

SECTION 5 - MITIGATION STRATEGIES

This section presents mitigation strategies to reduce the potential exposure and losses identified as concerns in the risk assessment based on the frequency, severity, and impact of each hazard (Section 4). This section presents (1) background and past accomplishments; (2) the general mitigation planning approach; (3) the Delaware County Multi-Jurisdictional Study Area mitigation goals and objectives; (4) identification, analysis, and implementation of potential mitigation activities for each hazard; (5) multi-jurisdictional and multi-hazard mitigation activities; and (6) next steps. This section addresses both mitigation activities that are specific to particular hazards and jurisdictions, and multi-jurisdictional and multi-hazard approaches that apply to multiple towns or hazards.

Hazard mitigation reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation activities address a range of impacts, including impacts on the population, property, the economy, and the environment.

Mitigation activities can include activities such as: revisions to and enforcement of building codes, revisions to land-use planning, training and education, and structural and nonstructural safety measures.

5.1 Background and Past Accomplishments

Although DMA 2000 does not require a discussion regarding past mitigation activities, an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this plan. In the past, Delaware County and the thirty one participating municipalities have undertaken a number of activities that demonstrate a continued and sustained effort to implement hazard mitigation projects. For example, Delaware County has prepared a comprehensive emergency management plan and a post flood recovery and reconstruction plan to address concerns associated with specific hazards. Additionally, Delaware County and the thirty one municipalities have started and completed projects to address concerns related to specific hazards, including:

- Delaware County in association with Federal, State and Local government partnerships with FEMA, New York State, and New York City have incorporated a flood buy out program.
- Implementation of the Disaster Recovery Program. A program for implementation of mitigation initiatives.
- The Main Street Redevelopment Program encouraging development in areas that have existing infrastructure and prevent further corridor development in the floodplain that is the primary area available for development on the fringes of the local communities.
- Land use reviews to determine if proposed projects are in compliance with local floodplain regulations.
- The County has adopted the Delaware County Action Plan (DCAP) that outlines an integrated approach to watershed management.
- The Delaware County Planning Board is currently working on a County Wide Comprehensive Plan.
- Constructing dams and reservoirs for control of flow velocity through timed release of flow waters as well as controlling the real extent of flooding.

- Implementation of levees and channels to protect areas immediately behind them by confining flood waters to the delineated channel.
- Channel modifications including straightening, widening, deepening, and smoothing designed to improve flow conditions and increase capacities.
- Modifications to vulnerabilities (Flood proofing) either structural or non-structural retrofit for disaster resistance mitigation.
- Utilization of early warning and evacuations systems through grant applications (404 HMGP) for reducing the loss to life and property by giving people time to move personnel property and possessions to safety or to evacuate to safe areas.
- Public education to increase citizen knowledge on disaster plans and how to proceed during an emergency.
- Distributing the loss to taxpayers within the loss area and to the homeowners within areas of risk.
- Conducting Phase I and Phase II construction projects. Phase I projects restore and protect potable water supplies and sewage treatment. Phase II projects are non-emergency retrofits that restore communities to pre-flood conditions that also strengthen the facilities to updated standards
- Ensure that adequate shelter is available to community residents in the event that a flood event causes displacement.

These past and ongoing activities have contributed to each jurisdiction's and county-wide understanding of mitigation activity needs costs and benefits. Also, these past efforts provide a foundation for the planning committee to use in developing this Multi-Jurisdictional Hazard Mitigation Plan.

5.2 General Mitigation Planning Approach

The general mitigation planning approach used to develop this plan is based on the FEMA publication, *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3) and input provided by NYSEMO. The FEMA document and NYSEMO guidance include four steps, which were used to support mitigation planning. These steps are summarized below and presented in more detail in the following sections.

- **Develop mitigation goals and objectives:** Mitigation goals were developed using the hazard characteristics, inventory, and findings of the risk assessment. By reviewing these outputs and other municipal policy documents, objectives tying to these overarching goals were identified and characterized into similar themes.
- **Identify and prioritize mitigation actions:** Based on the risk assessment outputs, the mitigation goals and objectives, existing literature and resources, and input from the participating entities, alternative mitigation activities were identified for each hazard of concern and across multiple jurisdictions and hazards. The alternative mitigation activities are presented in a series of hazard-specific tables. The potential mitigation activities were qualitatively evaluated against the mitigation goals and objectives and other evaluation criteria. They were then prioritized into three categories: high, medium, and low.

- **Prepare an implementation strategy:** High priority mitigation activities are recommended for first consideration for implementation, as discussed under each hazard description in the following sections. However, based on community-specific needs and goals and available funding and costs, some low or medium priority mitigation activities may also be addressed or could be addressed before some of the high priority activities. Planning meetings during 2005 will support further evaluation and selection of mitigation activities. In addition, input or suggestions from NYSEMO and FEMA will be considered as the activities are evaluated further.
- **Document the mitigation planning process:** The mitigation planning process is documented throughout this plan.

FEMA defines *Goals* as general guidelines that explain what should be achieved. Goals are usually broad, long-term, policy statements, and represent a global vision.

FEMA defines *Objectives* as strategies or implementation steps to attain mitigation goals. Unlike goals, objectives are specific and measurable, where feasible.

FEMA defines *Mitigation Activities* as specific actions that help to achieve the mitigation goals and objectives.

5.3 Mitigation Goals and Objectives

This section presents the mitigation goals identified to reduce or avoid long-term vulnerabilities to the identified hazards. Delaware County and the 28 participating jurisdictions developed these goals and objectives based on the risk assessment results and the existing authorities, policies, programs, resources, and capabilities of the jurisdictions in the study area. The goals and objectives are based on input from the community, research, and meetings of the Steering Committee. Towns have provided jurisdiction-specific input regarding activities that will support the mitigation goals and objectives.

The mitigation goals serve as general guidelines that clarify desired hazard reduction outcomes. The goals are based on the findings of the risk assessment and input from the public and the Steering Committee, and represent a long-term vision for hazard reduction and the enhancement of mitigation capabilities. The goals are compatible with needs and goals expressed in other available community planning documents prepared by the participating communities and Delaware County.

Each goal has a number of corresponding objectives that further define the specific strategies or implementation steps. These objectives were developed by the Steering Committee through its knowledge of the local area, review of past efforts, findings of the risk assessment, qualitative evaluations, and identification of mitigation options.

The four mitigation goals with their respective objectives are presented below:

Goal 1: Protect Life and Property

- *Objective 1-1:* Implement mitigation activities that will assist in protecting lives and property by making homes, businesses, infrastructure, and critical facilities more resistant to hazards.
- *Objective 1-2:* Encourage homeowners and businesses to take preventive actions in areas that are especially vulnerable to hazards.
- *Objective 1-3:* Build upon past efforts to characterize flood events by conducting additional flood studies and creating flood models.
- *Objective 1-4:* Review existing local ordinances, building codes, safety inspection procedures, and applicable rules to help ensure that they employ the most recent and generally accepted standards for the protection of buildings.

- *Objective 1-5:* Ensure that public and private facilities and infrastructure meet established building codes and immediately enforce the codes to address any identified deficiencies.
- *Objective 1-6:* Incorporate hazard considerations into land-use planning and natural resource management.
- *Objective 1-7:* Encourage homeowners, renters, and businesses to purchase insurance coverage for damages caused by hazards.
- *Objective 1-8:* Integrate the recommendations of this plan into existing local and county programs.
- *Objective 1-9:* Implement mitigation activities that encourage environmental stewardship and protection of the environment.

Goal 2: Increase Public Awareness

- *Objective 2-1:* Develop and implement additional education and outreach programs to increase public awareness of the risks associated with hazards and to educate the public on specific, individual preparedness activities.
- *Objective 2-2:* Provide information on tools, partnership opportunities, funding resources, and current government initiatives to assist in implementing mitigation activities.
- *Objective 2-3:* Implement mitigation activities that enhance the technological capabilities of the jurisdictions and agencies in the County to better profile and assess exposure of hazards.

Goal 3: Encourage Partnerships

- *Objective 3-1:* Strengthen inter-jurisdiction and inter-agency communication, coordination, and partnerships to foster hazard mitigation strategies and/or projects designed to benefit multiple jurisdictions.
- *Objective 3-2:* Identify and implement ways to engage public agencies with individual citizens, non-profit organizations, business, and industry to implement mitigation activities more effectively.

Goal 4: Provide for Emergency Services

- *Objective 4-1:* Encourage the establishment of policies at the local level to help ensure the prioritization and implementation of mitigation strategies and/or projects designed to benefit essential facilities, services, and infrastructure.
- *Objective 4-2:* Where appropriate, coordinate and integrate hazard mitigation activities with existing local emergency operations plans.
- *Objective 4-3:* Identify the need for, and acquire, any special emergency services and equipment to enhance response capabilities for specific hazards.
- *Objective 4-4:* Review and improve, if necessary, emergency traffic routes; communicate such routes to the public and communities.

5.4 Identification, Analysis, and Implementation of Mitigation Activities

This subsection discusses the identification, analysis, and implementation of mitigation activities for the Delaware County Multi-Jurisdictional Study Area.

Identification

During the planning process, Delaware County and the 28 participating municipalities identified potential loss reduction or mitigation activities for each hazard of concern. These were identified in line with the goals and objectives discussed in Section 5.3. The mitigation activities include a range of options in line with the six types of mitigation activities described in FEMA guidance (FEMA 386-3), including:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.
2. **Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
4. **Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. **Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

Analysis

The mitigation activities developed for this plan are grouped by hazard and presented in a series of tables in the following sub-sections. Each alternative mitigation activity was evaluated qualitatively using several evaluation criteria, including the consideration of social, technical, administrative, political, legal, economic, and environmental (STAPLEE) opportunities and constraints of implementation. Each of these evaluation criteria is summarized below. The evaluation criteria are described in terms of situations that present opportunities for implementation success or as areas that must be considered:

- **Social criteria:** The public must support the overall implementation strategy and specific mitigation activities; therefore, community acceptance of the proposed mitigation activities must be considered.
- **Technical criteria:** Such factors as technical feasibility of the proposed mitigation activity to reduce losses in the long term, with minimal secondary impact, must be considered.

- Administrative criteria: Anticipated staffing, funding, and maintenance for each mitigation activity must be considered.
- Political criteria: The political leadership of the communities must support the overall implementation strategy and specific mitigation activities; therefore, decision-maker acceptance of the proposed mitigation activities must be considered.
- Legal criteria: Whether the communities have legal authority to implement the proposed mitigation activities must be considered.
- Economic criteria: Funding needs and budget constraints must be considered.
- Environmental criteria: Environmental impacts that could be caused by implementing specific mitigation activities must be considered.

The tables in this section identify the mitigation goals and objectives driving each mitigation activity and identify the outcome of the evaluation of each mitigation activity against the STAPLEE criteria. The Steering Committee evaluated these criteria, ease of implementation, cost/benefit, and implementation timeframes to prioritize each mitigation activity as a high, medium, or low priority. All mitigation activities presented in the following tables include, to the extent that information was available, an implementation timeline, funding sources, and the jurisdiction responsible for carrying out the actions.

