

SECTION 1 -INTRODUCTION

In response to the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), Broome County and the towns, villages and the City of Binghamton located in the County have developed this Multi-Jurisdictional All-Hazard Mitigation Plan (HMP or Plan). DMA 2000 amends the Stafford Act and is the most recent legislation designed to improve planning for, response to, and recovery from disasters by requiring state and local entities to have all HMPs in place. The Federal Emergency Management Agency (FEMA) has issued guidelines for HMPs under DMA 2000 regulations. The New York State Emergency Management Office (NYSEMO) also supports HMP development for jurisdictions in New York State.

Hazard Mitigation is any sustained action taken to reduce or eliminate the long term risk and effects that can result from specific hazards.

FEMA defines a *Hazard Mitigation Plan* as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

Specifically, DMA 2000 requires that States with support from local governmental agencies develop HMPs to prepare for and reduce the potential impacts of natural hazards. DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. This enhanced planning will better enable local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

DMA 2000 Origins -The Robert T. Stafford Disaster Relief and Emergency Assistance Act

In the early 1990s a new federal policy regarding disasters began to evolve. Rather than simply reacting whenever disasters strike communities, the federal government would encourage communities to first assess their vulnerability to various disasters and then take actions to reduce or eliminate potential risks. The logic is simply that a disaster-resistant community can rebound from a natural disaster with less loss of property or human injury, at much lower cost, and, consequently, more quickly. Moreover, other costs associated with disasters, such as the time lost from productive activity by business and industries, are minimized.

The Federal Emergency Management Agency (FEMA) estimates that for every dollar spent in damage prevention, twice that amount is saved through avoided post-disaster damage repair.

DMA 2000 provides an opportunity for States, Tribes and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of requirements (Section 322). This section sets forth the requirements that communities evaluate natural hazards within their respective jurisdictions and develop an appropriate plan of action to mitigate those hazards, while emphasizing the need for State, Tribal and local entities to closely coordinate mitigation planning and implementation efforts.

The amended Stafford Act requires that the community identify potential hazards to the health, safety and well being of its residents and identify and prioritize actions that can be taken by the community to mitigate those hazards—before disaster strikes. For communities to remain eligible for hazard mitigation assistance from the federal government, they must first prepare a HMP.

Responsibility for fulfilling the requirements of Section 322 of the Stafford Act and administering the FEMA Hazard Mitigation Program has been delegated to the State of New York, specifically to NYSEMO. FEMA also provides support through guidance, resources, and plan reviews. Copies of the applicable federal and state regulations are found in Appendix F.

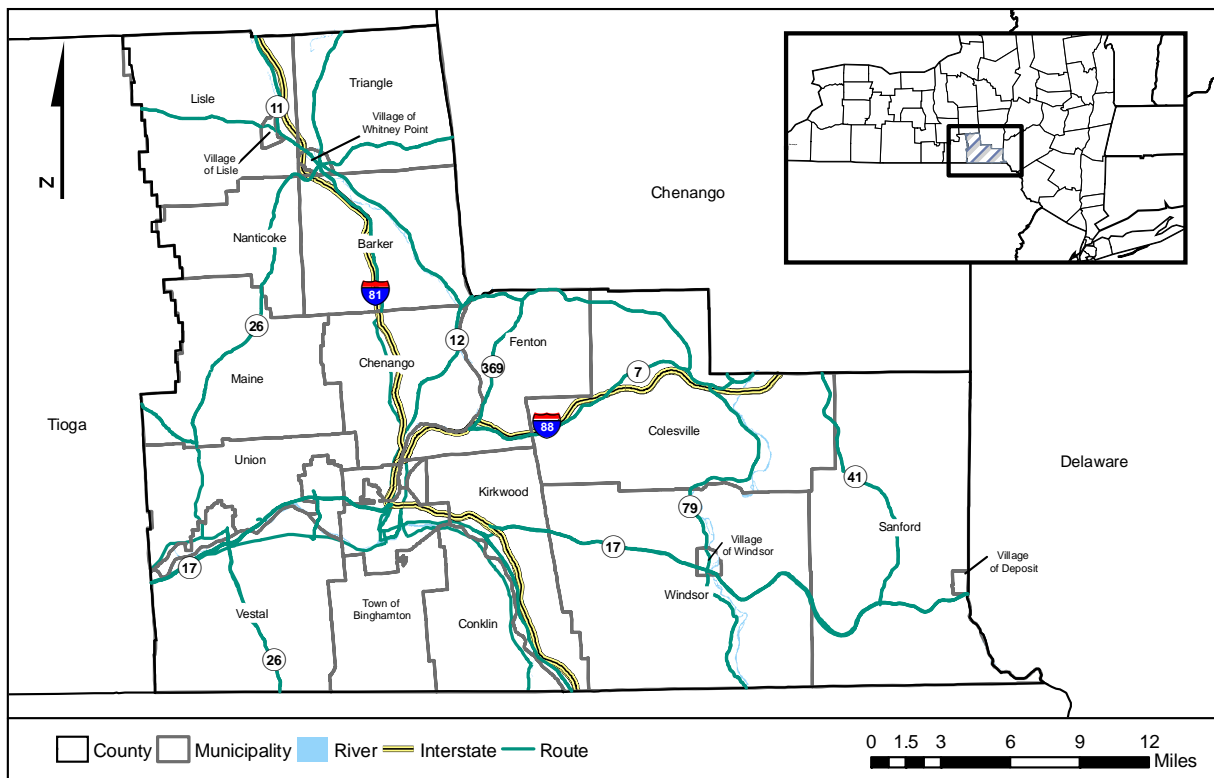
Organizations Involved in the Mitigation Planning Effort

