series	Hazard Mitigation Grant and Pre-Disaster Mitigation Program (DMA 2000 Plan Criteria)	Flood Mitigation Assistance Program	Community Rating System Floodplain Management Planning (10-Step Process)	
<b>Planning Requirements</b>	<b>Phase 1 Organize Resources</b>	Coordination among agencies	Coordination with other agencies or organizations	Coordination with other agencies
		Integration with other planning efforts	Public involvement. Describe the planning process. Public involvement may include workshops, public meetings, or public hearings	Involve the public
		Involve the public throughout the planning process		Organize to prepare the plan
		State coordination of local mitigation planning		
	<b>Phase 2 Assess Risks</b>	Identify all hazards	Flood hazard area inventory. Identify the flood risk and include estimates of the number and types of structures at risk and repetitive loss properties	Assess the flooding hazard
		Profile hazard events		
		Assess vulnerability	Problem identification. Describe the existing flood hazard, the extent of flood depth and damage potential, and the applicant’s floodplain management goals	Assess the problem
		Estimate potential losses		
	<b>Phase 3 Develop the Mitigation Plan</b>	Documentation of planning process	Review of possible mitigation actions. Identify and evaluate cost-effective and technically feasible mitigation actions	Set goals
		Local hazard mitigation goals		Review possible activities
		Capability assessment		Draft an action plan
		Identification and analysis of mitigation actions		
		Funding sources		
	<b>Phase 4 Implement the Plan and Monitor Progress</b>	Adoption	Document formal plan adoption by the legal entity submitting the plan (e.g., Governor, mayor, county executive)	Adopt the plan
		Implementation of mitigation actions		Implement, evaluate, and revise the plan
		Implementation through existing planning mechanisms		
		Monitoring, evaluating, and updating the plan		
		Continued public involvement		



## State, Tribal, and Local Mitigation Planning



To implement a comprehensive approach to mitigation planning, states, tribes, and communities must coordinate their policies and activities. States should play a lead role and establish guidelines, goals, and priorities that communities adhere to when preparing plans. To facilitate communities meeting these requirements, states should provide technical assistance, funding, and information that may not be readily available at the local level. This can include demographic, economic, and vulnerability assessment and loss estimation modeling data, as well as benefit-cost analysis guidance, depending on the needs of the community. Meanwhile, local government mitigation planning should be consistent with established state goals and policies. Plans should identify local priorities and projects to be considered when states set priorities and allocate limited resources. Communities are required to have FEMA-approved mitigation plans to be eligible to receive federal grants from programs such as the post-disaster HMGP, Flood Mitigation Assistance (FMA) Program, and Pre-Disaster Mitigation Program. States must also have FEMA-approved plans to be eligible for HMGP funding, Fire Management Assistance Grants, and non-emergency Stafford Act assistance. Following the guidance in this how-to guide will help you prepare a multi-hazard plan that can be packaged in a manner that allows you to meet FEMA planning requirements. Go to the FEMA Mitigation Planning home page, <http://www.fema.gov/fima/planning.shtm>, for current information on planning requirements for the Pre-Disaster Mitigation Program and HMGP.

guide, *Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA 386-4), will provide guidance from mitigation plan creation through adoption, implementation, monitoring, and updating the plan.

## Types of Information Found in the How-To Series

The how-to series contains a wide variety of information, some of which is highlighted with icons. Additional information can be found in *Appendix B, Library*. To illustrate how the guide can be used, newspaper articles from the fictional Town of Hazardville are provided.

### Icons

Guidance focused solely on the roles of **states and tribes** that serve as grantees under HMGP, is identified as a sidebar with the “**states**”



icon. Tribes that choose to serve as grantees under HMGP should follow the state icons. Although much of the information will be the same for local, tribal, and state governments, there are different requirements for state and local mitigation plans. Furthermore, states have additional responsibilities to assist local entities in their planning ef-

forts. For tribes that choose to serve as subgrantees under HMGP, guidance focusing on local governments applies to these entities as well.



The “**Advanced**” icon indicates an additional step you can take or when specialists may be needed.



The “**Caution**” icon alerts you to important information and ways to avoid sticky situations later in the planning process.



The “**DMA**” icon provides information relating to the mitigation planning requirements outlined in the Disaster Mitigation Act of 2000 (DMA 2000).



The “**Glossary**” icon identifies terms and concepts for which a detailed explanation is provided in the Glossary included in Appendix A.



The “**HAZUS**” icon identifies suggestions for using the loss estimation tool, HAZUS (Hazards U.S.). HAZUS contains national databases of economic, demographic, building stock, transportation facilities, utilities, and other information that can be used in risk assessment, response and recovery, and awareness and preparedness programs. A new, multi-hazard version of HAZUS, HAZUS-MH (Multi-Hazard), contains earthquake, hurricane, flood, and wind loss estimate components.



The “**Tips**” icon identifies helpful hints and useful information that can be used in the planning process.

## Library

A mitigation planning “**Library**” has been included in Appendix B. This library has a wealth of information, including Web addresses, reference books, and other contact information to help get you started. All of the Web sites and references listed in the how-to guide are included in the library.



**Under DMA 2000 regulations,** local governments may be defined in many different ways. A local government may be defined

by a political boundary (such as a city, county, or parish), or it may not have a political boundary (an unincorporated community or watershed, for example). Counties comprised of numerous townships or boroughs can also be considered local governments in addition to other multi-jurisdictional arrangements. Local governments should consult with the State Hazard Mitigation Officer (SHMO), Councils of Governments (COGs), or other regional planning organizations and the State Emergency Management Agency for guidance on how “local governments” are defined in their state. “Local government” is formally defined in 44 CFR §201.2 of DMA regulations.