Particular attention was given to those mitigation activities that addressed existing and new buildings and infrastructure. For example, in Section 5.4.1.1 mitigation activities were developed including “Post Flood Recovery and Reconstruction” in Delaware County and identify feasible mitigation options (through the Delaware County Flood Mitigation Program)”, “Conduct regular maintenance and inspections on the local flood control dams”, “Construct synthetic floodways to disperse flow and reduce the velocity of waterways county wide and retrofit, acquire, and/or relocate buildings in flood-prone areas (including wet or dry flood proofing)” and in Section 5.4.4 mitigation activities were developed including “Develop a program to promote tie-downs of mobile homes for flood and severe wind events.”

Particular attention also was given to those mitigation activities that address essential facilities and infrastructure. For example in Section 5.4.1.2 mitigation activities include: “Retrofit critical structures to increase resistance to storm hazards and promote hazard resistant construction of new buildings;” Section 5.4.1.3 mitigation activities include “Retrofit critical facilities with wind resistant designs and construction;” and Section 5.4.2.1 mitigation activities include “Retrofitting critical facilities with the latest utility connections” and “Acquisition of generators to support County communication systems.”

Additionally, the Steering Committee established public information activities and NFIP Community Rating System (CRS) promotion, as high priority activities based on their relative affordability, multi-jurisdictional impact, and significant potential benefits. The Steering Committee will promote CRS by providing information on the County website, implementing a mailing to municipal code enforcement officers/NFIP coordinators, and sharing information with the municipal officials’ association. Additionally, the County will communicate with the general public through public meetings and municipalities for the Delaware County Flood Mitigation Program. Not all communities have flood-related zoning ordinances, so one multi-jurisdictional mitigation activity is to promote CRS in Delaware County and provide specific examples of how to address CRS. Several communities have developed stormwater plans to comply with the new Phase II stormwater regulations, so multi-jurisdictional efforts

for stormwater management are not included; however, some stormwater activities are included where they will support mitigation for the hazards of concern, such as flood.

Throughout the mitigation planning process, mitigation activities were evaluated at various Steering Committee meetings. Activities were submitted for inclusion by individuals, members of the public, EPC members and Steering Committee members, and during the brainstorming sessions (for example, a Steering Committee meeting on June 21, 2005). At various intervals, members of the Steering Committee met and communicated via email and telephone to develop and discuss mitigation activities for the hazards identified in this plan based on the criteria listed above, current programs and policies, and the results of the risk and exposure assessments. Each jurisdiction also developed jurisdiction-specific mitigation activities and submitted them to the County Mitigation Coordinator. Additionally, the County Mitigation Coordinator solicited input and mitigation activities from various agencies throughout the county, such as local and county fire and police departments, public works, highway departments, etc. The County Mitigation Coordinator and its consultant reviewed the mitigation activities prior to their inclusion in the plan to ensure the mitigation activities met the goals and objectives of the mitigation plan, addressed the STAPLEE criteria, and were assigned as a high, medium, or low priority.

The Steering Committee determined that any mitigation activity that may help the communities become more disaster resistant should be included in the plan even if funding is not currently available or if a mitigation activity was assigned a lower priority based on the STAPLEE criteria or cost/benefit evaluation. Therefore, most of the mitigation activities identified by the group are included in the following sub-sections. It should be noted that some mitigation activities are applicable to more than one hazard. For example, mitigation strategies related to the removal of tree limbs and the provision of backup generators apply to the severe storm and severe winter storm hazards. Mitigation activities related to compliance with The Phase 2 Stormwater Regulations are applicable to the flood and water supply contamination hazards. The multi-jurisdiction and multi-hazard sub-section focuses on such cross-hazard activities (see Section 5.4.4).

Implementation

Delaware County and the 28 participating jurisdictions prioritized the potential mitigation activities for each hazard of concern and ranked each as a high, medium, or low priority. The priority for each proposed mitigation activity was determined by analyzing the community's vulnerability to each hazard (as presented in Section 4 of this plan), the potential benefits of the mitigation activity, and the feasibility of the mitigation activity based on a review of the STAPLEE criteria. Mitigation activity priorities also are based on "the extent to which benefits are maximized according to a cost benefit review" (DMA 2000). For example, low cost activities that support cross-jurisdiction and multi-hazard benefits are assigned a high priority in some cases, based on the cost/benefit review. For example, a number of high priority mitigation activities focus on public awareness and education programs or integrating the mitigation plan into current programs because these types of mitigation measures are affordable, achievable, can address multiple hazards and have an immediate benefit.

The Steering Committee also identified specific mitigation activities that will prevent future losses; however, current funding is not identified for all of these activities at present. The County and participating municipalities have limited resources to take on new responsibilities or projects. The implementation of these mitigation activities is dependent on the approval of each local elected governing body and the ability of the communities to obtain funding from local or outside sources. Where such activities are high priorities, the communities will work together and with the County, NYSEMO, and other agencies to secure funds.

In general, mitigation activities ranked as high priorities will be addressed first. However, medium or even low priority mitigation activities will be considered for concurrent implementation. Therefore, the ranking levels should be considered as a first-cut, preliminary ranking and will evolve based on input from each town, the public, NYSEMO, and FEMA as the plan is implemented.

The mitigation activities listed in the following tables are presented in the following order for each hazard high priority, medium priority, and low priority. Within each category, the mitigation activities are then listed in the order in which they were identified.

The tables present the following:

- Mitigation activities for each hazard and for multi-jurisdiction/multi-hazards
- Mitigation goals and objectives supported by each activity
- Jurisdictions for which the mitigation activities apply (to support the multi-jurisdictional component of this plan)
- Potential funding sources for the mitigation activity (grant programs, current operating budgets or funding, or the agency or jurisdiction that will supply the funding; additional potential funding resources are identified in Table 2-4-1)
- Estimated budget for the mitigation activity (financial requirements for new funding or indication that the activity is addressed under current operating budgets)
- Time estimated to implement and complete the mitigation activity
- Existing policies, programs, and resources to support implementation of the mitigation activity (additional policies, programs, and resources identified in Table 2-4-1)
- Lead agency responsible for the mitigation activity
- Agencies to support the lead agency (additional agencies identified in Section 2)

Users should note that budget estimates for this plan include preliminary estimates based on professional knowledge and Steering Committee input; refined and revised budget estimates will be prepared as activities are moved forward for implementation (for example, to support grant applications). Other budget estimates are more refined based on mitigation activities that have been studied and estimated previously to support other related program efforts. At this stage, resources are not available to prepare detailed budget estimates for each potential mitigation activity, but preliminary estimates have been made. Where specific dollar value estimates were not available, the Steering Committee used professional knowledge and judgment to assign the resource needs (budget) for each activity as either low, medium, or high, as summarized below:

- Low – Less than \$10,000
- Medium – \$10,000 to \$100,000
- High – Greater than 100,000

The budget information focuses on the cost to implement activities and not the ability of the municipalities to address the cost; as discussed above, outside funding may be required, where municipal funds are not available to support implementation. Potential federal funding sources are identified in Table 2.3 and an extensive list of federal funding opportunities is identified in the document “*Federal Mitigation Programs, Activities, & Initiatives*” and is available at the following website: <http://www.fema.gov/doc/fima/fmpai.doc>. This document provides information on various federal programs including the type of available assistance and contact information; a copy is included in Appendix D of this plan. Table 2-4-1 also includes other existing policies, programs, and resources to support the mitigation activities other than those listed below.

The remainder of this section presents mitigation activities identified and analyzed for each hazard in the same order they are addressed throughout this report (natural hazards, technological hazards, and human-caused hazards). It also presents multi-jurisdictional/multi-hazard activities and recommended next steps.

5.4.1 Natural Hazards

This section addresses mitigation activities for natural hazards including: (1) flood, (2) severe storm (wind, including hurricane and tornado), (3) ice jam, (4) severe winter storm (snow), (5) extreme temperature (6) ice storm, (7) infestation (agricultural and disease-carrying insects), (8) wildfire, (9) epidemic (agricultural), and (10) drought.

5.4.1.1 Flood Mitigation Activities

The alternative mitigation activities identified for the flood hazard include the following types of activities: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities.

The planning committee applied the qualitative STAPLEE criteria to all of the alternative mitigation activities to identify the preliminary priority for each action (high, medium, or low). Based on the high risk presented by the flood hazard in the study area, including the high frequency of flood events, the short onset time, and the significant inventory loss and business interruption associated with this hazard, a number of high-priority mitigation activities were identified. In addition, the flood hazard is perceived to be a high-priority hazard by the public and political leadership and many of the high-priority mitigation activities that are recommended for implementation are not only technically feasible, but also are administratively feasible.

High-priority mitigation activities are recommended for implementation before lower-priority mitigation activities. The high-priority mitigation activities are presented in Table 5-4-1-1 and generally focus on the following:

- Active involvement in the NFIP and participation in the Community Rating System (CRS)
- Continued flood studies, especially of repetitive loss properties, to enhance understanding of the causes of floods in the region using available data, GIS mapping capabilities, and research
- Management opportunities that address seasonal flooding of watersheds within, and across, jurisdictional boundaries

Delaware County and the 28 participating jurisdictions will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. In general, all participating jurisdictions have agreed to make a concerted effort to accept responsibility for at least one, high-priority mitigation activity and have agreed to complete that activity within one year from plan adoption, if feasible. As future Steering Committee meetings continue, priorities and accomplishments will be revisited and documented.

The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each mitigation activity are identified in Table 5-4-1-1, as available.

