



SECTION 6. MITIGATION STRATEGY

2022 HMP Changes

- The goals and objectives were updated to align with County and municipal priorities and the 2019 State HMP.
- A Strengths, Weaknesses, Obstacles and Opportunities exercise was conducted for the high-ranked hazards to inform the updated mitigation strategy.
- A mitigation toolbox was compiled and distributed to assist with the mitigation strategy update.
- Stakeholder conversations were held to obtain a comprehensive understanding of capabilities and problem areas to inform the updated mitigation strategy

6.1 INTRODUCTION

This section presents mitigation actions for Gloucester County to reduce potential exposure and losses identified as concerns in the Risk Assessment (Section 5). The County and planning partnership reviewed the risk assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

- Background and Past Mitigation Accomplishments
- General Mitigation Planning Approach
- Strengths, Weaknesses, Obstacles, and Opportunities
- Review and Update of Mitigation Goals and Objectives
- Plan Integration
- Mitigation Strategy Development and Update

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

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

6.2 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

In accordance with DMA 2000 requirements, a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this HMP. The County, through previous and ongoing hazard mitigation activities, has demonstrated that it is pro-active in protecting its physical assets and citizens against losses from natural and



human-caused hazards. Examples of previous and ongoing actions, projects and capabilities include the following:

- The County participated in the development of the 2016 Mitigation Plan for Four New Jersey Counties-Regional Hazard Mitigation Plan and facilitated the 2022 Update, which included the participation of all municipal governments in the County. The current planning process represents the regulatory five-year local plan update process.
- All 24 municipalities in Gloucester County participate in the National Flood Insurance Program (NFIP), which requires the adoption of FEMA floodplain mapping and certain minimum construction standards for building within the floodplain.
- Currently, 2 of the 24 municipalities in Gloucester County are participants in NFIP Community Rating System (CRS) program.
 - Township of Greenwich, Class 9
 - Borough of National Park, Class 8
- Many municipalities in Gloucester County have adopted regulatory standards regarding land-use and zoning that exceed minimum requirements and provide the communities with greater capability to manage development without increasing hazard risk and vulnerability.
- Municipalities have participated on a limited basis in available mitigation grant funding opportunities to implement mitigation projects, including the following:
 - Generators for the County, Mantua Township and Greenwich Township
 - Stormwater management in Washington Township
 - Property acquisitions related to riverine flooding in West Deptford Township
 - Stormwater management in the County
 - The County is a recipient of a PDM grant for preparation of the 2022 Hazard Mitigation Plan
- The County and municipalities have implemented mitigation actions to protect critical facilities and infrastructure throughout the planning area. These actions and others were identified in the County's Participation in the 2016 Mitigation Plan for Four New Jersey Counties.
- In 2015, Delaware Valley Regional Planning Commission assisted Gloucester County with developing a community vision as one of the first steps in updating their master plan and producing a Unified Land Use and Transportation Element for the County's master plan.
- Rutgers Cooperative Extension Office in Gloucester County provides research-based information to county residents in the areas of 4-H, agricultural and natural resources, and family and community health sciences.
- In 2020, the County and local municipalities responded to and worked to mitigate the impacts of the coronavirus pandemic through education of the public, enforcement of local and state social distancing and masking measures, and establishment of best practices to slow the spread of Covid-19.



These past and ongoing activities have contributed to the County's understanding of its hazard preparedness and future mitigation activity needs, costs, and benefits. These efforts provide an ongoing foundation for the planning partnership to use in developing this HMP update.

6.3 GENERAL MITIGATION PLANNING APPROACH

The overall approach used to update the County and local hazard mitigation strategies are based on FEMA and State of New Jersey regulations and guidance regarding local mitigation plan development, including:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning).
- FEMA *Local Mitigation Planning Handbook*, March 2013.
- FEMA *Local Mitigation Plan Review Guide*, October 1, 2011.
- FEMA *Integrating Hazard Mitigation into Local Planning*, March 1, 2013.
- FEMA *Plan Integration: Linking Local Planning Efforts*, July 2015.
- FEMA *Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)*, February 2013.
- FEMA *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*, January 2013.

