

SECTION 1: INTRODUCTION

BACKGROUND

In response to the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), Broome County, and the towns and villages located in the County have developed this Multi-Jurisdictional All-Hazard Mitigation Plan (HMP) which is an update of the 2007 Broome County Hazard Mitigation Plan. DMA 2000 amends the Stafford Act and is designed to improve planning for, response to, and recovery from, disasters by requiring State and local entities to implement pre-disaster mitigation planning and develop HMPs. The Federal Emergency Management Agency (FEMA) has issued guidelines for HMPs. The New York State Office of Emergency Management (NYSOEM) also supports plan development for jurisdictions in New York State.

Specifically, DMA 2000 requires that States with support from local governmental agencies update HMPs on a five year basis 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.

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.

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 on damage prevention (mitigation), 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 governments to closely coordinate mitigation planning and implementation efforts.

The amended Stafford Act requires that each local jurisdiction identify potential natural 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 and maintain (this plan).

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 NYSOEM. FEMA also provides support through guidance, resources, and plan reviews. Copies of the applicable federal and state regulations are found in Appendix A.

ORGANIZATIONS INVOLVED IN THE MITIGATION PLANNING EFFORT

Broome County and the participating jurisdictions intend to implement this HMP with full coordination and participation of County and local departments, organizations and groups, as well as by coordinating with relevant State and Federal entities. Coordination helps to ensure that stakeholders have established communication channels and relationships necessary to support mitigation planning and mitigation actions included in Section 6 and in the Jurisdictional Annexes in Volume II, Section 9.

In addition to Broome County, all jurisdictions within the County have participated in the planning process (Table 1-1 and Figure 1-1) with the exception of the Village of Deposit which is located on the border of Broome and Delaware counties and is participating in the Delaware County planning process, as noted below.

Table 1-1. Participating Jurisdictions in Broome County

City/Towns	Towns. continued
Barker, Town of	Sanford, Town of
Binghamton, City of	Triangle, Town of
Binghamton, Town of	Union, Town of
Chenango, Town of	Vestal, Town of
Colesville, Town of	Windsor, Town of
Conklin, Town of	Villages
Dickinson, Town of	Endicott, Village of
Fenton, Town of	Johnson City, Village of
Kirkwood, Town of	Lisle, Village of
Lisle, Town of	Port Dickinson, Village
Maine, Town of	Windsor, Village of
Nanticoke, Town of	Whitney Point, Village of

MULTIPLE AGENCY SUPPORT FOR HAZARD MITIGATION

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

Broome County formally created the hazard mitigation planning process by resolution on June 21, 2012 by action of the County Legislature.

Additional input and support for this planning effort was obtained from a range of agencies and through public involvement (as discussed in Section 3).

Planning, engineering, and emergency management staff on the county and local levels participated as members of the steering committee. Oversight for the preparation of this plan was provided by the Broome County All Hazard Planning Committee (Planning Committee), which included representatives from:

- County Planning Department
- County Geographical Information Systems (GIS) Department
- County Office of Emergency Management
- County Engineering Department
- County Public Information Department
- County Economic Development
- Local Public Works Departments
- Local Engineering Departments
- City Planning, Housing and Community Development
- Participating Jurisdictions
- Agencies and Non-Profit (incorporated by stakeholder surveys and satellite meetings)

The Steering Committee is a subset of the Planning Committee and was formed as a leadership group to plan, guide, expedite, and implement the planning process. The Steering Committee met monthly and provided guidance and leadership, overseen the planning process, and has acted as the point of contact for all partners and the various interest groups in the planning area.

The Planning Committee was comprised of the Steering Committee as well as additional County representatives and the remaining participating jurisdictional representatives. A list of Steering Committee and Planning Committee members is provided in Section 3- Planning Process.