TABLE 5-4-1-1. FLOOD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.1.1 Delaware County in association with Federal, State and Local government partnerships with FEMA, New York State, and New York City have incorporated a flood buy out program	Goal 1, Objectives 1-2 and 1-3	H	Delaware County	Local	L	Ongoing	NFIP, Flood mitigation plan	DC	FEMA, NYCDEP, NYSDEC
5.1.2 Implementation of the Disaster Recovery Program. A program for implementation of mitigation initiatives.	Goal 1, Objective 1-7	M	Delaware County	Local	Current funding	Ongoing	County comprehensive plan	DC	Local Government
5.1.3 The Main Street Redevelopment Program encouraging development in areas that have existing infrastructure and prevent further corridor development in the floodplain that is the primary area available for development on the fringes of the local communities.	Goal 1, Objective 1-1	M	Delaware County	Local	Current funding	Ongoing	Flood Mitigation Initiatives; watershed study follow-up	Local Towns	DC, NYCDEP, NYSDEC,
5.1.4 Land use reviews to determine if proposed projects are in compliance with local floodplain regulations.	Goal 1, Objective 1-7	M	Delaware County	Federal, State, Local	Grant Based	Ongoing	County Comprehensive Plan	DC	NYCDEP

TABLE 5-4-1-1. FLOOD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.1.5 The County has adopted the Delaware County Action Plan (DCAP) that outlines an integrated approach to watershed management.	Goal 1, Objective 1-4	M	Delaware County	Local	L	2 years	HMGP	DC	Local, NYCDEP
5.1.68 The Delaware County Planning Board is currently working on a County Wide Comprehensive Plan.	Goal 1, Objective 1-1	M	Delaware County	Existing Funds, Grants	H	Ongoing	NFIP, HMGP	DC Planning Board	Towns, NYSEMO / FEMA, NYCDEP
5.1.7 Constructing dams and reservoirs for control of flow velocity through timed release of flow waters as well as controlling the real extent of flooding.	Goal 1, Objective 1-1	M	Delaware County	CIP funding or bonds	H	Ongoing	NFIP, HMGP	USACE	NYSDEC, NYSEMO, FEMA, NYCDEP
5.1.8 Implementation of levees and channels to protect areas immediately behind them by confining flood waters to the delineated channel.	Goal 1, Objective 1-1	M	Delaware County	Federal, State	L	Ongoing	Flood Mitigation Initiatives; recommendations of watershed studies	USACE	NYSEMO / FEMA NYCDEP
5.1.9 Implement physical mitigation activities, as necessary, within appropriate watersheds (including stacked rock walls, installation of riprap, installation of check dams, and vegetation plantings).	Goal 1, Objectives 1-1 and 1-7	M	Delaware County	Federal, State, Local	M to H	Ongoing	Bond Act, Flood Mitigation Plan	Local	DC , NYSEMO

**TABLE 5-4-1-1. FLOOD MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.1.10 Channel modifications including straightening, widening, deepening, and smoothing designed to improve flow conditions and increase capacities.	Goal 3, All Objectives	M	Delaware County	State, local	L	6 years	Flood Mitigation Plan, Emergency Management Plan	Local	DC, NYCDEP, NYSEMO
5.1.11 Develop flood insurance maps for flood control project and downstream areas	Goal 1, Objective 1-4	M	Delaware County	FEMA, State	M to H	2 years	NFIP, FEMA, NYSDEC	Local	DC, NYSEMO
5.1.12 Develop a program to ensure the maintenance of stormwater control measures.	Goal 1, Objective 1-4	M	Delaware County	TBD	L to M	Ongoing	Phase II Stormwater Regulatory Requirements	NYSDEC	DC, Local
5.1.13 Modifications to vulnerabilities (Flood proofing) either structural or non-structural retrofit for disaster resistance mitigation.	Goal 2, All Objectives	M	Delaware County	State, Local	\$500	3 years	Flood Mitigation Plan	Towns, developers	DCPD
5.1.14 Utilization of early warning and evacuations systems for reducing the loss to life and property by giving people time to move personnel property and possessions to safety or to evacuate to safe areas.	Goal 1, Objective 1-5	M	Delaware County	Grants Based	L	Ongoing	Emergency Management Plan	Local	NYSEMO, DC
5.1.15 Public education to increase citizen knowledge on disaster plans and how to proceed during an emergency.	Goal 1, Objective 1-5	M	Delaware County	Existing Funds	L	Ongoing	Site plan review, code enforcement, zoning	Towns	DC, Public Radio, Local

TABLE 5-4-1-1. FLOOD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.1.16 Distributing the loss to taxpayers within the loss area and to the homeowners within areas of risk.	Goal 1, Objective 1-5	M	Delaware County	Federal, State, Local	L	Ongoing	Site plan review, code enforcement, zoning	Towns	NYSEMO, Local,
5.1.17 Conducting Phase I and Phase II construction projects. Phase I projects restore and protect potable water supplies and sewage treatment. Phase II projects are non-emergency retrofits that restore communities to pre-flood conditions that also strengthen the facilities to updated standards.	Goal 1, Objective 1-5	M	Delaware County	Federal, State, Local	L to M	Ongoing	Site plan review, code enforcement, zoning, NFIP	Towns	NYSDEC, NYCDEP, Local
5.1.18 Ensure that adequate shelter is available to community residents in the event that a flood event causes displacement.	Goal 4, Objective 4-2	H	Delaware County	Federal, State, Local	L to M	Ongoing	ARC, DCDES, HMGP	ARC	Towns
5.1.19 Identify or update existing land use in major stream corridors and floodplains in Delaware County.	Goal 1, Objectives 1-4 and 1-6	M	Delaware County	County	\$1,000	1 year	Land Use and County Comprehensive Planning	DCPD	NYCDEP, NYSEMO, Local
5.1.20 Implement training and public outreach to residents, code officials, and contractors on floodplain management and flood mitigation as well as flood response planning and training.	Goal 2, All Objectives, Goal 3, All Objectives	M	Delaware County	Federal, State, Local	\$2,000/town	1 year	NFIP, DC Flood contingency plan	DC Towns	NYCDEP, NYSEMO

TABLE 5-4-1-1. FLOOD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.1.21 Pursue a major stream bank stabilization project along the West Branch of the Delaware, particularly near the Octagon Farm.	Goal 1, Objective 1-1	M	Town of Hamden	State	H	5 years		Town of Hamden	NYSDEC, NYCDEP, USACE
5.1.22 Develop a suitable mitigation strategy to address flooding from the creek that joins with Willow Brook in Sidney Center	Goal 1, Objective 1-1	M	Town of Sidney, Sidney Center	State	H	5 years		Town of Sidney and Sidney Center	FEMA, NYSEMO, NYSDEC, USACE
5.1.23 Conduct a flood mapping restudy of the Weir Creek flood zone in the Village of Sidney in an effort to identify areas that are NOT believed to be in the floodzone, possibly resulting in misapplied flood fund resources.	Goal 1, Objective 1-3	M	Village of Sidney	State	M	2 years		USACE	NYSEMO / FEMA

Notes:

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|-------|---|--------|-------------------------------------|--------|---|
| ARC | American Red Cross | GIS | Geographic Information Systems | PBS | Public Broadcasting System |
| DCPD | Delaware County Planning Dep't. | N/A | not applicable | NYSEMO | New York State Emergency Mg't. Organization |
| DCDES | Del. Cnty. Dep't. of Emergency Services | NFIP | National Flood Insurance Program | TBD | to be determined |
| FEMA | Federal Emergency Management Agency | NYSDEC | New York State Dep't. of Env. Cons. | USACE | United States Army Corps of Engineers |
| HMGP | Hazard Mitigation Grant Program | P&D | Planning and Development | | |

5.4.1.2 Severe Storm (wind, including hurricane and tornado) Mitigation Activities

The alternative mitigation activities identified for the severe storm hazard include the following types of activities: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities.

The Steering Committee applied the qualitative STAPLEE criteria to evaluate the mitigation activities and identify the preliminary ranking priority for each action (high, medium, or low). The severe storm hazard includes a fair amount of warning time and generally, the area is prepared to address severe storm impacts. However, vulnerabilities include utility failures, damage to mobile homes or other vulnerable buildings, elderly and low-income populations that may not be well prepared for such events and transportation accidents that can be associated with these events. The public considers the severe storm hazard as moderately important because it occurs relatively frequently and can have a direct impact on daily routines. Also, in the event of hurricanes, this hazard can also include significant inland rains that could cause cascading impacts (flood events) to occur. Therefore, some of the mitigation activities discussed under flood also will help to mitigate against potential severe storm events that include significant rain.

Based on a preliminary mitigation ranking effort, no high priority activities were identified for the severe storm hazard, other than the flood-specific mitigation activities discussed in Section 5.4.1.1. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-2, as available.

5.4.1.3 Ice Jam Mitigation Activities

The alternative mitigation activities identified for the ice jam hazard include public education and awareness, emergency services, and structural project activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-1-3.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, low) based on information compiled to date and input received from stakeholders.

5.4.1.4 Severe Winter Storm (snow) Mitigation Activities

The alternative mitigation activities identified for the severe winter storm hazard include the following types of activities: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities.

The Steering Committee applied the qualitative STAPLEE criteria to evaluate potential mitigation activities to determine the preliminary ranking priority for each action (high, medium, low). The severe winter storm hazard includes a fair amount of warning time and generally, the study area is well-prepared to address the winter storm hazard and its impacts. However, vulnerabilities include utility failures, elderly and low-income populations that may not have adequate heat or food supplies during these events, and transportation accidents and road damage that are often associated with these events. Indirect impacts can include disruption of business and social services if personnel or customers/users are not able to travel. The public considers the severe winter storm hazard as important because it occurs frequently and can have a direct impact on daily routines.

Based on a preliminary mitigation ranking effort, two high-priority mitigation activities are recommended for implementation. The high-priority mitigation activities are presented in Table 5-4-1-4.

TABLE 5-4-1-2. SEVERE STORM (WIND, INCLUDING HURRICANE AND TORNADO) MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.2.1 Maintain and enhance programs to keep trees from threatening lives, property, and public infrastructure during storm events, including tree trimming and removal programs.	Goal 3, Objective 3-1 Goal 4, Objective 4-2	M	Delaware County	Current funding sources	M-H	Ongoing	FEMA Programs	DCDES	DCDPW, NYSEG / REC
5.2.2 Enhance public education programs regarding both incoming and outgoing evacuation routes.	Goal 4, Objective 4-4	M	Delaware County	Local	\$2,000/Town	2 years	Public-private partnerships	Local police and fire	DCDES, NYSEMO
5.2.3 Identify, map and publicize locations around the county that have the highest incidence of severe-storm related impacts.	Goal 1, Objective 1-7; Goal 2, Objective 2-3	M	Delaware County	State	\$20k	2 years	Community Technology Initiatives, NOAA and NWS data	DCPD-GIS	NYSEMO, NWS
5.2.4 Increase public awareness of storm mitigation activities, including severe storm warnings and advisories.	Goal 2, All Objectives	M	Delaware County	Local	\$2,000/Town	2 years	Public-private partnerships, Public Outreach programs, Ithaca Journal; Radio Stations, PSAs, PBS	DCDES	NYSEMO, NWS
5.2.5 Encourage development and enforcement of wind-resistant building siting and construction codes. Focus to be placed on vulnerable residencies first (i.e. mobile homes).	Goal 1, Objective 1-1	L	Local	TBD	L	TBD	Building code, enforcement	DCCE	NYSEMO / FEMA
5.2.6 Retrofit critical facilities with wind resistant designs and construction.	Goal 1, Objective 1-1	L	Delaware County	Federal State Local	M	5 years	HMGP	Owners of critical facilities	DC, NYSEMO

Notes:

DCDES Del. Cnty. Dep't. of Emergency Services
DCPD Delaware County Planning Dep't.
DCCE Delaware County Code Enforcement
FEMA Federal Emergency Management Agency
GIS Geographic Information Systems

HMGP Hazard Mitigation Grant Program
N/A not applicable
NFIP National Flood Insurance Program
NOAA National Oceanic and Atmosphere Agency
NWS National Weather Service

NYSEG New York State Electric & Gas
NYSEMO New York State Emergency Mg't. Organization
TBD to be determined

