



# Chapter 1: Introduction

Mitigation is commonly defined as sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects. Hazard mitigation focuses attention and resources on community policies and actions that will produce successive benefits over time. A mitigation plan states the aspirations and specific courses of action that a community intends to follow to reduce vulnerability and exposure to future hazard events. These plans are formulated through a systematic process centered on the participation of citizens, businesses, public officials, and other community stakeholders.

A local mitigation plan is the physical representation of a jurisdiction’s commitment to reduce risks from natural hazards. Local officials can refer to the plan in their day-to-day activities and in decisions regarding regulations and ordinances, granting permits, and in funding capital improvements and other community initiatives. Additionally, these local plans will serve as the basis for States to prioritize future grant funding as it becomes available.

It is hoped that the Northern Virginia Hazard Mitigation Plan will be a useful tool for all community stakeholders by increasing public awareness about local hazards and risks, while at the same time providing information about options and resources available to reduce those risks. Teaching the public about potential hazards will help each of the area’s jurisdictions protect itself against the effects of the hazards, and will enable informed decision making on where to live, purchase property, or locate businesses.

The areas covered by this plan include:

Table 1.1. Participating Communities	
Counties	Towns
Arlington County	Town of Clifton
Fairfax County	Town of Dumfries
Loudoun County	Town of Haymarket
Prince William County	Town of Herndon
	Town of Leesburg
	Town of Middleburg
	Town of Purcellville
	Town of Occoquan
	Town of Quantico
	Town of Round Hill
	Town of Vienna

## I. Background

Natural hazards, such as floods, tornadoes, and severe winter storms are a part of the world around us. Their occurrence is natural and inevitable, and there is little we can do to control their force and intensity.



The Northern Virginia region is vulnerable to a wide range of natural hazards, including flooding, tornadoes, hurricanes, and winter storms. These hazards threaten the safety of residents and have the potential to damage or destroy both public and private property, disrupt the local economy, and impact the overall quality of life of individuals who live, work, and play in the Northern Virginia region.

While we cannot eliminate natural hazards, there is much we can do to lessen their potential impacts upon our community and our citizens. The effective reduction of a hazard's impact can decrease the likelihood that such events will result in a disaster. The concept and practice of reducing risks to people and property from known hazards is generally referred to as hazard mitigation.

Hazard mitigation techniques include both structural measures, such as strengthening or protecting buildings and infrastructure from the destructive forces of potential hazards; and non-structural measures, such as the adoption of sound land-use policies or the creation of public awareness programs. Some of the most effective mitigation measures are implemented at the local government level where decisions on the regulation and control of development are made. A comprehensive mitigation strategy addresses hazard vulnerabilities that exist today and in the foreseeable future. Therefore it is essential that projected patterns of development are evaluated and considered in terms of how that growth will increase or decrease a community's overall hazard vulnerability. Land use is a particularly important topic in the Northern Virginia region, where many communities are facing increasing growth rates. Now is the time to effectively guide development away from identified hazard areas and environmentally sensitive locations, before unsound development patterns emerge and people and property are placed in harm's way.

One of the most effective tools a community can use to reduce hazard vulnerability is to develop, adopt, and update as needed, a local hazard mitigation plan. A hazard mitigation plan establishes the broad community vision and guiding principles for addressing hazard risk, including the development of specific mitigation actions designed to eliminate or reduce identified vulnerabilities. The Northern Virginia Regional Hazard Mitigation Plan (hereinafter "Hazard Mitigation Plan" or "Plan") is a logical first step toward incorporating hazard mitigation principles and practices into the routine activities and functions of local government within the Northern Virginia region.

The mitigation actions noted in this Plan go beyond recommending structural solutions to reduce existing vulnerability. Local policies addressing community growth, incentives to protect natural resources, and public awareness and outreach campaigns are examples of other measures that can be used to reduce the future vulnerability of the Northern Virginia region to identified hazards. The Plan has been designed to be a living document, with implementation and evaluation procedures included to help achieve meaningful objectives and successful outcomes.