The mitigation strategy update approach includes the following steps that are further detailed in later subsections of this section:

- Section 6.4 – Strengths, Weaknesses, Obstacles, and Opportunities (SWOO) exercise
- Section 6.5 – Review and update mitigation goals and objectives.
- Section 6.6 - Develop and prepare a mitigation strategy, including:
 - Review of the 2016 HMP mitigation actions
 - Identification of progress on previous county and local mitigation strategies
 - 2022 HMP Mitigation Action Plan
 - Mitigation best practices
 - Mitigation strategy evaluation and prioritization; and
 - Benefit/cost review.

6.4 STRENGTHS, WEAKNESSES, OBSTACLES, AND OPPORTUNITIES EXERCISE

A Strengths, Weakness, Obstacles and Opportunities exercise (SWOO) was completed by the planning partnership. Participants were asked to fill out the SWOO for each of the hazards of concern for the 2022 HMP update. The Planning Partnership was asked to begin the exercise by identifying county, local, and stakeholder



strengths to mitigate the risk and potential future impacts of the hazards. Next, the weaknesses, challenges and obstacles the planning area faces to reduce each hazard’s risk were identified. To conclude the discussion of each high-ranked hazard, the meeting attendees were asked to identify potential opportunities for enhanced mitigation. The results were compiled and presented to the planning partnership at the risk assessment presentation. The results were also used by the participants to help identify capabilities and potential mitigation actions. The following summarizes the general categories of potential opportunities identified during the exercise:

- Conduct surveys and assessments to provide current conditions so existing problems can be addressed before they become more severe.
- Standardized public information and outreach for the County and municipalities.
- Shared services throughout the County.
- The need for training for county and municipal staff.

6.5 REVIEW AND UPDATE OF MITIGATION GOALS AND OBJECTIVES

This section documents the efforts to update the guiding principles, and hazard mitigation goals and objectives established to reduce or avoid long-term vulnerabilities to the identified hazards.

6.5.1 Goals and Objectives

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 Actions** as specific actions that help to achieve the mitigation goals and objectives.

According to CFR 201.6(c)(3)(i): “The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.” Further, FEMA mitigation planning guidance recommends establishing objectives to better tie mitigation goals to specific mitigation strategies (e.g. projects, activities, and initiatives).

The goals established in the 2016 Mitigation Plan for Four New Jersey Counties were presented to the Steering Committee and Planning Partnership for review and amendment throughout the planning process. This review was made with consideration of the hazard events and losses since the 2016 plan, the updated hazard profiles and vulnerability assessment, and the goals and objectives established in the updated 2019 State HMP.

The 2016 HMP included objectives (referred to as strategies in the last plan) as part of their planning process. As part of the 2022 update, the Steering Committee reviewed the objectives from the 2016 HMP and chose to



align objectives with each goal. The Steering Committee met on June 23, 2021 to review the 2016 goals and objectives and provided input on updated goals and objectives. These updates were presented to the Planning Partnership during the August 2021 Mitigation Strategy Workshop. As a result of these efforts, Table 6-3 presents Gloucester County’s updated goals and objectives for the 2022 Hazard Mitigation Plan update. *Italicized* text indicates the updates made to the goals and objectives.

Table 6-1. 2016 HMP Mitigation Goals

Goal #	2016 HMP Goal Statement
1	Improve education and outreach efforts regarding potential risk of natural hazards and appropriate mitigation measures that can be used to reduce risk (including programs, activities, and projects)
2	Improve data collection, use, and sharing to reduce the risk of natural hazards
3	Improve capabilities and coordination at municipal, county, and state levels to plan and implement hazard mitigation measures
4	Plan and implement projects to mitigate identified natural hazards, known problems, and areas of concern