TABLE 5-4-1-3. ICE JAM MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.3.1 Monitor streams for ice jams to minimize damage to infrastructure (bridges).	Goal 1, Objective 1-1	H/M	All	County, Local	L	Ongoing	DCCEMP, NYSPIN	DCDES, DCPW	Local Gov'ts.
5.3.2 Continue programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure from ice jams.	Goal 1, Objective 1-1	M	All	Local	L	Ongoing	NYSEMO and FEMA Programs	DCDES, DCPW	Local Gov'ts., NYSEMO
5.3.3 Educate and train emergency response personnel throughout the county on measures that can be taken in the event of an ice jam (e.g. ice weakening or breaking, mechanical weakening or removal, thermal weakening, hole drilling, ice excavation, use of tension weirs).	Goal 2, All Objectives; Goal 3, Objective 4-3	H/M	All	County, Local	L/M	2 yrs.	DCCEMP, NYSEMO and FEMA	DCDES	NYSEMO, FEMA
5.3.4 Establish an early warning system through the use of ice motion detectors.	Goal 1, Objective 1-1; Goal 4, Objective 4-3	L	All	Local	M/H	4 yrs.	DCCEMP, NYSEMO and FEMA, NYSPIN	DCDES	Local Gov'ts., NYSEMO, FEMA
5.3.5 Install environmentally friendly and economically beneficial floating structures or ice control structures upstream from where many ice jams tend to occur (e.g. ice booms)	Goal 1, Objective 1-1; Goal 4, Objective 4-3	M	All	Local, State	M/H	5 yrs.	NYSEMO and FEMA Programs	DCPW	USACE
5.3.6 With the help of the USACE, CRREL, establish methods that can be used effectively to reduce the occurrence and effects of ice jams and develop innovative projects to reduce ice jam flooding potential.	Goal 1, Objective 1-1; Goal 4, Objective 4-3	M	All	Local, State	M	2 yrs.	NYSEMO and FEMA Programs	DCPW	USACE, CRREL

TABLE 5-4-1-3. ICE JAM MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.3.6 Consider implementing river channel modifications where surface obstructions, river bends, river channel slope changes, constrictions, low velocity pools and shallow river sections exist.	Goal 1, Objective 1-1	L	All	FEMA, CIP funding or bonds, USACE	H	5 yrs.	HMGP, Flood Mitigation Initiatives, Bond Act	USACE	FEMA, NYSEMO, NYCDEP, DCPD, DCPW

Notes:

- CRREL Cold Regions Research and Engineering Lab (U.S. Army)
- DCCEMP Delaware County Comprehensive Emergency Management Plan
- DCDES Delaware County Department of Emergency Services
- DCPW Delaware County Public Works
- FEMA Federal Emergency Management Agency
- NYSEMO New York State Emergency Management Office
- NYSPIN New York State Public Information Network
- TBD to be determined
- USACE United States Army Corp. of Engineers

TABLE 5-4-1-4. SEVERE WINTER STORM (SNOW) MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.4.1 Inform citizens about winter storm events how to prepare for such events. Indicate locations of shelters and tips for staying at home. Provide advisories to avoid road travel combined with safe travel tips. Provide information on hazards of unheated houses, guidance on the use of portable and standby generators, fire hazards associated with space heaters, protecting plumbing during a winter storm, and coping with power failures.	Goal 2, All Objectives	H	Delaware County	NYSEMO	L	1 year	Mailing pamphlet or page in newspaper, annually. PSAs; FEMA mitigation resources, public education grant	Towns	DCDSS, ARC
5.4.2 Develop a buddy network of concerned citizens that will check in on elderly, handicapped, low-income, or non-English speaking citizens during major or extended events.	Goal 2, All Objectives and Goal 3, Objective 3-2	H	Delaware County	Grants, revenues	L	Ongoing	ARC, Existing church programs	DC	DCDSS, ARC
5.4.3 Develop and implement programs to keep trees from threatening lives, property, and public infrastructure during storm events.	Goal 3, Objective 3-1 Goal 4, Objective 4-2	M	Delaware County	Private	M	Ongoing	FEMA Programs	DCDSS	DCDPW, NYSEG / DCEC
5.4.4 Develop and implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure from severe winter storms (including ice storms).	Goal 1, Objective 1-1	M	Delaware County	Federal, State, Local	M	Ongoing	FEMA Programs	DCDPW	DCDES

**TABLE 5-4-1-4. SEVERE WINTER STORM (SNOW) MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.4.5 Survey institutions that have specific needs populations to identify their emergency needs.	Goal 4, All Objectives	M	Delaware County	Federal, State	L	6 years	TBD	DCPHD	DCDSS, ARC
5.4.6 Obtain funding to purchase backup generators and other redundant utilities for nursing homes and other critical assets that require such emergency power sources.	Goal 4, All Objectives	M	Delaware County	Federal, State	TBD	5 years	HMGP, ARC	Towns	DCPHD, DCDSS
5.4.7 Map and publicize locations around the county that have the highest incidence of severe storms related events.	Goal 1, Objective 1-7	M	Delaware County	State, County	\$10,000	2 years	NOAA and NWS data, HMGP, DCFMP, NYSDOT	DCPD-GIS	Local Gov'ts.
5.4.8 Increase public awareness of storm mitigation activities, including storm warnings and advisories. (See also 5.4.1)	Goal 2, All Objectives	M	Delaware County	State, Local	\$2,000/jurisdiction	Ongoing	Public-private partnerships, Public Outreach programs, Ithaca Journal, PSAs, Radio Stations, PBS, EBS	DCDES	NYSEMO, NWS
5.4.9 Retrofit critical structures to increase resistance to storm hazards and promote hazard resistant construction of new buildings.	Goal 1, Objective 1-1	L	Delaware County	TBD	L to M	Ongoing	Owners of critical facilities, Code Enforcement Officers	County and local public works, DCCE	Local Gov'ts.

**TABLE 5-4-1-4. SEVERE WINTER STORM (SNOW) MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.4.10 Minimize the disruption and cost of storm events by maintaining to the extent possible the ability of public works personnel to maintain the safe flow of traffic over streets and highways through DC specific activities such as purchasing additional equipment, securing funds for additional personnel during winter storm events, and purchasing additional road salt.	Goal 4, Objective 4-2	M	Delaware County	Existing Funds	\$100,000	Ongoing	Existing Transportation and Emergency Plans	County and local public works	DCDES, NYDOT
5.4.11 Wherever practicable, coordinate emergency services, public works departments, and public utility responses to winter storm events to ensure efficient use of resources.	Goal 4, Objective 4-2	M	Delaware County	Existing Funds	Current funds	Ongoing	DCDES, local highway agency	DC	NYSEMO, NYSEG / DCEC
5.4.12 Enhance weather monitoring to attain earlier severe winter and ice storm warnings.	Goal 2, All Objectives	L	Delaware County	State, County, Local	L to M	Ongoing	Weather Monitoring	DCDES	NOAA, NWS, County and local public works
5.4.13 Evaluate and develop, as appropriate, a parking ordinance for emergency snow removal.	Goal 4, Objectives 4-2 and 4-3	L	Delaware County	Existing funds	L	Ongoing	Existing zoning policies and procedures	DCPD	Local Gov'ts.

Notes:

ARC	American Red Cross
DCCE	Delaware County Code Enforcement
DCEC	Delaware County Electric Cooperative
DCDES	Delaware County Department of Emergency Services
DCDSS	Delaware County Department of Social Services
DCDPW	Delaware County Department of Public Works
DCPD	Delaware County Planning Department
DCPHD	Delaware County Public Health Department
EBS	Emergency Broadcast System
GIS	Geographic Information Systems
HMGP	Hazard Mitigation Grant Program
N/A	not applicable
NOAA	National Oceanographic and Atmospheric Association
NWS	National Weather Service
NYSDOT	New York State Department of Transportation
NYSEG	New York State Electric and Gas
NYSEMO	New York State Emergency Management Office
PBS	Public Broadcast System
PSA	Public Service Announcement
TBD	to be determined

Delaware County and the 28 participating jurisdictions will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. In general, all participating jurisdictions have agreed to make a concerted effort to accept responsibility of at least one high-priority mitigation activity and have agreed to complete that activity within one year from plan adoption, if feasible. As future Steering Committee meetings continue, priorities and accomplishments will be revisited and documented by updates to Table 5-4-1-4.

The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-4, as available.

5.4.1.5 Extreme Temperatures (Cold) Mitigation Activities

Due to the relatively northerly latitude and high elevations of Delaware County, the extreme temperature hazard is generally limited to extreme low temperatures. The alternative mitigation activities identified for the extreme temperature hazard include public education and awareness, emergency services, and structural project activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-1-5.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, low) based on information compiled to date and input received from stakeholders. Statistically, extreme temperatures disproportionately affect the elderly and low-income residents, who have a greater chance of being exposed to extreme cold temperatures when antiquated or poorly maintained heating systems fail, energy supplies run out or are disconnected, or persons fail to seek appropriate shelter.

5.4.1.6 Ice Storm Mitigation Activities

The alternative mitigation activities identified for the ice storm hazard include the following types of activities: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities.

The Steering Committee applied the qualitative STAPLEE criteria to evaluate potential mitigation activities to determine the preliminary ranking priority for each action (high, medium, low). The ice storm hazard includes a fair amount of warning time. However, vulnerabilities include utility failures, elderly and low-income populations that may not have adequate heat or food supplies in the event of utility failure, and transportation accidents that are often associated with these events. Indirect impacts can include disruption of business and social services if personnel or customers/users are not able to travel.

The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-6, as available. As future Steering Committee meetings continue, priorities and accomplishments will be revisited and documented by updates to Table 5-4-1-6.