The intent of Broome County and the participating jurisdictions is to implement the HMP with full coordination among the participating partners. By coordinating these efforts, the municipalities are decreasing the cost of plan development and implementation. In addition to Broome County, the following jurisdictions have participated in the planning process:

Town of Barker	Town of Lisle	City of Binghamton
Town of Binghamton	Town of Maine	Village of Endicott
Town of Chenango	Town of Nanticoke	Village of Johnson City
Town of Colesville	Town of Sanford	Village of Lisle
Town of Dickinson	Town of Triangle	Village of Port Dickinson
Town of Fenton	Town of Vestal	Village of Whitney Point
Town of Kirkwood	Town of Windsor	Village of Windsor

It is noted that the Towns of Conklin and Union have developed DMA 2000 All-Hazard Mitigation Plans independently of this planning process, and as such are not formally adopting this Plan. However, both of these jurisdictions have been involved in this multi-jurisdictional planning effort and have provided their input as appropriate, and described in this Plan.

Figure 1-1. Broome County Mitigation Plan Area and Surrounding Counties



Source: HAZUS-MH (FEMA 2005) and Broome County Planning Department - GIS

Multiple Agency Support for Hazard Mitigation

The primary responsibility for the development and implementation of mitigation strategies and policies lies with local jurisdictions. However, local jurisdictions are not alone; various partners and resources exist at the regional, state and federal levels to assist local governments in the development of mitigation strategies. Within New York State (NYS), NYSEMO is the lead agency for providing hazard mitigation planning assistance to local jurisdictions. NYSEMO provides guidance to support jurisdictions with mitigation planning. In addition, FEMA provides grants, tools, and training to support mitigation planning.

Additional input and support was obtained from a range of agencies and through public involvement (Section 2.0). Oversight for the preparation of this Plan was provided by the Broome County All Hazard Steering Committee (“Steering Committee”), which includes representatives from:

- NYSEMO
- Broome County agencies, including:
 - Planning
 - Emergency Services

This Multi-Jurisdictional HMP was prepared in accordance with the following regulations and guidance:

- DMA 2000 (Public Law 106-390, October 30, 2000)
- 44 CFR Parts 201 and 206 (incl. Feb. 26, 2002, Oct. 1, 2002, Oct. 28, 2003, and Sept. 13, 2004 Interim Final Rules)
- FEMA. 2004. “How-To Guide for Using HAZUS-MH for Risk Assessment.” FEMA Document No. 433. February.
- FEMA Mitigation Planning How-to Series (FEMA 386-1 through 4, 2002), available at: <http://www.fema.gov/fima/planhowto.shtm>.

Table 1-1 summarizes the requirements outlined in the DMA 2000 Interim Final Rule and where each of these requirements is addressed in this HMP.