### **A. Disaster Mitigation Act of 2000**

In an effort to reduce the Nation's mounting natural disaster losses, the U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000) in order to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Section 322 of DMA 2000 emphasizes the need for State and local government entities to closely coordinate on mitigation planning activities, and makes



the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for Federal mitigation grant funds. These funds include the Hazard Mitigation Grant Program (HMGP) and the newly-created Pre-Disaster Mitigation (PDM) program, both of which are administered by the Federal Emergency Management Agency (FEMA) under the Department of Homeland Security. Communities with an adopted and federally-approved hazard mitigation plan thereby become pre-positioned and more apt to receive available mitigation funds before and after the next disaster strikes.

The Plan has been prepared in coordination with FEMA Region III and the Virginia Division of Emergency Management (VDEM) to ensure that the Plan meets all applicable DMA 2000 and State requirements. A Local Mitigation Plan Crosswalk, found in Appendix A, provides a summary of Federal and State minimum standards and notes the location where each requirement is met within the Plan.

## II. Overview of Hazard Mitigation Planning

Local hazard mitigation planning is the process of organizing community resources, identifying and assessing hazard risks, and determining how to best minimize or manage those risks. This process results in a hazard mitigation plan that identifies specific mitigation actions, each designed to achieve both short-term planning objectives and a long-term community vision. To ensure the functionality of each mitigation action, responsibility is assigned to a specific individual, department, or agency along with a schedule for its implementation. Plan maintenance procedures are established for the routine monitoring of implementation progress, as well as the evaluation and enhancement of the mitigation plan itself. These plan maintenance procedures ensure that the plan remains a current, dynamic, and effective planning document over time.

Mitigation planning offers many benefits, including:

- saving lives and property;
- saving money;
- speeding recovery following disasters;
- reducing future vulnerability through wise development and post-disaster recovery and reconstruction;
- expediting the receipt of pre-disaster and post-disaster grant funding; and
- demonstrating a firm commitment to improving community health and safety.

Typically, mitigation planning is described as having the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. A core assumption of hazard mitigation is that pre-disaster investments will significantly reduce the demand for post-disaster assistance by lessening the need for emergency response, repair, recovery, and reconstruction. Furthermore, mitigation practices will enable local residents, businesses, and industries to re-establish themselves in the wake of a disaster, getting the community economy back on track sooner and with less interruption.



The benefits of mitigation planning go beyond solely reducing hazard vulnerability. Measures such as the acquisition or regulation of land in known hazard areas can help achieve multiple community goals, such as preserving open space, maintaining environmental health, and enhancing recreational opportunities. Thus, it is vitally important that any local mitigation planning process be integrated with other concurrent local planning efforts, and any proposed mitigation strategies must take into account other existing community goals or initiatives that will help complement or hinder their future implementation.

### III. Purpose of Plan

The purpose of the Plan is to:

- Protect life, safety, and property by reducing the potential for future damages and economic losses that result from **natural** hazards;
- Make communities safer places to live, work, and play;
- Qualify for grant funding in both the pre-disaster and post-disaster environment;
- Speed recovery and redevelopment following future disaster events;
- Demonstrate a firm local commitment to hazard mitigation principles; and
- Comply with State and Federal legislative requirements for local multi-jurisdictional hazard mitigation plans.

### IV. Authority

Following conditional approval of the plan by both VDEM and FEMA, the plan will be brought forth to each participating jurisdiction to be formally adopted.

The Plan, developed in accordance with current State and Federal rules and regulations governing local hazard mitigation plans, will be adopted by the four counties, five cities, and 11 participating municipalities in accordance with the authority and police powers granted to counties, cities, and municipalities under §15.2-2223 through §15.2-2231 of the Virginia State Code. Copies of local adoption resolutions are provided in Appendix B (to be completed after adoption). The Plan shall be routinely monitored and revised to maintain compliance with the following provisions, rules, and legislation:

- Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390); and
- FEMA's Interim Final Rule published in the Federal Register on February 26, 2002, at 44 CFR Part 201.