**TABLE 5-4-1-5. EXTREME TEMPERATURES MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.5.1 Set up warming and cooling centers	Goals 1,4 and all objectives	M	Delaware County	County, Local	TBD	1 year	HMGP, DCCEMP	DCDES	NYSEMO, ARC
5.5.2 Set up public information for the elderly, adult, and child population on the dangers of extreme temperatures	Goals 1,2 and all objectives	M	Delaware County	State, Local,	TBD	1 year	DCCEMP	DCDSS	ARC, NYSEMO
5.5.3 Identify the locations of vulnerable populations within the town, including areas where homeless persons may congregate.	Goal 2, Objective 2-1	H	All, particularly Sidney Village and Sidney Center	Local	L	1 year	Community Health Assessment for DC	DCDSS	DCPHD, ARC, Sidney Village and Sidney Center Offices
5.5.4 Work with social support agencies, homeowners associations and the general public to develop and implement appropriate monitoring systems focused on vulnerable populations during extreme cold events.	Goal 3, All objectives	H	All, particularly Sidney Village and Sidney Center	Local	L	2 years	TBD	DCDSS	DCPHD, ARC, Sidney Village and Sidney Center Offices, Homeowners Ass'ns.
5.5.5 Ensure that shelter facilities are adequate to support the vulnerable population that may require shelter during an extreme cold event.	Goal 4, Objective 4-1	H	All, particularly Sidney Village and Sidney Center	Local, State	M	Ongoing	DCCEMP	ARC	DCDSS, DCPHD

**TABLE 5-4-1-5. EXTREME TEMPERATURES MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.5.6 Enhance outreach and education programs aimed at vulnerable populations providing guidance on how to get assistance during extreme cold events, locations of shelters and tips for staying at home, how to prevent shut-off of heat and other utilities, and the proper maintenance/use of heating systems (including space heaters).	Goal 2, Objectives 2-1, 2-2	H	Delaware County	NYSEMO	\$6,000/year	Ongoing	Current public outreach initiatives, Mailing pamphlet or page in newspaper, annually. PSAs; FEMA mitigation resources, public education grant	ARC	DCDSS, NYSEG / DCEC

Notes:

ARC	American Red Cross	DCEC	Delaware County Electrical Cooperative	NYSEG	New York State Electric and Gas
CEMP	Comprehensive Emerg. Mg't. Plan	DCHSCC	Delaware County Human Service Coordinating Council	NYSEMO	New York State Emergency Management
DC	Delaware County	DCPHD	Delaware County Public Health Department	PSA	Public Service Announcements
DCDES	Delaware County Department of Emergency Services	HMGP	Hazard Mitigation Grant Program		
DCDSS	Delaware County Department of Social Services				

TABLE 5-4-1-6. ICE STORM MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.6.1 Inform citizens about ice storm events and how to prepare for such events, particularly with respect to loss of electricity.	Goal 2, All Objectives	H	All Jurisdictions	NYSEMO	L	1 year	Mailing pamphlet or page in newspaper, annually. PSAs; FEMA mitigation resources, public education grant	DC	ARC
5.6.2 Develop a buddy network of concerned citizens that will check in on elderly, handicapped, low-income, or non-English speaking citizens during major or extended events.	Goal 2, All Objectives and Goal 3, Objective 3-2	H	All Jurisdictions	TBD	L	Ongoing	ARC, Existing church programs	DCDSS	ARC, DCPHD
5.6.3 Continue programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure from ice storms.	Goal 1, Objective 1-1	M	All Jurisdictions		M	Ongoing	FEMA Programs	DCDPW	DCDES
5.6.4 Obtain funding to purchase backup generators and other redundant utilities for nursing homes and other critical assets that require such emergency power sources.	Goal 4, All Objectives	M	All Jurisdictions	TBD	5 years	DC HMGP, ARC	DC	ARC, DCPHD	TBD

TABLE 5-4-1-6. ICE STORM MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.6.5 Identify, map and publicize locations that have the highest incidence of ice storm related impacts, particularly with respect to loss of critical services (water, sewer) and heat.	Goal 1, Objective 1-7	M	All Jurisdictions	County and Local	L	2 years	TBD	DCPD-GIS	DCDPW, DCSS
5.6.6 Increase public awareness of ice storm mitigation activities, including ice storm warnings and advisories. (See also 5.2.1)	Goal 2, All Objectives	M	All Jurisdictions	TBD	\$2,000/jurisdiction	Ongoing	Public-private partnerships, Public Outreach programs, PSAs, Radio Stations, PBS, EBS	DCDES	ARC, NOAA, NWS
5.6.7 Enhance weather monitoring to attain earlier ice storm warnings.	Goal 2, All Objectives	L	All Jurisdictions		L to H	Ongoing	Weather Monitoring	DCDES	NOAA, NWS, County and local public works

Notes:

ARC American Red Cross
EBS Emergency Broadcast System
DC Delaware County
DCDES Delaware County Department of Emergency Srv'cs
DCDSS Delaware County Department of Social Services
DCPD Delaware County Planning Department
DCPHD Delaware County Public Health Department
FEMA Federal Emergency Management Agency
HD Highway Department

HMGP Hazard Mitigation Grant Program
N/A not applicable
NOAA National Oceanic and Atmosphere Agency
NWS National Weather Service
NYSDOT New York State Department of Transportation
NYSEMO New York State Emergency Management Office

DCSWCD DC Soil and Water Conservation District
PBS Public Broadcast System
PSA Public Service Announcement
TBD to be determined

5.4.1.7 Infestation (primarily agricultural) Mitigation Activities

Due to economic losses experienced by the County from infestations of army worms and moths, the infestation hazard has been included. The alternative mitigation activities identified for the infestation hazard include prevention and public education and awareness. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-1-7.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, low) based on information compiled to date and input received from stakeholders through September 2005. The high-priority mitigation activities focus on continued and enhanced monitoring of mosquito-borne disease locally and regionally, continued mosquito spraying programs, and public education and outreach programs to increase awareness of the hazard and in the region. The high-priority mitigation activities are recommended for implementation before other alternative mitigation activities. Delaware County will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-7.

5.4.1.8 Wildfire Mitigation Activities

The alternative mitigation activities identified for the fire hazard include prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-1-8.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, low) based on information compiled to date and input received from stakeholders.

The high-priority mitigation activities are recommended for implementation before other alternative mitigation activities. The high-priority mitigation activities focus on conducting a water resources study to support adequate water supply in the case of major fire events.

Delaware County and the thirty one municipalities will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-8.

TABLE 5-4-1-7. INFESTATION (AGRICULTURAL AND DISEASE-CARRYING INSECTS) MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.7.1 Increase collaboration between government and community organizations regarding containment and response plans for epidemic events involving animals.	Goal 3, Objective 3-2	M		TBD	L to M	Ongoing	DC, Agriculture & Farmland Protection Board	DCSWCD	LF, CCE-DC
5.7.2 Participate in the integrated disease prevention program with the New York State Cattle Health Assurance Program (NYSCHAP)	Goal 1, Objective 1-1	M		TBD	M	Ongoing	Disease prevention programs	DCSWCD,	NYSCHAP, NYDAM, LF
5.7.3 Strengthen communication with farmers regarding procedures to prevent the entry of pathogens onto farms.	Goal 2, All Objectives	M		TBD	L	Ongoing	TC, Agriculture & Farmland Protection Board	DCSWCD,	NYSCHAP, NYDAM, LF, CCE-DC
5.7.4 Increase coordination with organizations such as NYSCHAP and Northeastern Integrated Pest Management Center (NIPMC).	Goal 3, Objective 3-1	M		TBD	L	Ongoing	TC, Agriculture & Farmland Protection Board	DCSWCD	DCSWCD, CCE-DC
5.7.5 Distribute NYSCHAP assessment checklist.	Goal 2, All Objectives	M		TBD	L	2 years	NYSCHAP checklist, local paper, mailer to local farmers	DCSWCD	DCSWCD, LF, CCE-DC
5.7.6 Distribute guidelines and specific procedures to prevent Johnes Disease and Foot and Mouth Disease.	Goal 2, All Objectives	M		TBD	L	1 year	local paper, mailer to local farmers, See also 5.4.11	DCSWCD	DCSWCD, LF, CCE-DC
5.7.7 Increase awareness in farming communities of precautions for livestock before shows, fairs, and other events.	Goal 2, All Objectives	M		TBD	L	Ongoing	See 5.4.11	DCSWCD	LF, CCE-DC, USDA

TABLE 5-4-1-7. INFESTATION (AGRICULTURAL AND DISEASE-CARRYING INSECTS) MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.7.8 Increase awareness of precautions against zoonotic diseases, including rabies, ringworm, water-borne pathogens, lyme disease, anthrax, and west Nile virus.	Goal 2, All Objectives	M		TBD	L	Ongoing	See 5.4.11	DCSWCD	LF, CCE-DC, USDA
5.7.9 Include a reference in the Delaware County Soil and Water Conservation District Farm Emergency Management Plan to the DC HMP.	Goal 1, Objective 1-8	M		TBD	L	1 year	Farm Emergency Management Plan, Multi-Jurisdictional All Hazard Mitigation Plan	DC	DCSWCD
5.7.10 Advertise availability of applicable Emergency Action Plan for Farms.	Goal 1, Objective 1-8; Goal 3, All Objectives	M		Current funding	N/A	1 year	Newspapers, flyers, libraries	DC	CCE-DC
5.7.11 Enhance public safety through awareness, by releasing timely public service announcements via various media (television, radio).	Goal 2, All Objectives	L		Current funding	N/A	Ongoing	Ithaca Journal, Radio & TV announcements	DCSWCD	CCE-DC
5.7.12 Continue and enhance monitoring of mosquito-borne disease locally and regionally.	Goal 2, Objective 2-3	H		Local, State	L to M	Ongoing	TBD	DCPHD	Agricultural Boards
5.7.13 Continue and enhance, as appropriate, mosquito spraying programs.	TBD	H		Local	M	Ongoing	TBD	DCPHD	Agricultural Boards
5.7.14 Enhance outreach and education programs to increase awareness of measures people can take to reduce the mosquito hazard.	Goal 2, All Objectives	H		Local	\$2,000/year	Ongoing	Current public outreach initiatives	DCPHD	TBD

TABLE 5-4-1-7. INFESTATION (AGRICULTURAL AND DISEASE-CARRYING INSECTS) MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.7.15 Continue to monitor drainage areas to reduce and prevent shallow (stagnant) water (see similar activities in Flood Mitigation Plan section)	Goal 1, Objective 1-1	M		Local	M	Ongoing	Community safety	DCPHD	DCPHD

Notes: CCE-DC Cornell Cooperative Extension – Del. Cnty. DCSWCD – Delaware County Soil and Water Conservation District
 N/A not applicable USDA – United States Department of Agriculture
 TBD to be determined LF Local Farmers

TABLE 5-4-1-8. WILDFIRE MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.8.1 Conduct a study identifying all water resources in the jurisdictions for fire fighting (urban and wildland), map locations, and develop fire fighting strategies based on this data.	Goal 4, Objective 4-2	H	Delaware County	State	L to M	2-5 years	Community Infrastructure Management	DC	Local Fire, NY State
5.8.2 Obtain or create a map of existing and planned fire hydrants throughout the county and identify areas that need fire hydrants.	Goal 1, Objective 1-1	H	Delaware County	Local	L	1 year	Community Technology Initiatives	DCGIS,	Local
5.8.3 Enhance emergency services to increase the efficiency of wildfire response and recovery activities.	Goal 4, All Objectives	M	Delaware County	State	M	Ongoing	Community safety	DC	EMS, EM, and Local Fire Dept.
5.8.4 Encourage development and dissemination of maps relating to the fire hazard to help educate and assist builders and homeowners in being engaged in fire mitigation activities and to help guide emergency services during response.	Goal 2, All Objectives	M	Delaware County	State	L	2 years	Community Technology Initiatives	DC	Local GIS, SEMO,