Table 1-1. FEMA Local Mitigation Plan Review Crosswalk

FEMA Local Mitigation Plan Review Crosswalk	
Plan Criteria	Primary Location in Plan
Prerequisites	
Adoption by the Local Governing Body: §201.6(c)(5)	Section 3.0; Appendix A
Planning Process	
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)	Section 2.0
Risk Assessment	
Identifying Hazards: §201.6(c)(2)(i)	Section 4.1
Profiling Hazards: §201.6(c)(2)(i)	Section 4.2
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	Sections 4.3 and 4.4
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)	Section 4.3
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	Section 4.4
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)	Section 4.3
Mitigation Strategy	
Local Hazard Mitigation Goals: §201.6(c)(3)(i)	Section 5.0
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	Section 5.0
Implementation of Mitigation Actions: §201.6(c)(3)(iii)	Section 5.0
Multi-Jurisdictional Mitigation Actions: : §201.6(c)(3)(iv)	Section 5.0
Plan Maintenance Process	
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)	Section 6.0
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)	Section 6.0
Continued Public Involvement: §201.6(c)(4)(iii)	Section 6.0

Planning Process

The planning process and findings are to be documented in local HMPs. To support the planning process to develop this HMP, Broome County and the participating jurisdictions have accomplished the following:

- Developed a Steering Committee
- Identified hazards of concern and hazards of interest
- Profiled these hazards
- Estimated inventory at risk and potential losses associated with these hazards
- Developed mitigation strategies and goals that address the various hazards that impact the area
- Developed mitigation plan maintenance procedures to be executed after obtaining conditional approval of the plan from NYSEMO and FEMA.

On March 3, 2005, the Broome County Office of Emergency Services coordinated a Hazards New York (HAZNY) analysis. HAZNY was developed by NYSEMO and the American Red Cross (ARC) to support consistent identification and ranking of hazards across the State. The analysis process asks specific questions about potential hazards in a community and records and evaluates the responses to these questions to prepare a preliminary score for each hazard. This score helps the community to develop an initial ranking of the priority of each hazard. The following agencies participated in the preparation of the HAZNY: Broome County Emergency Services, Broome County Department of Planning and Economic Development, NYS Department of Environmental Conservation, Broome County

Historian, National Weather Service, Broome County Division of Environmental Health, New York State Police, NYSEMO, and Broome County Sheriff.

This Plan used the HAZNY analysis as one of the inputs to identify and profile hazards; this process included a consideration of background and local conditions, historic frequency and probability of occurrence, severity, historic losses and impacts, and designated hazard areas. It also identified the potential impact, onset, frequency, hazard duration, cascading effects and recovery time for each hazard. Additional information on the methodology and results associated with HAZNY are discussed in Section 4.2.

Through the HAZNY process, as well as comprehensive research on historic natural events and losses, Broome County was able to develop a ranked (prioritized) list of those hazards that are of greatest concern to the community (the “hazards of concern”), from a comprehensive list of hazards that may affect an area (the “hazards of interest”).

To address the requirements of DMA 2000 and better understand their potential vulnerability to and losses associated with hazards of concern, Broome County and the participating municipalities used the Hazards U.S. – Multi-Hazard (HAZUS-MH) software package (discussed in greater detail later in this section) supplemented by local data where applicable to support the efforts listed above. HAZUS-MH assesses risk, estimates losses from natural hazards, and produces outputs that will assist state and local governments, communities, and the private sector in implementing emergency response, recovery, and mitigation programs, including multi-hazard mitigation plans.

As required by DMA 2000, Broome County and the participating municipalities have informed the public and provided opportunities for public comment and input in the planning process. In addition, numerous agencies and stakeholders have participated as core or support members in this process providing input and expertise throughout the planning process.

This Multi-Jurisdictional HMP documents the process and outcomes of the County and participating jurisdictions’ efforts. Additional information on the planning process is included in Sections 2.0, Mitigation Planning Process. Documentation that the prerequisites for plan approval have been met is included in Section 3.0, Plan Adoption.

The plan follows the four-phase planning process recommended by FEMA and summarized in Figure 1-2. Broome County and the participating jurisdictions incorporated the use of HAZUS-MH to support the risk assessment phase of this process.