## V. Summary of Plan Contents

The additional contents of this Plan are designed and organized to be as reader-friendly and functional as possible. While significant background information is included on the processes used and studies completed (e.g., risk assessment, capability assessment), this information is separated from the more meaningful planning outcomes or actions (e.g., mitigation strategy, mitigation action plans).

Chapter 2, Planning Process, provides a complete narrative description of the process used to prepare the Plan. This includes the identification of who was involved, who participated on the planning team, and how the public and other stakeholders were involved. It also includes a detailed summary for each of the key meetings held along with any associated outcomes.

The Regional Information section, located in Chapter 3, describes the general makeup of the Northern Virginia region, including prevalent geographic, demographic and economic characteristics. In addition, transportation, housing and land use patterns are discussed. This baseline information provides a snapshot of the regional planning area and thereby assists county and municipal officials to recognize those social, environmental, and economic factors that ultimately play a role in determining community vulnerability to natural hazards.

The Regional HIRA is presented in Chapter 4. This section serves to identify, analyze, and assess the Northern Virginia region's overall risk to natural hazards. The risk assessment also attempts to define any hazard risks that may uniquely or exclusively affect the individual municipal jurisdictions.

The Risk Assessment builds on available historical data from past hazard occurrences, establishes detailed profiles for each hazard, and culminates in a hazard risk ranking based on conclusions about the frequency of occurrence, spatial extent, and potential impact of each hazard. FEMA's HAZUS<sup>MH</sup> loss estimation methodology was also used in evaluating known hazard risks by their relative long-term cost in expected damages. In essence, the information generated through the risk assessment serves a critical function as communities seek to determine the most appropriate mitigation actions to pursue and implement — enabling communities to prioritize and focus their efforts on those hazards of greatest concern and those structures or planning areas facing the greatest risk(s).

The Capability Assessment, found in Chapter 5, provides a comprehensive examination of each participating jurisdiction's capacity to implement meaningful mitigation strategies and identifies existing opportunities to increase and enhance that capacity. Specific capabilities addressed in this section include planning and regulatory capability, staff and organizational (administrative) capability, technical capability, fiscal capability, and political capability. Information was obtained through the use of detailed survey questionnaires for local officials and an inventory and analysis of existing plans, ordinances and relevant documents. The purpose of this assessment is to identify any existing gaps, weaknesses, or conflicts in programs or activities that may hinder mitigation efforts, and to identify those activities that should be built upon in establishing a successful and sustainable regional hazard mitigation program.



The Regional Information, Risk Assessment, and Capability Assessment sections collectively serve as a basis for determining the goals for the Hazard Mitigation Plan, each contributing to the development, adoption, and implementation of a meaningful Mitigation Strategy that is based on accurate background information.

The Mitigation Strategy, found in Chapter 6, consists of broad regional goal statements as well as specific mitigation actions for each local government jurisdiction participating in the planning process. The strategy provides the foundation for detailed jurisdictional Mitigation Action Plans, found in Chapter 7, that link specific mitigation actions for each jurisdiction to locally-assigned implementation mechanisms and target completion dates. Together, these sections are designed to make the Plan both strategic (through the identification of long-term goals) but also functional through the identification of short-term and immediate actions that will guide day-to-day decision-making and project implementation.

In addition to the identification and prioritization of possible mitigation projects, emphasis is placed on the use of program and policy alternatives to help make the communities of the Northern Virginia region less vulnerable to the damaging forces of nature, while improving the economic, social, and environmental health of the community. The concept of multi-objective planning was emphasized throughout the planning process, particularly in identifying ways to link hazard mitigation policies and programs with complimentary community goals related to housing, economic development, downtown revitalization, recreational opportunities, transportation improvements, environmental quality, land development, and public health and safety.

The Plan Maintenance Procedures, found in Chapter 8, include the measures that the Northern Virginia Regional Commission and participating jurisdictions will take to ensure the Plan's continuous long-term implementation. The procedures also include the manner in which the Plan will be regularly evaluated and updated to remain a current and meaningful planning document.