TABLE 5-4-1-8. WILDFIRE MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.8.5 Enhance outreach and education programs aimed at mitigating fire hazards and reducing or preventing the exposure of citizens, public agencies, private property owners, and businesses to natural hazards. DC/ARC should be a support agency for public outreach.	Goal 2, All Objectives	M	Delaware County	Current funding sources	\$1,000/year	Ongoing	Current public outreach initiatives	County and Local Fire Depts.	All Local Towns
5.8.6 Amend county policies to require the use of fire-retardant materials in new construction.	Goal 1, Objective 1-1	M	Delaware County	TBD	L	TBD	Code, zoning, enforcement, engineering	DCFD	TBD
5.8.7 Ensure that structures (especially places of public assembly) are maintained and comply with any and all applicable fire and safety codes.	Goal 1, Objective 1-5	M	Delaware County	TBD	L	Ongoing	Code, enforcement and zoning	Owners of structures	TBD
5.8.8 Retrofit existing critical facilities to bring them up to fire code, if they are not already.	Goal 1, Objective 1-1	M	Delaware County	TBD	M	Ongoing	Code, enforcement, and zoning	Owners of critical infrastructure	TBD

TABLE 5-4-1-8. WILDFIRE MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.8.9 Investigate and, where feasible, implement programs that would encourage and assist owners of older commercial structures in rehabilitating and improving the fire resistance of their properties.	Goal 1, Objective 1-1	M	Delaware County	TBD	L	Ongoing	Infrastructure management, code, and zoning	DCFPB	Local
5.8.10 Identify deficiencies in equipment and training and ensure that local fire departments are adequately equipped to respond safely and effectively to fires.	Goal 4, Objectives 4-2 and 4-3	M	Delaware County	State	L to M	1 year	TBD	County and Local Fire Depts.	DC
5.8.11 Enhance the Delaware County Emergency Management Plan to include an emergency fire relief program (to collaborate between the towns to expedite capabilities to fight fires).	Goal 1, Objectives 1-7 and 1-8	M	Delaware County	Current funding	Current budget	1 year	Procedural changes	DC	DC
5.8.12 Educate the public and implement the FIRE WISE community initiative set fourth by the NFPA.	Goal 1, Objectives 1-6 and 1-8, Goal 3, Objective 3-1	M	Delaware County	Grant program	Low if grant program is ongoing	Ongoing	Interagency cooperation	Local	DC

TABLE 5-4-1-8. WILDFIRE MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.8.13 Educate personnel on Federal cost-share and grant programs, Fire Protection Agreements, and other related Federal programs so the full array of assistance available to local agencies is understood.	Goal 3, All Objectives	L	Delaware County	Federal	L	4 years	Interagency cooperation	DCFPB	Local and County Fire Depts.
5.8.14 Inventory alternative firefighting water sources and encourage the development of additional sources.	Goal 4, Objective 4-2	L	Delaware County	TBD	L to M	TBD	TBD	DCFPB	Local and County Fire Depts.
5.8.15 Increase communication, coordination, and collaboration between wildland/urban interface property owners, local and county planners, and fire prevention crews and officials to address risks, existing mitigation activities, and Federal assistance programs.	Goal 2, All Objectives	L	Delaware County	TBD	L	TBD	Public Private Partnerships	DCFPB	Public, Local and County Fire Depts.
5.8.16 Undertake vegetation management activities to reduce potential fuel for a wildfire (activities could include tree pruning, selective planting, and establishing vegetative setback distances).	Goal 1, Objective 1-7	L	Delaware County	TBD	M	TBD	TBD	DCFPB	TBD

TABLE 5-4-1-8. WILDFIRE MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.8.17 Maintain and update mutual aid agreements with the surrounding communities.	Goal 1, Objectives 1-6 and 1-8, Goal 3, Objective 3-1	L	Delaware County	TBD	L to M	3 years	Interagency cooperation	Local	NYSDEC
5.8.18 Install supervised fire/security alarm system at Town Hall.	Goal 1, Objective 1-1	L	Delaware County	Local	\$20,000	2 years	Continued building upgrades	Local	NA
5.8.19 Review ordinances and zoning laws and revise to help prevent future development in areas prone to wildland fire hazard and retrofit existing houses in these areas with additional fire fighting capabilities.	Goal 1, Objective 1-1	L	Delaware County	TBD	L	Ongoing	Code, Enforcement, Zoning	DC	Owners of critical infrastructure

Notes:

N/A - not applicable

TBD - to be determined

5.4.1.9 Drought Mitigation Activities

The alternative mitigation activities identified for the fire hazard include prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-1-10.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, low) based on information compiled to date and input received from stakeholders.

The high-priority mitigation activities are recommended for implementation before other alternative mitigation activities. The high-priority mitigation activities focus on conducting a water resources study to support adequate water supply in the case of major fire events.

Delaware County and the thirty one municipalities will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-1-10.

TABLE 5-4-1-9. DROUGHT MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.9.1 Implement water conservation practices	Goal 1, all objectives	H	Delaware County	DC, NYSEMO	L-M	1 year	Emergency Management plan, HMGP	DC	NYCDEP
5.9.2 Monitor water levels in reservoirs for drought conditions	Goal 1, all objectives	H	Delaware County	DC, NYCDEP	L	Ongoing	DC water conservation, NYCDEP drought management plan	DC	Local
5.9.3 increase public information on drought mitigation	Goals 1 and 2 all objectives	M	Delaware County	Local	L	1 year	DC Emergency Management Plan	DC	NYSEMO, FEMA
5.9.4 Maintain partnership with NYCDEP for drought mitigation efforts	Goal 3, all objectives	M	Delaware County	DC, NYCDEP	L	Ongoing	NYCDEP drought management plan, DCHMGP	DC	NYCDEP
5.9.5 Create a water resource inventory at the local level containing drought-response components; create a regional inventory, based on river basins, which in turn feeds into a Statewide inventory and water supply plan.	Goal 1, all objectives	H	Delaware County	DC, NYCDEP	M	3 Years	DC water conservation, NYCDEP drought management plan	DC	Local
5.9.6 Conduct a study on developing drought frequency data to provide to local governments.									

TABLE 5-4-1-9. DROUGHT MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.9.7 Increase monitoring of precipitation and ground/surface water supplies.	Goal 1, all objectives	H	Delaware County	DC, NYCDEP	L	Ongoing	DC water conservation, NYCDEP drought management plan	DC	Local
5.9.8 Provide education and training to the public on proper drought mitigation principles and practices for when a drought occurs or if there is a potential risk of a drought occurring.									
5.9.9 Provide sufficient levels of staffing to implemented Drought mitigation planning and projects.									
5.9.10 Provide information to plant wholesalers, retailers, nurseries regarding appropriate landscaping techniques, drought resistant and indigenous plant species, water conservation techniques and alternative to large expanses of lawn.									
5.9.11 Establish alert procedures for water quality problems, including early warning system or monitoring programs.									
5.9.12 Evaluate worst-case drought scenarios within Delaware County for possible further action.									

TABLE 5-4-1-9. DROUGHT MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdiction	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.9.13 Publish and distribute pamphlets on water conservation techniques and agricultural drought management strategies.									
5.9.14 Develop state agency-level operating procedures for drought response.									

5.4.2 Technological Hazards

This section presents mitigation activities for the technological hazard of dam failure. DMA 2000 does not currently require that technological hazards be addressed in local hazard mitigation plans; however, the Steering Committee selected the dam failure hazard for further evaluation based on its importance to the study area.

5.4.2.1 Dam Failure Mitigation Activities

The alternative mitigation activities identified for the dam failure hazard include prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each (high, medium, or low), relative to the risk assessment results presented in Section 4. There is a cascading relationship between other hazards and dam failure, that is other hazards such as severe storms and flooding tend to cause dam failures. Therefore, mitigation activities for these hazards will also help to reduce dam failure in some cases.

Eight dam-specific mitigation activities were identified as high priorities during the initial ranking process. Largely, these focus on helping to reduce dam failures or reduce the impact on humans, structures and infrastructure.

The high-priority mitigation activities are presented in Table 5-4-2-1 and generally focus on property protection through physical mitigation measures and. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-2-1.

5.4.3 Human-Caused Hazards

This section presents mitigation activities for human-caused hazards of water supply contamination. DMA 2000 does not currently require that human-caused hazards be addressed in local hazard mitigation plans; however, the Steering Committee selected the water supply contamination hazard for further evaluation based on its importance to the study area.

5.4.3.2 Water Supply Contamination Mitigation Activities

The alternative mitigation activities identified for the water supply contamination hazard include prevention, property protection, public education and awareness, natural resource protection, and emergency services activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-3-2.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each mitigation activity (high, medium, or low). Based on the low frequency of water supply contamination events and existing prevention and response procedures and plans, four proposed alternative mitigation activities were found to be of high priority. Several of the mitigation activities were found to be medium priority and, if resources allow, could be implemented after the high priority mitigation activities for other hazards. Because portions of the study area rely on surface water, while

other areas rely on groundwater, mitigation activities focus on protecting both of these types of supply sources.

The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-3-2.

**TABLE 5-4-2-1. DAM FAILURE MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.11.1 Provide sufficient levels of staffing to implement Dam Failure mitigation planning and projects									
5.11.2 Assign staff to implement the Dam Safety program and administer the Dam Safety fund.									
5.11.3 Update the Dam Inspection Report and develop an inspection strategy with timelines for all High and Moderate Hazard dams that are past due.		H	All	County	L	6 mo's.			
5.11.4 Develop a comprehensive and prioritized list of dam repair, upgrade and retrofit activities, including timelines and completion strategies (funding sources, grant application, permitting, etc.).									
5.11.5 Conduct dam-break analysis and risk assessment of all high and moderate hazard dams, identifying areas of inundation and human and property losses.									

**TABLE 5-4-2-1. DAM FAILURE MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.11.6 Provide mapping of dam failure flood inundation areas (From previous MS) for all high hazard dams for the purpose of informing the county residents on what areas would be affected by a collapse and can plan warnings and other mitigation actions.									
5.11.7 Develop and distribute custom Dam Safety Manuals for DC, with data specific for each town and village.									
5.11.8 Develop and distribute custom GIS "Vulnerability Assessment Tools" for the county, with the goal of selecting a short list of most vulnerable properties for acquisition and/or protection.									
5.11.9 Identify deficiencies in equipment and training and ensure that local emergency responders are adequately equipped to respond safely and effectively to a dam failure.									

**TABLE 5-4-2-1. DAM FAILURE MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.11.10 Educate the public on what procedures and protocols to be taken in case of a dam failure in their area of residence.									
5.11.11 With the assistance of the NYC DEP, establish specific dam safety measures for Cannonsville and Downsville dams to ensure the protection of the water supply for the county and NYC.									