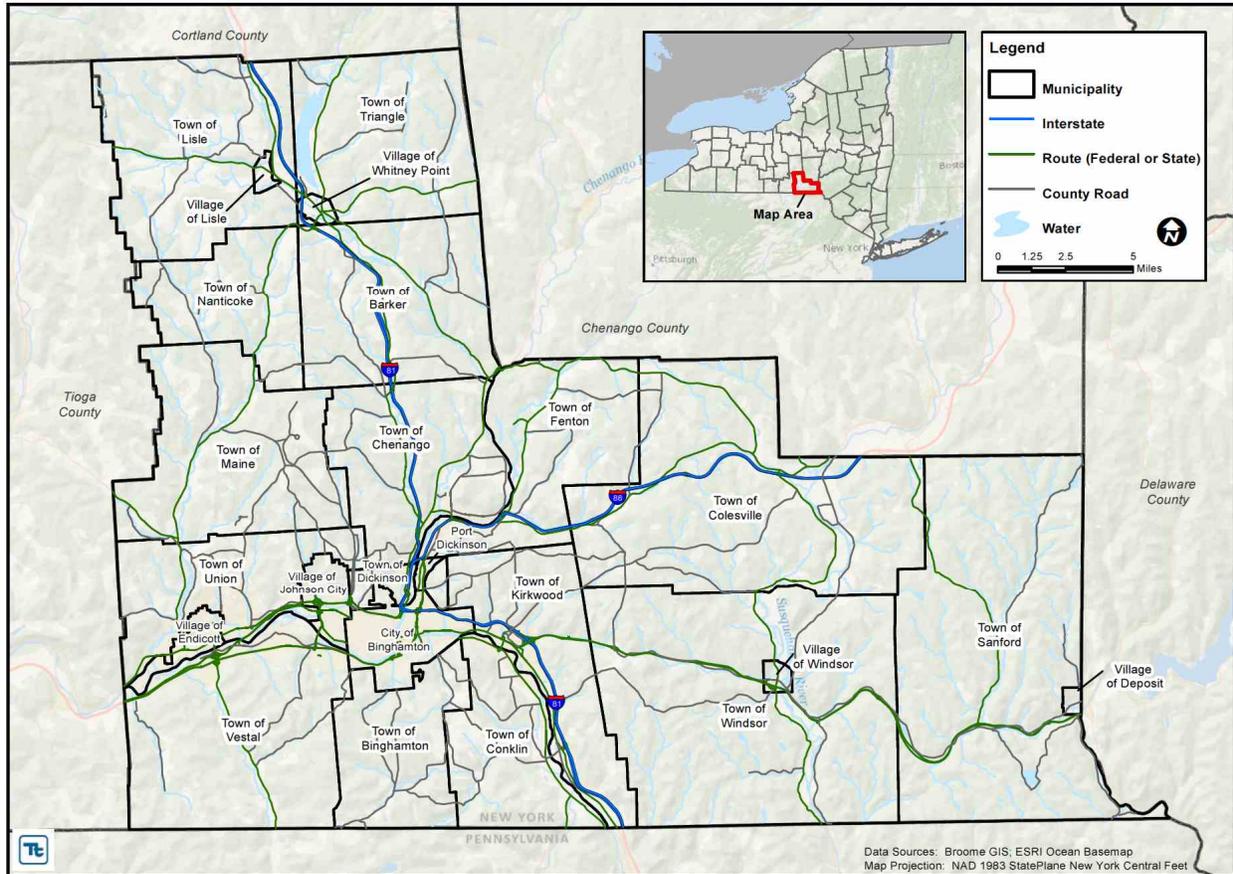
The Working Group was a subset of the Steering Committee. It met frequently to review the status to the planning process and to address any comments or issues that might have had an effect on the plan schedule.

Throughout the planning process, Broome County utilized the services of Tetra Tech, Inc. (Tetra Tech) in the capacity of consultant to provide assistance in preparation of the HMP.

This plan was developed under the direction of Broome County professional planners Frank Evangelisti and Beth Lucas and Tetra Tech hazard mitigation planners Jonathan Raser and Cynthia Bianco.

Tetra Tech was present and participated in meetings as noted in Section 3 - Planning Process. Tetra Tech developed the plan, supported the identification of goals and objectives, reviewed and compiled hazard data, performed risk analyses, hazard identification and profiling, vulnerability analyses, supported the development of mitigation strategies, provided planning support, and authored the plan with input from Broome County.

Figure 1-1 Broome County Mitigation Plan Area



*Note: The Village of Deposit is located on the border of Broome and Delaware counties and is participating in the Delaware County planning process. The Village of Deposit is not a plan participant in the Broome County Multi-Jurisdictional All-Hazard Mitigation Plan.

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

- Local Mitigation Plan Review Guide, October 1, 2011
- DMA 2000 (Public Law 106-390, October 30, 2000).
- 44 Code of Federal Regulations (CFR) Parts 201 and 206 (including: 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 1-2 summarizes the requirements outlined in the DMA 2000 Interim Final Rule and where each of these requirements is addressed in this HMP.