Table 6-2. 2016 HMP Mitigation Strategies

2016 HMP Strategy Statement
Focus on projects to address known problems or areas of concern for critical facilities and vulnerable populations as initial risk reduction efforts
Identify additional areas of concern for critical facilities and vulnerable populations for future plan updates
Work with Municipal OEMs, engineering, and public works officials to resolve multi-jurisdictional mitigation measures
Work with Municipal OEMs to provide opportunities for residents and property owners to access available information about risk reduction and mitigation measures
Institutionalize hazard mitigation into Municipal and County activities and programs through regular interactions of the Municipal and County Working Groups and better integration of related regulatory programs and planning initiatives
Stay informed regarding changing conditions and related improvements in hazard and risk data due to future natural hazard events and increasing understanding of the effects of climate change and use the information as part of periodic evaluations of and refinements or additions to the Municipal and County mitigation programs

Table 6-3. Gloucester County 2022 Hazard Mitigation Plan Goals and Objectives

2022 HMP Update Goals	2022 HMP Update Objectives
Goal 1 – Protect Life	Objective 1-1: Identify the need for, and acquire, any special emergency services, training, and equipment to enhance response and recovery capabilities for specific hazards
	Objective 1-2: Maintain and enhance local regulatory standards with new hazard and risk information including full and effective building code enforcement, floodplain management, land use planning mechanisms and other natural hazard vulnerability-reducing regulations
	Objective 1-3: Incorporate hazard mitigation into community planning mechanisms and projects
	Objective 1-4: Identify and protect socially vulnerable populations from hazard impacts.
Goal 2 – Protect Property	Objective 2-1: Pursue cost-effective mitigation actions to reduce the impacts of hazards on people, property and the economy
	Objective 2-2: Protect, preserve and enhance natural resources and ecologically sensitive land, such as wetlands, wildlife habitat, waterways, slopes, mature woodlands, large stands of forests and ridge lines



2022 HMP Update Goals	2022 HMP Update Objectives
	Objective 2-3: Facilitate the development and timely submittal of project applications meeting state and federal guidelines for funding to reduce the number of repetitive and severe repetitive loss properties and hardening/retrofitting infrastructure and critical facilities and lifelines
	Objective 2-4: Encourage the use of sustainable nature based solutions to address riverine and stormwater flooding
	Objective 2-5: Encourage the use of green stormwater infrastructure to mitigate flooding and improve water quality
Goal 3 - Improve education and outreach efforts regarding potential risk of natural hazards and appropriate mitigation measures that can be used to reduce risk	Objective 3-1: Increase awareness of natural hazard risks and understanding of the advantages of mitigation to the general public, business and community members, and local government officials
	Objective 3-2: Increase local government official awareness regarding funding criteria and opportunities for mitigation
	Objective 3-3: Provide government officials and the public with educational opportunities and information regarding best practices for preparedness, hazard mitigation planning, project identification, and implementation
	Objective 3-4: Strengthen understanding of, and adaptation to, a changing climate
Goal 4 - Improve data collection, use, and sharing to reduce the risk of natural hazards	Objective 4-1: Improve data collection and sharing; and increase data availability to reduce the impacts of hazards and for future planning efforts
	Objective 4-2: Acquire and maintain detailed data regarding critical facilities and lifelines such that these sites can be prioritized and risk-assessed for possible mitigation actions
	Objective 4-3: Continue support of hazard mitigation planning, project identification, and implementation at the municipal and county level
Goal 5 - Improve capabilities and coordination at municipal, county, and state levels to plan and implement hazard mitigation measures	Objective 5-1: Support increased participation in the National Flood Insurance Program and Community Rating System
	Objective 5-2: Support increased integration of municipal/county hazard mitigation planning and floodplain management with effective municipal zoning regulation, and effective municipal/county subdivision regulation, and comprehensive planning
	Objective 5-3: Provide user-friendly hazard-data accessibility for mitigation planning, other planning efforts and for private citizens
Goal 6 - Support Continuity of Operations Pre-, During, and Post-Hazard Events	Objective 6-1: Ensure continuity of operations of government, non-government, commerce, private sector, and infrastructure
	Objective 6-2: Support and encourage the implementation of back-up and alternative energy sources
	Objective 6-3: Support and encourage the implementation of alternative energy sources
	Objective 6-4: Implement mitigation measures that promote the reliability of lifeline systems
Goal 7 - Address Long-Term Vulnerabilities from High Hazard Dams	Objective 7-1: Ensure dam infrastructure is maintained
	Objective 7-2: Ensure Emergency Action Plans are developed and updated
	Objective 7-3: Support the identification and access to funding to repair/replace dams