**TABLE 5-4-3-2. WATER SUPPLY CONTAMINATION MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.1 Source water assessments which address protection of public water supplies. The Villages of Margaretville and Fleischmanns have plans as does the hamlet of Roxbury. As funding permits, similar plans for other public water supplies within Delaware County will be completed.	Goal 3, Objective 3-1; Goal 4, Objective 4-1	H	Delaware County	TBD	L	Ongoing	Public-Private Partnerships	DC	Public Water Suppliers, DC and NYC
5.12.2 Incorporate stormwater management and erosion and sedimentation control planning requirements in both site plan and subdivision review so as to reduce phosphorus loads to streams.	Goal 1, Objectives 1-8	M	All Towns	Local	L	Ongoing	Site Plan and Subdivision Review, Stormwater Regulations	Local	NYCDEP, NYSDEC
5.12.3 Inform streamside residents and businesses of, and encourage participation in, septic rehabilitation funding program(s)	Goal 1, Objectives 1-1, 1-6, and 1-9	M	All Towns; Sidney Center	NYCDEP, CWC	L	Ongoing	NYC Filtration Avoidance Determination; Economic Develop Program/Commercial Septic Loans	DCDOH?	NYCDEP, CWC

TABLE 5-4-3-2. WATER SUPPLY CONTAMINATION MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.4 Leverage new sewage treatment infrastructure facilities funding to upgrade or build.			All Towns; Sidney Center	NYCDEP, CWC			New Sewage Treatment Infrastructure Facilities Program	DCDOH	NYCDEP, CWC
5.12.5 Utilization of the partnership with NYC DEP in protecting the water supply throughout the county.	Goal 1, Objectives 1-1, 1-6, and 1-9	H	Delaware County	Delaware County, USGS	\$450,000	7 years	Current aquifer studies	DC	USGS
5.12.6 Increase collaboration between government and community organizations regarding containment, response, and cleanup plans.	Goal 1, Objectives 1-1, 1-6, and 1-9	H	Delaware County	Town, DC, USGS	\$750,000	6 years	Current aquifer studies	Local	DC, USGS
5.12.7 Identify and plan for use of backup water supply for the community, should the primary water supply become contaminated.	Goal 1, Objectives 1-1, 1-6, and 1-9	H	Delaware County	Town	\$8,000	3 years	Current stormwater and water quality initiatives	Local	TBD
5.12.8 Develop procedures for testing and sampling the water supply and a warning system should any tests reveal contamination.	Goal 1, Objective 1-9; Goal 2, All Objectives	M	Delaware County	TBD	L	Ongoing	Public Private Partnerships	DC	Local government, citizen groups

**TABLE 5-4-3-2. WATER SUPPLY CONTAMINATION MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.9 Complete water vulnerability assessments (VA) for water supply and water treatment systems and make improvements to harden security and ensure that appropriate emergency plans are in place.	Goal 1, Objective 1-1	M	Delaware County	TBD	L to M	1 year	Public-Private Partnerships, NYSDEC	DC	Public Water Suppliers, DC, other nearby cities,
5.12.10 Identify appropriate protection measures for groundwater drinking water systems.	Goal 1, Objectives 1-1, 1-6, and 1-9	M	Delaware County	TBD	L to M	2 years	Public-Private Partnerships, NYSDEC, SEMO	DC, public water suppliers	NYSDEC, DC DOH, local labs, Cornell
5.12.11 Encourage streamside farms to participate in the Conservation Reserve Enhancement Program (CREP).	Goal 1, Objectives 1-6 and 1-9; Goal 2, Objective 2-2	L	Delaware County	USDA FSA, NYCDEP	L to M	5 Years	Whole Farm Plan	WAC	USDA FSA, NYCDEP
5.12.12 Implement training and public outreach to residents, code officials, and contractors about water supply contamination and response planning and training.	Goal 2, All Objectives, Goal 3, All Objectives	M	Delaware County	Grant	\$35,000/VA; Improvement cost to be based on results of VA	2 years	Current anti-terrorism initiatives	DC	SEMO, water suppliers,

**TABLE 5-4-3-2. WATER SUPPLY CONTAMINATION MITIGATION ACTIVITIES
DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK**

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Jurisdictions	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.13 Enhance public safety through awareness, by releasing timely PSAs via various media (television, radio).	Goal 2, All Objectives	M	Delaware County	TBD	L (to identify)	1-2 years	SWAP	DC	NYSDEC, USGS
5.12.14 Support and implement measures to reduce contamination potential of public groundwater.	Goal 1, Objectives 1-1, 1-5, and 1-9	M	Delaware County	State	L, plus current SWAP funding	3 years	Source Water Assessment Program	DC	NYSDEC, USGS
5.12.15 Harden (retrofit) fixed public water facilities and infrastructure from the threat of terrorist attack	Goal 1, Objective 1-1	M	Delaware County	Local	\$2,000/town	2 years	Public-private partnerships	Towns	DC
5.12.16 Conduct an infra-red thermal imaging project to assess and locate failing septic systems.	Goal 1, Objectives 1-1 and 1-9	L	Delaware County	Current resources	Current budgets	Ongoing	Newspapers, Radio, Television, PSAs	DC	DC
5.12.17 Upgrade and expand the public water supply system serving Hamden and Delancy.	Goal 1, Objective 1-1	M	Towns of Hamden and Delancy	State	\$2M	Ongoing		State	NYCDEP, Towns
5.12.18 Develop effective on-lot sewer management programs or similar options for Hamden and Delancy to eliminate malfunctioning systems with potential impacts on nearby streams.	Goal 1, Objective 1-1	M	Towns of Hamden and Delancy	State	M-H	2 Years		State	NYCDEP, Towns

Notes:

N/A – not applicable

WAC - Watershed Agricultural Council

CWC – Catskill Watershed Corporation

NYCDEP- New York City Department of Environmental
Protection

NYSDEC – New York State Department of Environmental
Conservation

PSA – Public Service Announcement

SWAP – Source Water Assessment Program

TBD – to be determined

5.4.4 Multi-Jurisdictional and Multi-Hazard Mitigation Activities

Previous sub-sections of this mitigation strategy have focused on hazard-specific mitigation activities for the study area and for specific jurisdictions. Those mitigation activities will help to reduce the damages and losses associated with specific hazard events. However, some mitigation activities will support reduced risk across hazards and jurisdictions. This sub-section focuses on these types of activities.

The alternative multi-jurisdictional and multi-hazard mitigation activities identified for this study area include prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural project activities. These proposed mitigation activities address various objectives under each of the four stated goals, as shown in Table 5-4-4-1.

The qualitative STAPLEE criteria were applied to evaluate mitigation activities to determine the priority of each. Based on public perception, political considerations, technical and administrative feasibility, and economic and environmental considerations, many of the alternative mitigation activities were found to be of high priority. Additionally, many of these mitigation activities are high priority because they address considerations across multiple hazards and across jurisdictional boundaries.

The high priority mitigation activities are recommended for implementation before lower priority mitigation activities. The high priority mitigation activities are presented in Table 5-4-4-1 and generally focus on the following:

- Review and coordination with existing programs and plans, especially evacuation plans.
- Refinement of inventory, GIS, mapping, and other general mitigation planning data and resources.
- Communication programs to educate the public regarding hazards and mitigation.

Delaware County and the thirty one participating municipalities will implement the high-priority mitigation activities by leveraging existing funds and seeking new funding sources. The specific timeframes; responsible parties; and existing policies, programs, and resources to support implementation of each high-priority mitigation activity are identified in Table 5-4-4-1.

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.1 Retrofit Highways that currently reside in a floodplain and has sustained several thousands of dollars in repairs due to flooding.	All Goals, All Objectives	H	County and All Towns	Federal, State, County, Local	M to H	Ongoing with revised plan every 5 years	HMGP, Hazard Mitigation Plan, Risk Management	DC	All agencies with data
5.12.2 Implement new building codes for new mobile homes throughout the county.	Goal 1, Objectives 1-7 and 1-8	H	County and All Towns	Existing budget	L	1 year	Section 2 of the Mitigation Plan	DC, Local	DC
5.12.3 Develop and implement a county wide Fire Wise Community by adhering to fire protection standards set fourth by the NFPA.	Goal 1, All Objectives Goal 4, Objective 4-1	H	County and All Towns	Existing budget	L to M	1 year for review, longer to integrate	Emergency Management Plan, HMGP	DC	Local agency programming
5.12.4 Update and revise flood control plans throughout the county and educate the public on flood control measures.	All Goals, All Objectives	H	County and All Towns	Existing budgets; various Federal agencies as sources (FEMA, NOAA)	L (to identify and pursue)	Ongoing	Flood Mitigation Plan and Existing grant programs	DC	NYCDEP, Local
5.12.5 Continue to develop inventory of at-risk buildings and infrastructure.	Goal 1, Objective 1-1	H	County and All Towns	Federal, state, County, local	L to M	Ongoing	HMGP, Hazard Mitigation Plan, Risk Management	DC	All agencies with data
5.12.6 Update GIS data, including Plainimetrics (buildings, roads, etc.)	Goal 1, Objective 1-1; Goal 2, Objective 2-3	H	County and All Towns	Existing budget	L to M	6 months	DC	DC	DC
5.12.7 Develop data layers for landslides, flood plains (including revisions), and inundation mapping after actual events.	Goal 1, Objective 1-1; Goal 2, Objective 2-3	H	County and All Towns	Existing budget	L to M	6 months	DC	DC	DC, SEMO
5.12.8 Digitize updated topographic mapping.	Goal 1, Objective 1-1 ; Goal 2, Objective 2-3	H	County and All Towns	TBD	M	TBD	DC	DC	TBD

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.9 Develop evacuation plans, routes, policies, and procedures for the full range of contingencies and geographic areas of the jurisdictions.	Goal 4, Objective 4-4	H	County and All Towns	Federal, state, County, local	\$70,000	3 years	Interagency cooperation	DC, OEM, Planning, FD, PD, DOT	DC, Local
5.12.10 Enhance and centralize information needed to support future hazard mitigation planning and address any security and data management concerns.	All Goals, All Objectives	H	County and All Towns	Federal, state, County, local	L	Ongoing	Interagency cooperation, DHS-related efforts	DC	DC, NYSEMO
5.12.11 Formalize hazard mitigation as a factor in community development planning activities, including business development and long-range regional growth planning.	Goal 1, Objectives 1-7 and 1-8	H	County and All Towns	County, local	\$25,000	Ongoing	Land use, code enforcement, zoning	DC	Local business leaders
5.12.13 Conduct a local and state capability needs assessment in order to identify the feasibility and funding sources for mitigation activities.	All Goals, All Objectives	H	County and All Towns	TBD	\$2,000	6 months	Interagency Cooperation	DC	Local
5.12.14 Integrate the hazard mitigation Steering Committee with the efforts of the Delaware County Emergency Planning Council.	Goal 1, Objective 1-8; Goal 4, Objective 4-2	H	County and All Towns	N/A	N/A	1 year	Emergency Management Plan, HMGP	DC	Local
5.12.15 Assign roles to emergency response hierarchy and structure.	Goal 4, Objective 4-2	H	County and All Towns	Local	L	1 year	Emergency Management Plan	DC	Local
5.12.16 Develop public and private partnerships to foster hazard mitigation program coordination and collaboration in Delaware County. Continue public involvement efforts to foster communication and collaboration between County and municipalities.	Goal 3, All Objectives	H	County and All Towns	TBD	L to M	Ongoing	Public Private Partnership	DC	Local government