Table 1-2. 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)	Volume I, Section 2.0; Appendix B
Planning Process	
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)	Volume I, Section 3.0
Risk Assessment	
Identifying Hazards: §201.6(c)(2)(i)	Volume I, Sections 5.2
Profiling Hazards: §201.6(c)(2)(i)	Volume I, Section 5.3
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	Volume I, Section 5.4
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)	Volume I, Section 4.0 Volume I Section 5.4
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	Volume I, Section 5.4
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)	Volume I, Section 4.0; Section 9 Annexes
Mitigation Strategy	
Local Hazard Mitigation Goals: §201.6(c)(3)(i)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Implementation of Mitigation Actions: §201.6(c)(3)(iii)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Multi-Jurisdictional Mitigation Actions: : §201.6(c)(3)(iv)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Plan Maintenance Process	
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)	Volume I, Section 7.0
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)	Volume I, Section 7.0
Continued Public Involvement: §201.6(c)(4)(iii)	Volume I, Section 7.0

Organization

The Broome County Hazard Mitigation Plan Update has been reorganized into a two volume plan. Whereas the original plan was presented in one volume with all County and municipal mitigation strategies provided in a single section, the updated plan has been reorganized into two volumes to facilitate use of this plan as a resource for each participant.

Volume I intended to be used as a source for on-going mitigation analysis. Volume II consists of a chapter or annex dedicated to each participating jurisdiction. Each annex summarizes the jurisdiction's legal, regulatory and fiscal capabilities; vulnerabilities to natural hazards; status of past mitigation actions; and provides an individualized, updated mitigation strategy. The annexes are intended to provide an concise reference for each jurisdiction for implementation of mitigation projects and future grant opportunities.

Goals and Objectives

The plan update has incorporated a goals and objectives hierarchy as a basis for the planning process and to address all hazards of concern rather than providing separate goals and objectives for each hazard as in the original plan. A cross-walk indicating the relationship of the original goals and objectives with the new goals and objectives is provided in Section 6 of the plan.

Hazards of Concern

The county and participating jurisdictions reviewed natural hazards that caused measurable impacts in the planning area and evaluated the risk and vulnerability due to each of the hazards of concern on the assets of each participating jurisdiction. Although the resulting hazard risk rankings varied for each jurisdiction, the summary risk rankings corresponded with that of the County and are indicated in each jurisdictional annex. The hazard risk ranks were used to focus and prioritize the individual jurisdictional mitigation strategies.

Plan Integration into Other Planning Mechanisms

It is the intention of this planning process that municipalities shall incorporate findings and recommendation of this plan into future local planning efforts and into overall execution of their land-use planning process (e.g. site plan review, permitting, and code enforcement).

Implementation of the 2007 Plan

The status of the mitigation projects in the 2007 are provided in Sections 6 and 9 of the plan. Numerous projects and programs have been implemented that have reduced hazard vulnerability to assets in the planning area. Due to the lack of resources, the 2007 has not been integrated with planning processes in many jurisdictions but the integration of the 2013 plan is a high priority for the next five year cycle as noted in the plan maintenance procedure. The municipal annexes and plan maintenance procedure have been developed to encourage specific activities such as review of the HMP during update of codes, ordinances, zoning, and development to ensure that a more thorough integration, with its related benefits, will be completed within the upcoming 5-year planning period.

The County Hazard Mitigation Coordinator will encourage all jurisdictions incorporate hazard mitigation plan aspects into their comprehensive and master plan updates, as well as making specific recommendations, such as having the Floodplain Administrator review all site plan review and zoning permits within the 100-year floodplain and including the hazards map in their plan.

The table below provides an indication of changes and additions to the 2008 plan.