6.6 MITIGATION STRATEGY DEVELOPMENT AND UPDATE

As required by FEMA, the County and participating municipalities completed a comprehensive evaluation of the mitigation strategies and actions from the 2016 HMP and reported on the status of each. Their update may be found in each jurisdictional annex (Section 9). In addition, the County and participating municipalities were provided the opportunity to include new strategies or actions to include in the 2022 HMP Update. New



actions were prioritized to ensure they are cost-effective, environmentally sound, and technically feasible using the methodology outlined below.

6.6.1 Review of the 2016 HMP Mitigation Action Plan

To evaluate progress on local mitigation actions, the planning consultant met with each participant to discuss the status of the mitigation actions identified in the 2016 plan. For each action, jurisdictions were asked to provide the status of each action (*No Progress*, *In Progress*, *Ongoing Capability*, *Discontinue*, or *Completed*) and provide review comments on each. Jurisdictions were requested to quantify the extent of progress and provide reasons for the level of progress or why actions were being discontinued. Each jurisdictional annex in Section 9 (Jurisdictional Annexes) provides a table identifying the jurisdiction's prior mitigation strategy, the status of those actions and initiatives, and their disposition within their updated strategy.

Local mitigation actions identified as *Complete*, and those actions identified as *Discontinued*, were removed from the updated strategies. Local mitigation actions identified as an *Ongoing Capability* were incorporated into the capability assessment of each jurisdictional annex. Those actions identified as *No Progress* or *In Progress* that remain a priority for the jurisdiction, have been carried forward into the updated mitigation strategy. Actions identified as *Ongoing Capabilities* which are fully integrated into the normal operational and administrative framework of the community have been identified within the capabilities section of each annex, and removed from the updated mitigation strategy.

At the May 2021 kick-off meeting and during subsequent local-level planning meetings (phone, email), all participating jurisdictions were requested to identify mitigation activities completed, ongoing, and potential/proposed. As new potential mitigation actions, projects, or initiatives became evident during the plan update process, including as part of the risk assessment update and as identified through the public and stakeholder outreach process detailed in Section 2 (Planning Process), jurisdictions were made aware of these either through direct communication (local meetings, email, phone), at Steering and Planning Committee meetings, or via their draft jurisdictional annexes.

Throughout the planning process, the planning consultant worked directly with each community (phone, email) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs).



6.6.2 Identification and Analysis of Mitigation Techniques

Concerted efforts were made to assure that municipalities develop updated mitigation strategies that included activities and initiatives covering the range of mitigation action types described in recent FEMA planning guidance (FEMA “Local Mitigation Planning Handbook” March 2013), specifically:

- **Local Plans and Regulations** - These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- **Structure and Infrastructure Projects** - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- **Natural Systems Protection** - These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs** - These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as the National Flood Insurance Program and Community Rating System, StormReady (NOAA) and Firewise (NFPA) Communities.

6.6.3 2022 HMP Mitigation Action Plan

To help support the selection of an appropriate, risk-based mitigation strategy, each annex provides a summary of hazard vulnerabilities identified during the plan update process, either directly by municipal representatives, through review of available county and local plans and reports, and through the hazard profiling and vulnerability assessment process.