Benefits of Mitigation Planning

Planning ahead helps to prepare citizens and government agencies to better respond when disasters occur. Also, mitigation planning allows Broome County and the towns and villages to remain eligible for mitigation grant funding for mitigation projects that will reduce the impact of disasters should one occur. The long-term benefits of mitigation planning include:

- An increased understanding of hazards faced by communities
- More sustainable and disaster-resistant communities
- Financial savings through partnerships that support planning and mitigation efforts
- Focused use of limited resources on hazards that have the biggest impact on a community
- Reduced long-term impacts and damages to human health and structures and reduced repair costs

About Hazards U.S. – Multi-Hazard (HAZUS-MH)

In 1997, FEMA developed a standardized model for estimating losses caused by earthquakes, known as Hazards U.S. or HAZUS. HAZUS was developed in response to the need for more effective national-, state-, and community-level planning and the need to identify areas that face the highest risk and potential for loss. HAZUS was expanded into a multi-hazard methodology, Hazards U.S. Multi-Hazard (HAZUS-MH) with new models for estimating potential losses from wind (hurricanes) and flood (riverine and coastal) hazards. HAZUS-MH is a Geographic Information System (GIS)-based software tool that applies engineering and scientific risk calculations that have been developed by hazard and information technology experts to provide defensible damage and loss estimates. These methodologies are accepted by FEMA and provide a consistent framework for assessing risk across a variety of hazards. It supports the evaluation of hazards and assessment of inventory and loss estimates for these hazards.

HAZUS-MH uses GIS technology to produce detailed maps and analytical reports that can describe a community's direct physical damage to building stock, critical facilities, transportation systems and utility systems. The damage reports can include induced damage (inundation, fire, threats posed by hazardous materials and debris) and direct economic and social losses (casualties, shelter requirements, and economic impact) depending on the hazard and available local data. HAZUS has open data architecture and it can warehouse community GIS data in one central location. The use of this software also promotes consistency of data output now and in the future and standardization of data collection and storage.

More information on HAZUS-MH is available at <http://www.fema.gov/plan/prevent/hazus/>.

Organization of this Mitigation Plan

This plan was organized in accordance with FEMA and NYSEMO guidance. The remainder of this Multi-Jurisdictional All HMP includes the following sections and appendices:

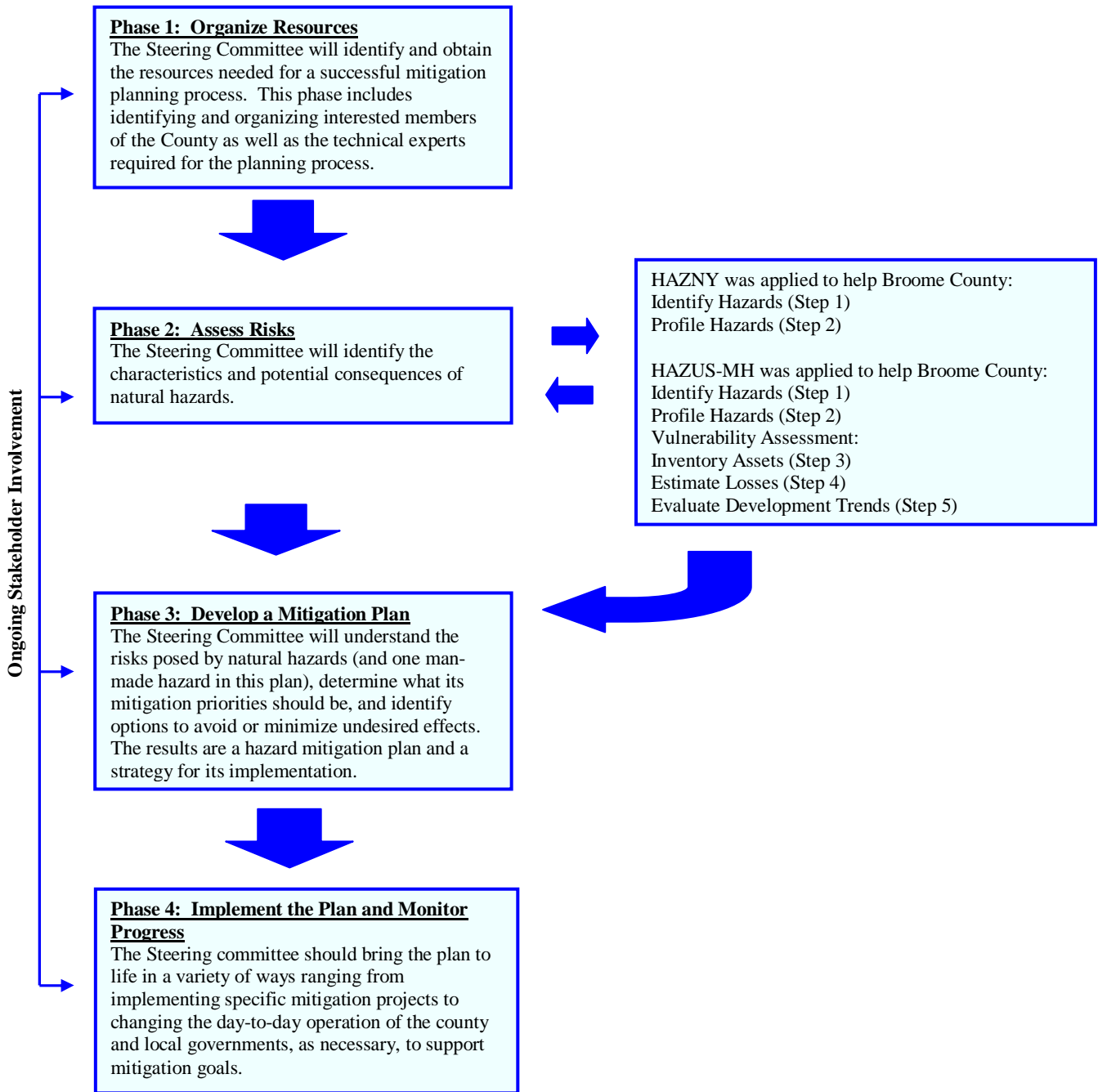
Section 2, Multi-Jurisdictional Planning Process, contains a short introduction to the Plan, a description of the methodology and development process, a list of participating members of the Steering Committee, a summary of Steering Committee activities, a description of involved stakeholders including State and local agencies and public participants, a list of stakeholder and public involvement efforts, and a description of how this Plan will be incorporated into existing programs.

Section 3, Plan Adoption, contains information regarding the adoption of the HMP by each participating jurisdiction within Broome County and by the Broome County Board of Supervisors (DCBOS).

Section 4, Risk Assessment, presents (1) hazard identification, (2) hazard profiles, and the vulnerability assessment, which includes (3) an inventory of assets, (4) loss estimates, (5) evaluation of the potential impact of development trends, (6) results of the analysis, and (7) presents loss estimates to support a relative ranking of the hazards. Finally, it considers both countywide and jurisdiction-specific risk assessment issues and includes available data, information, and sources. It also describes the status of local data and planned steps to improve local data to support mitigation planning.

Section 5, Mitigation Strategies, contains information regarding the mitigation goals and multi-hazard mitigation action items pertaining to the study area as a whole and to specific jurisdictions. Section 5 also includes information regarding how mitigation measures will be prioritized, implemented, and administered within each jurisdiction.

Figure 1-2 Broome County Hazard Mitigation Planning Process



Section 6, Plan Maintenance Procedures, describes the system Broome County and the participating jurisdictions have established to monitor the Plan; provides a description of how, when, and by whom the HMP and mitigation actions will be evaluated; presents the criteria used to evaluate the Plan and mitigation actions; and explains how the Plan will be maintained and updated.

Appendix A, Resolution of Plan Adoption, presents the documentation that supports the Plan approval signatures included on page i of this Plan. **Appendix B, Glossary**, includes a glossary of definitions used throughout the Plan. **Appendix C, Data Summary Matrix**, provides a summary table of local data collected and assessed for the pilot project. **Appendix D, Federal Mitigation Programs, Activities, and Initiatives**, provides a summary of federal funding options that could be used to fund mitigation activities. **Appendix E, Photographs of Hazard Events in Broome County**, provides photographs from flooding, ice jam flooding and hail events, reprinted with permission of their source. **Appendix F, Applicable Federal and State Regulations**, contains copies of the federal and state Acts and rules that apply to hazard mitigation planning.