Table 1-3. Mitigation Plan Update Summary

Topic	2008 Hazard Mitigation Plan Section	2013 Hazard Mitigation Plan Section	Comments
Introduction	1.0 Introduction	Section 1	
	2.0 Planning Process	Section 3	
	3.0 Plan Adoption	Section 2	
	4.0 Risk Assessment	Section 5	
ID of Hazards	4.1 ID of Hazards	Section 5.3	
Profiles of Hazards	4.2 Profiles of Hazards	Section 5.4	
Flood	4.2.1.1 Flood Hazard Profile (Flash / Riverine)	Section 5.4.1	
Severe Storm	4.2.1.2 Severe Storm Hazard Profile (incl. hurricane and tornado)	Section 5.4.2	
Severe Winter Storm	4.2.1.3 Severe Winter Storm (snow) Hazard Profile	Section 5.4.3	
Ice Storm	4.2.1.4. Ice Storm Hazard Profile	Section 5.4.3	
Ice Jam	4.2.1.5 Ice Jam Hazard Profile	Section 5.4.3	
Epidemic (Human)	4.2.1.6 Epidemic (Human) Hazard Profile	Not included	The committee chose not to include this as a Hazard of Concern as it is addressed by other plans.
Landslide	4.2.1.7 Landslide Hazard Profile	Not included	Ground failure due to saturated soils is included in Section 5.4.1
Wildfire	4.2.1.8 Wildfire Hazard Profile	Not included	The committee chose not to include this as a Hazard of Concern as it is addressed by other plans.
Drought	4.2.1.9 Drought Hazard Profile	Section 5.4.4	
Extreme Temperature	4.2.1.10 Extreme Temperature Hazard Profile	Section 5.4.5	
Earthquake	Not included	Section 5.4.6	
Assess Vulnerability	4.3 ID of Assets and Development Trends	Section 4	
Assess Vulnerability	4.4 Assessing Vulnerability-Estimating Potential Losses	Section 4 and Section 5.4	Structural inventory is provided in Section 4 and Vulnerability assessments are provided in each hazard profile in Sections 5.4.1 through 5.4.6
Mitigation Strategies	5.0 Mitigation Strategies	Section 6	Overview
Mitigation Actions	5.4.1 Broome County Mitigation Actions	Section 9.1	
Mitigation Actions	5.4.2 City of Binghamton Mitigation Actions	Section 9.2	
Mitigation Actions	5.4.3 Town of Barker Mitigation	Section 9.3	

Topic	2008 Hazard Mitigation Plan Section	2013 Hazard Mitigation Plan Section	Comments
	Actions		
Mitigation Actions	5.4.4 Town of Binghamton Mitigation Actions	Section 9.4	
Mitigation Actions	5.4.5 Town of Chenango Mitigation Actions	Section 9.5	
Mitigation Actions	5.4.6 Town of Colesville Mitigation Actions	Section 9.6	
Mitigation Actions	Town of Conklin-not included	Section 9.7	
Mitigation Actions	Village of Deposit-not included	Section 9.8	The Village of Deposit is participating in the Delaware County Plan.
Mitigation Actions	5.4.7 Town of Dickinson Mitigation Actions	Section 9.9	
Mitigation Actions	5.5.17 Village of Endicott Mitigation Actions	Section 9.10	
Mitigation Actions	5.4.8 Town of Fenton Mitigation Actions	Section 9.11	
Mitigation Actions	5.5.18 Village of Johnson City Mitigation Actions	Section 9.12	
Mitigation Actions	5.4.9 Town of Kirkwood Mitigation Actions	Section 9.13	
Mitigation Actions	5.4.10 Town of Lisle Mitigation Actions	Section 9.14	
Mitigation Actions	5.5.19 Village of Lisle Mitigation Actions	Section 9.15	
Mitigation Actions	5.5.11 Town of Maine Mitigation Actions	Section 9.16	
Mitigation Actions	5.5.12 Town of Nanticoke Mitigation Actions	Section 9.17	
Mitigation Actions	5.5.20 Village of Port Dickson Mitigation Actions	Section 9.18	
Mitigation Actions	5.5.13 Town of Sanford Mitigation Actions	Section 9.19	
Mitigation Actions	5.5.14 Town of Triangle Mitigation Actions	Section 9.20	
Mitigation Actions	Town of Union-not included	Section 9.21	
Mitigation Actions	5.5.15 Town of Vestal Mitigation Actions	Section 9.22	
Mitigation Actions	5.5.21 Village of Whitney Point Mitigation Actions	Section 9.23	
Mitigation Actions	5.5.16 Town of Windsor Mitigation Actions	Section 9.24	
Mitigation Actions	5.5.22 Village of Windsor Mitigation Actions.	Section 9.25	
Mitigation Actions	Binghamton-Johnson City Joint Sewerage Board-not included	Section 9.26	
Plan Maintenance Procedures	6.0 Plan Maintenance Procedures	Section 7	
Planning Partnership	2.0 Planning Process	Section 8	

IMPLEMENTATION OF THE 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 Planning Committee
- Reviewed the 2007 Broome County Hazard Mitigation Plan
- Identified/reviewed hazards of concern to be included in the update
- Profiled these hazards
- Estimated the inventory at risk and potential losses associated with these hazards
- Developed mitigation goals and actions that address the various hazards that impact the area
- Developed mitigation plan maintenance procedures to be executed after obtaining approval of the plan from NYSOEM and FEMA

Based on a hazards identification worksheet and ranking process, subsequent input from the Planning Committee, and review of other available data, the planning process then proceeded to identify, rank and profile those hazards that are of greatest concern to the community (hazards of concern). The hazard profiles include location, extent, previous occurrences and losses, and the probability of future events. The process also included a vulnerability assessment to evaluate what County, town and village assets are exposed or vulnerable to the hazards.