**Keep in mind** that the World Wide Web is an ever-changing source of information, and Web addresses and the information they contain change over time.

## Town of Hazardville Articles

Applications of the various steps in the mitigation planning process are illustrated through a fictional community, the Town of Hazardville, located in the State of Emergency. Hazardville, a small community with limited resources and multiple hazards, is in the process of developing a multi-hazard mitigation plan. Newspaper accounts illustrate the various steps in the mitigation planning process.

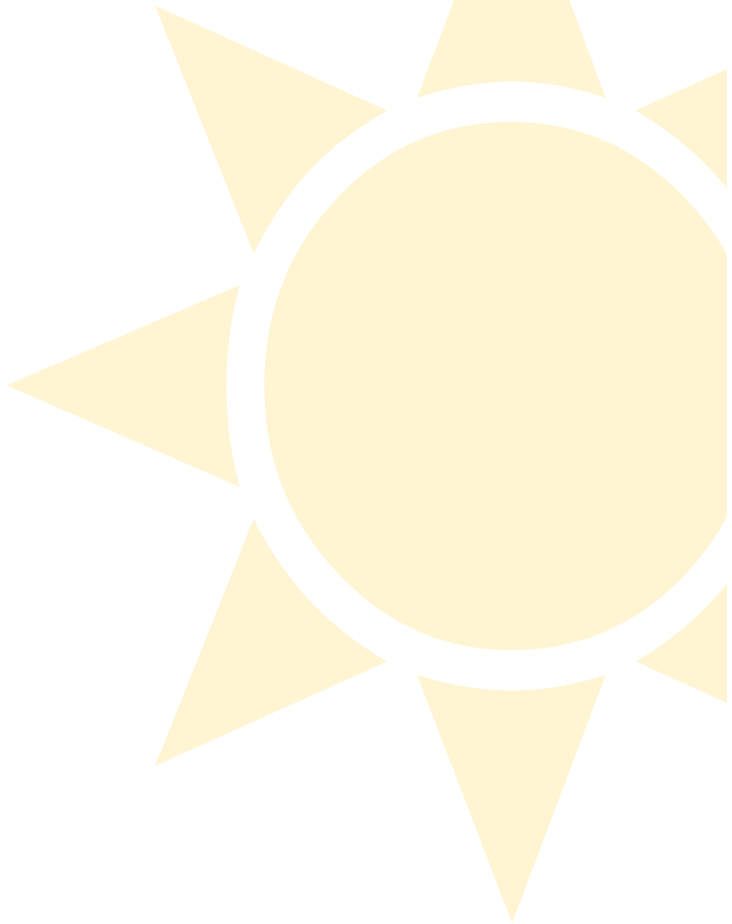


### You will gather information and data

from a number of sources during the development of a mitigation plan. As with any effort of this type, it is important to be aware of how different authors use terms. The easiest way is to look for specific definitions within the source documents to be sure you understand the intended meaning. Additionally, data displayed graphically must be assessed to determine the map scale, and the quality and resolution of source data used to create the map.

## Worksheets

Finally, to help track your progress, worksheets have been developed to correspond with the structure of this guide. Worksheets have been completed with Hazardville examples to illustrate the type of information to be included in these worksheets. Blank worksheets are included in Appendix C. Job aids to assist you in completing the worksheets are included in Appendix D. You can photocopy the worksheets and job aids to record your progress as you undertake the process of developing the mitigation plan.



# The Hazardville Post

Vol. CXII No. 168

Monday, June 17, 2002

## Town Council Approves Mitigation Planning Funds

Vote is Unanimous—Thorough Work Credited

**[Hazardville, EM]** The Hazardville Town Council unanimously approved local funds to continue the hazard mitigation planning process begun by the Town of Hazardville Organization for Risk Reduction (THORR). THORR completed the Hazardville loss estimation and presented those findings to the Town Council during its December meeting. The overwhelming vote has been attributed to the thorough manner in which the loss estimation was performed. Equally influential was the method used to convey the results of the risk assessment and loss estimation. “It really hit home for the first time how vulnerable our town is when I saw those maps. My shop is right near the beach and that old lighthouse!” cried Joe Fish, owner of Country Joe’s Fish Market.

The local funds will be used to complete the hazard mitigation plan that will be based on the loss estimation THORR completed last November. The planning process will provide a comprehensive strategy to address potential losses due to hazards within the community. Hazardville’s mitigation plan will include:

- Discussion of the process and partners involved;
- Discussion of the hazards and risks within the community;
- Mitigation goals and objectives aimed at reducing and avoiding long-term vulnerabilities to the hazards identified during the loss estimation;
- Mitigation actions that will help the community accomplish its hazard reduction goals;

- Strategies that detail how the mitigation actions will be implemented and administered; and
- Description of how and when the plan will be updated.

Planning Department Director Joe Norris indicated that it was very important for THORR to continue the work it began last year. “We have a real opportunity to move forward with our plans to make Hazardville a viable, sustainable community long into the future,” said Norris during the Town Council meeting in which the necessary funding was approved. Hazardville’s efforts to reduce future disaster losses were applauded by Ben Thompson, State Floodplain Management Coordinator, who spoke in favor of the funding request at the Town Council meeting.



step

1

develop mitigation goals and objectives

2

identify and prioritize mitigation actions

3

prepare an implementation strategy

4

document the mitigation planning process