In August 2021, the planning partnership participated in a mitigation strategy development workshop co-led by NJOEM Mitigation Unit, FEMA Region II and the contract consultant, supplemented by emails and phone calls between jurisdictions and the contract consultant, for all participating jurisdictions to support the development of focused problem statements based on the impacts of natural hazards in the county and their communities. These problem statements were intended to provide a detailed description of the problem area, including its impacts to the municipality/jurisdiction; past damages; loss of service; etc. An effort was made to include the street address of the property/project location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing conditions (topography, terrain, hydrology) of the site. These problem statements formed a bridge between the hazard risk assessment which quantifies impacts to each community with the development of actionable mitigation strategies.



To assist with the development of mitigation actions, municipalities were provided with the following:

- 2022 HMP goals and objectives
- 2016 HMP mitigation strategy
- Risk assessment results
- Outcome of the SWOO
- Mitigation catalog
- Stakeholder and public input (e.g. citizen and stakeholder survey results)
- FEMA resources

As discussed within the hazard profiles in Section 4.3 (Risk Assessment), the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including flood, hurricanes and tropical storm, nor'easter, severe weather, severe winter weather and wildfire. By way of addressing these climate change-sensitive hazards within their local mitigation strategies and integration actions, communities are working to evaluate and recognize these long-term implications and potential impacts, and to incorporate in planning and capital improvement updates.

A strong effort has been made to better focus local mitigation strategies to clearly defined, readily implementable projects and initiatives that meet the definition or characteristics of mitigation.

Broadly defined mitigation actions were eliminated from the updated strategy unless accompanied by discrete actions, projects, or initiatives. Certain continuous or ongoing strategies that represent programs that are fully integrated into the normal operational and administrative framework of the community have been identified within the capabilities section of each annex and removed from the updated mitigation strategy.

Overall, a comprehensive range of specific mitigation initiatives were considered by each plan participant to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

Throughout the course of the plan update process, additional regional and county-level mitigation actions were identified by the following processes:

- Review of the results and findings of the updated risk assessment.
- Review of available regional and county plans reports and studies;
- Direct input from county departments and other county and regional agencies
- Input received through the public and stakeholder outreach process.

6.6.4 Mitigation Best Practices

Catalogs of hazard mitigation best practices were developed that present a broad range of alternatives to be considered for use in Gloucester County, in compliance with 44 CFR Section 201.6(c)(3)(ii). One catalog was developed for each natural hazard of concern evaluated in this plan; referred to as Appendix F (Mitigation Strategy Supplementary Data). The catalogs present alternatives that are categorized in two ways:



- By whom would have responsibility for implementation:
 - Individuals – personal scale
 - Businesses – corporate scale
 - Government – government scale
- By what each of the alternatives would do:
 - Manipulate the hazard
 - Reduce exposure to the hazard
 - Reduce vulnerability to the hazard
 - Build local capacity to respond to or be prepared for the hazard

The alternatives presented include actions that will mitigate current risk from hazards and actions that will help reduce risk from changes in the impacts of these hazards resulting from climate change. Hazard mitigation actions recommended in this plan were selected from among the alternatives presented in the catalog, as well as other resources made available to all jurisdictions (i.e., FEMA’s Mitigation Ideas). The catalog provides a baseline of mitigation alternatives that are backed by a planning process, are consistent with the established goals and objectives, and are within the capabilities of the planning partners to implement. Some of these actions may not be feasible based on the selection criteria identified for this plan. The purpose of the catalog was to provide a list of what could be considered to reduce risk from natural hazards within the planning area. Actions in the catalog that are not included for the partnership’s action plan were not selected for one or more of the following reasons:

- The action is not feasible
- The action is already being implemented
- There is an apparently more cost-effective alternative
- The action does not have public or political support.

6.6.5 Mitigation Strategy Evaluation and Prioritization

Section 201.c.3.iii of 44 CFR requires an action plan describing how the actions identified will be prioritized. Recent FEMA planning guidance (March 2013) identifies a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology that uses a set of 10 evaluation criteria suited to the purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action.