To address the requirements of DMA 2000 and better understand their potential vulnerability to and losses associated with hazards of concern, Hazards U.S. – Multi-Hazard (HAZUS-MH or HAZUS) software package (discussed in greater detail later in this Plan) supplemented by local data, as feasible, was used to support the risk assessment and vulnerability evaluation. HAZUS-MH assesses risk and estimates potential losses for natural hazards. It produces outputs that will assist state and local governments, communities, and the private sector in implementing emergency response, recovery, and mitigation programs, including the development of HMPs.

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

This Multi-Jurisdictional All-Hazard Mitigation Plan documents the process and outcomes of the County and jurisdictions' efforts. Additional information on the planning process is included in Section 3, Planning Process. Documentation that the prerequisites for plan approval have been met is included in Section 2, Plan Adoption.

BENEFITS OF MITIGATION PLANNING

The planning process will help prepare citizens and government agencies to better respond when disasters occur. Also, mitigation planning allows Broome County and town and villages to remain eligible for mitigation grant funding for mitigation projects that will reduce the impact of future disaster events. The long-term benefits of mitigation planning include:

- An increased understanding of hazards faced by communities

- A more sustainable and disaster-resistant community
- Financial savings through partnerships that support planning and mitigation efforts
- Focused use of limited resources on hazards that have the biggest impact on the community
- Reduced long-term impacts and damages to human health and structures and reduced repair costs

ORGANIZATION OF THIS MITIGATION PLAN

This Plan was organized in accordance with FEMA and NYSOEM guidance. The structure of this Plan follows the four-phase planning process recommended by FEMA and summarized in Figure 1-2. The Plan is organized into two volumes: Volume I includes all information that applies to the entire planning area (Broome County); and Volume II includes participating jurisdiction-specific information.

Volume I of this Plan includes the following sections:

Section 1: Introduction: Overview of participants and planning process

Section 2: Plan Adoption: Information regarding the adoption of the Plan by Broome County and each participating jurisdiction.

Section 3: Planning Process: A description of the Plan methodology and development process, Planning Committee and stakeholder involvement efforts, and a description of how this Plan will be incorporated into existing programs.

Section 4: County Profile: An overview of Broome County, including: (1) general information, (2) economy, (3) land use trends, (4) population and demographics, (5) general building stock inventory and (6) critical facilities.

Section 5: Risk Assessment: Documentation of the hazard identification and hazard risk ranking process, hazard profiles, and findings of the vulnerability assessment (estimates of the impact of hazard events on life, safety and health; general building stock; critical facilities and the economy). Description of the status of local data and planned steps to improve local data to support mitigation planning.

Section 6: Mitigation Strategies: Information regarding the mitigation goals and objectives identified by Broome County in response to priority hazards of concern.