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.17 Design a visual representation of the hazard areas for each hazard overlain by existing or planned development projects to determine how the hazards will affect future development in the jurisdictions and could impact losses and emergency needs.	Goal 1, Objectives 1-4, 1-5, and 1-6	H	County and All Towns	TBD	N/A	1 year	DCPD - GIS	DCPD	
5.12.18 Continue support of the Delaware County Emergency Planning Committee.	Goal 1, Objective 1-8; Goal 3, Objective 3-1; Goal 4, Objective 4-2	H	County and All Towns	TBD	N/A	Ongoing	EPC, PG	EPC	All Agencies
5.12.19 Expand information on emergency service for special needs populations to cover all of Delaware County.	Goal 4, Objectives 4-1 and 4-3	H	DC	Local	L	Ongoing	Emergency Management Plan	Local	DC
5.12.20 Equip emergency responders throughout Delaware County with internet-based mapping services (such as ArcGIS) so they can easily obtain maps and topographic data when responding to an emergency related event.	Goal 2, Objective 2-3; Goal 4, Objective 4-4	M	County and All Towns	Federal, state, local	\$5,000	1 year	Emergency Management Plan	DC	Local
5.12.21 Develop an emergency management website for Delaware County that would provide information for public officials, emergency responders, and residents. County sponsorship of the website is preferred.	Goal 2, All Objectives; Goal 4, Objectives 4-2 and 4-4	M	County and All Towns	✓	\$10,000	2 years	Emergency Management Plan	DC	Local
5.12.22 Equip Delaware County Emergency Responders with a computer-aided dispatch system that is linked to an ArcGIS interface.	Goal 4, Objective 4-2	M	County and All Towns	✓	M to H	3 years	Emergency Management Plan	DC	Local

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.23 Identify, improve, and sustain collaborative programs focusing on the real estate and insurance industries, public and private sector organizations, and individuals to avoid activity that increases risk from hazards.	Goal 3, All Objectives	M	County and All Towns	Existing budgets	L	1 year	Interagency Cooperation, Public-Private Partnerships, insurance programs for hazard mitigation, NFIP, CRS	DC	Local
5.12.24 Increase communication and cooperation to improve relationship between County and local public works and highway departments so emergency response is more efficient and coordinated.	Goal 4, Objectives 4-2 and 4-4	M	County and All Towns	TBD	L	Ongoing	Interagency Coordination	DC	Local Highway Departments,
5.12.25 Strengthen emergency services preparedness and response by linking emergency services with hazard mitigation programs.	Goal 4, Objective 4-2	M	County and All Towns	Federal, state, local	L to M	Ongoing	DC, NYSEMO	DC	Local
5.12.26 Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to citizens, public agencies, private property owners, businesses, and schools.	Goal 2, All Objectives	M	County and All Towns	Local	L to M	Ongoing	Public Private Partnerships, NFIP, CRS,	DC	DC Board of Education, Private, Local
5.12.27 Develop an outreach program to encourage homeowners to buy hazard insurance to protect belongings when feasible.	Goal 2, All Objectives	M	County and All Towns	Federal, local	L to M	3 years	NFIP, HMGP	DC	Local
5.12.28 Develop a manual for retrofitting senior housing in downtown areas to mitigation hazard losses. Identify critical housing areas.	Goal 1, Objective 1-5	M	County and All Towns	Federal, local	L to M	4 years	Emergency Management Plan	DC	Local government
5.12.29 Conduct an annual review of the capital improvement plan for each jurisdiction and the county for actions that may require hazard mitigation in their design.	Goal 1, Objective 1-8	M	County and All Towns	Federal, local	L	Ongoing	Capital Improvement Plan	TCPD	Local government

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.30 Include a reference in the Delaware County Comprehensive Emergency Management plan Risk Reduction Section to this Hazard Mitigation Plan.	Goal 1, Objective 1-8	M	Delaware County	Local	L	1 year	County CEMP, Hazard Mitigation Plan	DCDES	DCPD
5.12.31 Enter into an agreement with Comcast cable to create a county-wide, local emergency broadcast system countywide.	Goal 2, All Objectives and Goal 3, All Objectives	M	Delaware County	TBD	L to M	TBD	Comcast Cable Broadcast System	DCDES	DCPD
5.12.32 Design a safety publication that contains important information regarding personal preparedness and disaster loss prevention.	Goal 2, All Objectives	M	Delaware County	Grants	\$40,000	1 year	County CEMP	DCDES	DCPD, NYSEMO, FEMA
5.12.33 In conjunction with the Emergency Planning Committee, conduct an emergency preparedness and response fair. ARC should be a support agency for public outreach.	Goal 2, All Objectives	M	County and All Towns	TBD	L to M	TBD	TBD	DCDES	ARC
5.12.34 Continue maintenance and enhance mitigation planning webpage.	Goal 2, All Objectives	M	Delaware County	Current funding	L	Ongoing	TBD	DCPD	TBD
5.12.35 Implement a multi-jurisdictional, geographically based telephone Emergency Notification System.	Goal 2, All Objectives	M	County and All Towns		\$80,000	TBD	TBD	DCDES	NYSEMO, FEMA
5.12.36 Enhance agreement with local radio stations for emergency broadcasts. Coordinate with local radio stations and/or colleges.	Goal 2, All Objectives	M	County and All Towns	Local	L	1 year	Emergency Broadcasting	DCDES	SUNY Delhi
5.12.37 Promote the use of NOAA's All Hazards radios for early warning and post event information.	Goal 2, All Objectives	M	County and All Towns	Grants	\$55/radio	1 year	DC	DC	Local
5.12.38 Adopt the latest International Building Code.	Goal 1, Objective 1-5	M	County and All Towns	State, local	L	5 years	Code Enforcement, Zoning	DC	Towns, Building Department

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.39 Improve code enforcement and inspection services.	Goal 1, Objective 1-5	M	County and All Towns	County, local	L to M	TBD	Code Enforcement, Zoning	DC	Local Code enforcement
5.12.40 Investigate participation into the Small Business Administration Pre-Disaster Mitigation Loan Program.	Goal 1, Objective 1-8	M	County and All Towns	Local	L	3 years	SBA Pre-Disaster Mitigation Loan Program	DC	Local
5.12.41 Develop a program to promote retrofits and safety precautions for mobile homes for flood and severe wind events.	Goal 1, Objectives 1-2 and 1-3, and Goal 2, All Objectives	M	DC	Federal, state, local	L to M	TBD	Emergency Management Plan, NFIP	DC	FEMA, NYSEMO, Local
5.12.42 Improve the drainage and base of Towns maintained portions so that routes are reliable as an emergency detour.	Goal 1, Objectives 1-1 and 1-5; Goal 4, Objective 4-4	M	DC	Fed, State, Local	M to H	1 year	Community Infrastructure Improvement	DC	State, County and Local
5.12.43 Identify additional locations to be emergency shelters as necessary. Enhance the ARC shelter database, esp. about small shelters (not schools) in rural towns.	Goal 4, All Objectives	M	County and All Towns	ARC	\$15/day/person	Ongoing	ARC	ARC	All jurisdictions
5.12.44 Use technical knowledge of natural ecosystems, natural hazards, and other hazards to link natural resource management and land use organizations to mitigation activities and technical assistance.	Goal 1, Objective 1-7 Goal 3, Objective 3-1	L	County and All Towns	Federal, state, local	L	1 year	Land use, Natural Resource Management	DC	NYCDEP, NYSDEC, local government
5.12.45 Create centralized library of all documents used and required for the mitigation plan.	All Goals, All Objectives	L	Delaware County	Local	Current	1 year	Local government, all agencies	DC	DC
5.12.46 Develop a coordinated, interagency debris removal plan.	Goal 1, Objective 1-1	L	County and All Towns	County, local	\$25,000	1 year	County and local DPW	TBD	TBD

TABLE 5-4-4-1. PROPOSED MULTI-JURISDICTIONAL AND MULTI-HAZARD MITIGATION ACTIVITIES

DELAWARE COUNTY MULTI-JURISDICTIONAL STUDY AREA, NEW YORK

Mitigation Activity	Evaluation Against Goals and Objectives	Priority	Multi-Jurisdictional Focus Area	Funding Source	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency
5.12.47 Support the Delaware County Human Needs Task Force. DC to have designated ARC as the lead agency for the Human Needs Task Force.	Goal 1, Objective 1-8	L	County and All Towns	County, local	L	Ongoing	TBD	TBD	TBD
Identify areas and specific residents who would need evacuation assistance, including residents who lack transportation, and develop evacuation assistance plans.	Goal 1, Objective 1-1; Goal 4, Objective 4-3	L	County and All Towns	Local	L	2 years		Local	ARC, DCDOH
5.12.49 Purchase/upgrade the following equipment: bucket truck, road barriers, flashing beacon lights, work zone signs, PPE vests, flagger signs, hand tools, 4-wheeler for transportation at major construction and emergency-related sites.	Goal 4, Objective 4-3	L	County and All Towns	Federal, state, local	\$80,000	1 year	Plan revisions	DC	County and local DPW, DC
5.12.50 Incorporate victim tracking and counseling as part of the 3-year full-scale emergency response exercise to train first responders. Exercises should be coordinated and collaborative, and could benefit from a county-wide exercise development team.	Goal 3, All Objectives; Goal 4, Objectives 4-1	L	County and All Towns	Federal, state, local	\$40,000	3 years	Full scale emergency response exercises, DC, first responder training	Delaware County Airport	DC, DC, local police and fire departments
5.12.52 Purchase 360 degree night visibility vests with reflective strips.	Goal 4, Objective 4-3	L	Delaware County	Local	\$1,500	1 year	Equipment upgrading	DC	Local government
5.2.13 Enhance strategies for debris management after hazard events.	Goal 3, Objective 3-1; Goal 4, Objectives 4-2 and 4-3	H	Delaware County	County and Local	L	1 year	Emergency Preparedness	DCDES	DCDPW, NYSEMO

Notes:

ARC – American Red Cross

CRS – Community Rating System

FD – Fire Department
HMGP – Hazard Mitigation Grant Program
N/A – not applicable
NFIP – National Flood Insurance Program
PD – Police Department
SBA – Small Business Administration
TBD – to be determined

5.4.5 Next Steps

This draft plan was first submitted for NYSEMO review in October 2005. The towns and county also have reviewed and provided input to a previous version of this plan, as have other members of the Steering Committee. The mitigation plan development effort will continue through a number of ongoing efforts that will continue through plan finalization in ___ 2005. Activities will include:

- The plan will be provided for NYSEMO input and input and suggestions for revisions will be incorporated.
- Public input will be obtained and incorporated.
- Additional historic cost data and refinement of mitigation activities based on input from the public, NYSEMO, and the Steering Committee, towns, and county.
- Subsequent Steering Committee meetings and meetings with NYSEMO will be held, as necessary as the plan is revised and finalized.
- Finally, the team will discuss the process for regular evaluation and re-prioritization of the mitigation activities and documentation of implementation and accomplishments.

The input of all parties will be reviewed by the Steering Committee, documented, discussed, and used to prepare a final plan acceptable for adoption by all of the participating jurisdictions and approval by NYSEMO as a compliant, hazard mitigation plan meeting the state and federal requirements for mitigation planning.