Based on this guidance, the Steering Committee has adopted and applied an action evaluation and prioritization methodology which includes an expanded set of 14 criteria to include the consideration of cost-effectiveness, availability of funding, anticipated timeline, and if the action addresses multiple hazards.

The 14 evaluation/prioritization criteria used in the 2022 update process are:



- 1) **Life Safety** – How effective will the action be at protecting lives and preventing injuries?
- 2) **Property Protection** – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
- 3) **Cost-Effectiveness** – Are the costs to implement the project or initiative commensurate with the benefits achieved?
- 4) **Technical** – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
- 5) **Political** – Is there overall public support for the mitigation action? Is there the political will to support it?
- 6) **Legal** – Does the municipality have the authority to implement the action?
- 7) **Fiscal** – Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Or would it require a new budget authorization or funding from another source such as grants?
- 8) **Environmental** – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
- 9) **Social** – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
- 10) **Administrative** – Does the jurisdiction have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
- 11) **Multi-hazard** – Does the action reduce the risk to multiple hazards?
- 12) **Timeline** – Can the action be completed in less than 5 years (within our planning horizon)?
- 13) **Local Champion** – Is there a strong advocate for the action or project among the jurisdiction's staff, governing body, or committees that will support the action's implementation?
- 14) **Other Local Objectives** – Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?

Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (-1, 0, or 1) for each of the 14 evaluation criteria, defined as follows:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

Further, jurisdictions were asked to provide a summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results were totaled to assist each jurisdiction in selecting mitigation actions for the updated plan.



As step one in the prioritization process, actions that had a numerical value between 0 and 4 were initially prioritized as low; actions with numerical values between 5 and 9 were initially categorized as medium; and actions with numerical values between 10 and 14 were initially categorized as high. As step two, jurisdictions were then asked to consider the benefits and costs, as well as the desired timeline for implementation and project completion timeline when finalizing each action's priority as high/medium/low. These attributes are included in the mitigation strategy table and for FEMA-eligible projects in the mitigation worksheets (Section 9 – Jurisdictional Annexes).

For the plan update there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. In addition, each jurisdiction was asked to develop problem statements. With this process, participating jurisdictions were able to develop action-oriented and achievable mitigation strategies.

6.6.6 Benefit/Cost Review

Section 201.6.c.3iii of 44CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost/benefit review of the proposed projects and their associated costs. Stated otherwise, cost-effectiveness is one of the criteria that must be applied during the evaluation and prioritization of all actions comprising the overall mitigation strategy.

The benefit/cost review applied in for the evaluation and prioritization of projects and initiatives in this HMP update process was qualitative; that is, it does not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) grant programs. For all actions identified in the local strategies, jurisdictions have identified both the costs and benefits associated with project, action or initiative.

Costs are the total cost for the action or project, and may include administrative costs, construction costs (including engineering, design and permitting), and maintenance costs.

Benefits are the savings from losses avoided attributed to the implementation of the project, and may include life-safety, structure and infrastructure damages, loss of service or function, and economic and environmental damage and losses.

When possible, jurisdictions were asked to identify the actual or estimated dollar value for project costs and associated benefits. Having defined costs and benefits allows a direct comparison of benefits versus costs, and a quantitative evaluation of project cost-effectiveness. Often, however, numerical costs and/or benefits have not been identified, or may be impossible to quantitatively assess.



For the purposes of this planning process, jurisdictions were tasked with evaluating project cost-effectiveness with both costs and benefits assigned to “High”, “Medium” and “Low” ratings. Where quantitative estimates of costs and benefits were available, ratings/ranges were defined as:

- Low = < \$10,000
- Medium = \$10,000 to \$100,000
- High = > \$100,000

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:

Table 6-4. Qualitative Cost and Benefit Ratings

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly. For some of the Gloucester County initiatives identified, the planning partnership may seek financial assistance under FEMA’s HMGP or Hazard Mitigation Assistance (HMA) programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA BCA model process. The planning partnership is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the planning partnership reserves the right to define “benefits” according to parameters that meet its needs and the goals and objectives of this HMP.