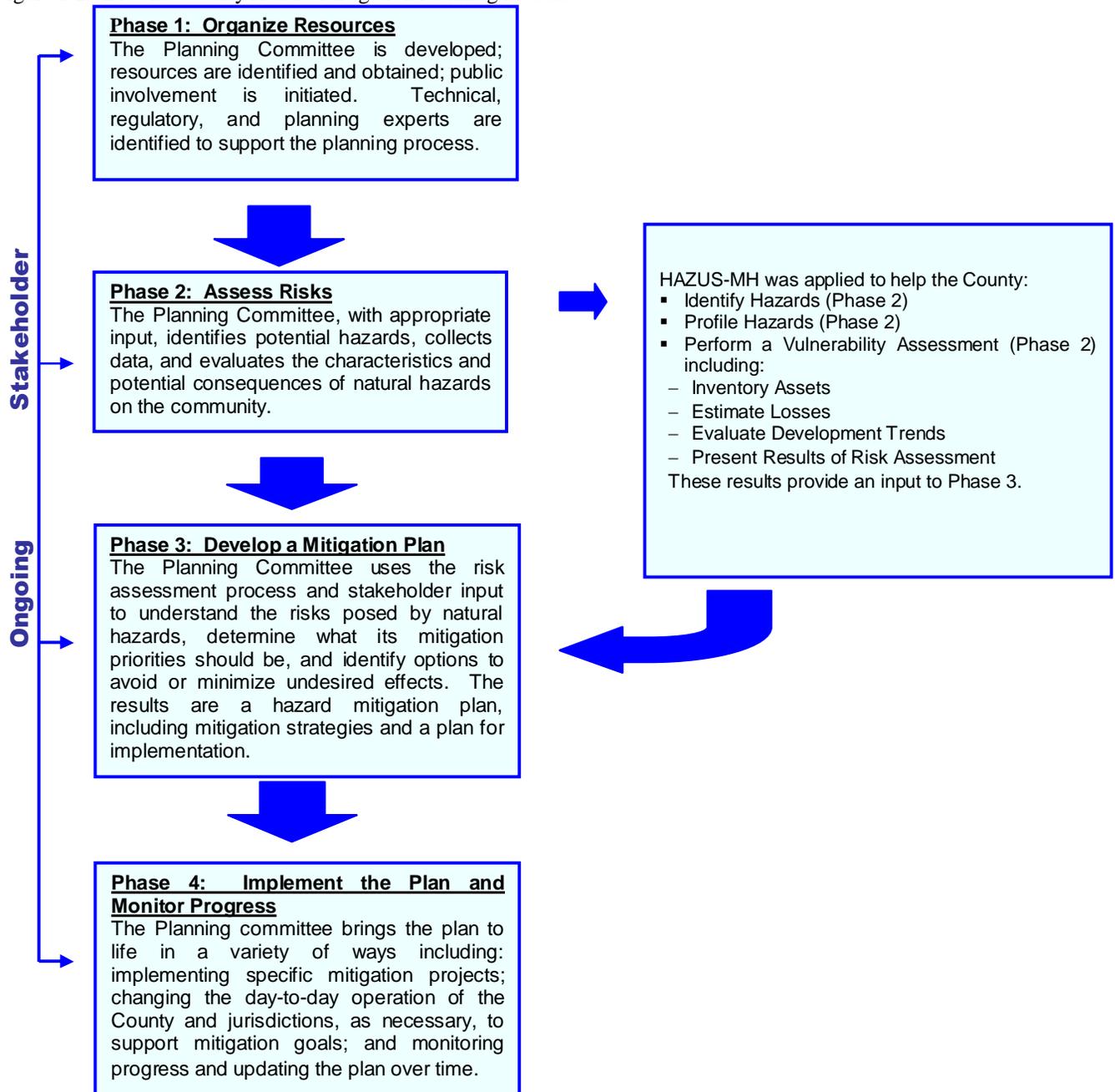
Section 7: Plan Maintenance Procedures: The system established by Broome County to continue to monitor, evaluate, maintain and update the Plan.

Volume II of this Plan includes the following sections:

Section 8: Planning Partnership: Description of the planning partnership, and jurisdictional annexes.

Section 9: Jurisdictional Annexes: A jurisdiction-specific annex for each participating jurisdiction and the County containing their hazards of concern, hazard risk ranking, capability assessments, mitigation actions and action prioritization specific only to the County or that jurisdiction.

Figure 1-2. Broome County Hazard Mitigation Planning Process



Appendices –

Appendix A: Applicable Federal and State Regulations: Copies of federal and state acts and regulations that apply to hazard mitigation planning within this jurisdiction.

Appendix B: Resolution of Plan Adoption: Documentation that supports the Plan approval signatures included in Section 2 of this Plan.

Appendix C: Public and Stakeholder Outreach and Comments: Results of Public Survey Public Notices, Public Service Announcements, various newspaper articles to inform the public of the hazard mitigation planning effort in Broome County and specific public and stakeholder comments received throughout the planning process.

Appendix D: Mitigation Catalog: Comprehensive list of mitigation actions considered by Broome County and the participating jurisdictions.

Appendix E: Federal Mitigation Programs, Activities, and Initiatives: Summary of federal funding options that could be used to fund mitigation activities.

Appendix F: Jurisdictional Annex Template and Instructions: Template and instructions used by Broome County and each participating jurisdiction.

Appendix G: FEMA 386-4 Guidance Worksheets

Appendix H: Public Survey Results

Appendix I: Minutes of Meetings: Agendas, minutes, and sign-in sheets of major meetings convened during the planning process.

Appendix J: Sample Letter of Intent provided to participants summarizing minimum requirements of participation in the planning process.