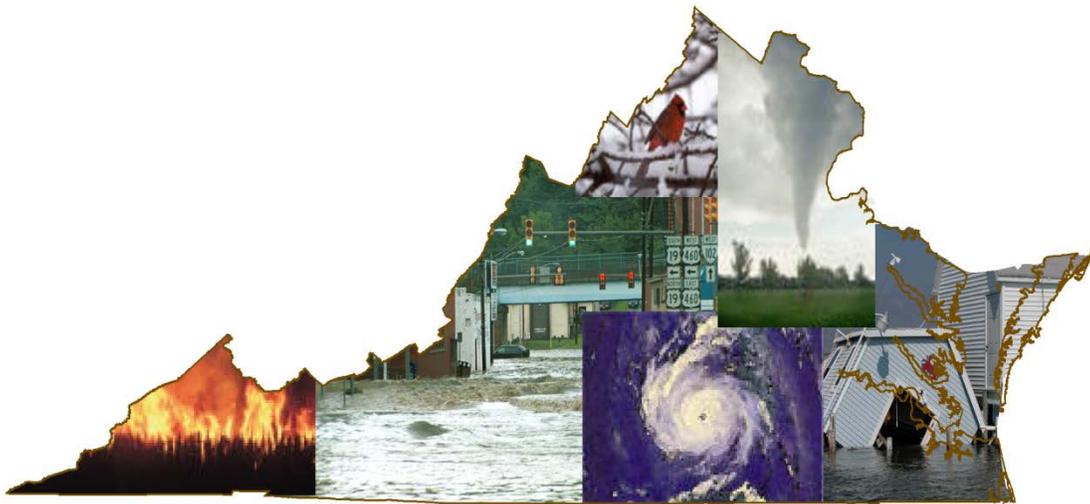


COMMONWEALTH OF VIRGINIA



Hazard Mitigation Plan



Chapter 4 Capability Assessment



Disaster Mitigation Act of 2000

§201.4(c)(3)(ii): A discussion of the State’s pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: and evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas; a discussion of State funding capabilities for hazard mitigation projects; and a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.

4.1 Statewide Capability Assessment

The following section has been revised by the Virginia Department of Emergency Management (VDEM), and related state and federal agencies as a part of the 2013 CVHMP update. This section was also made available for comment by the VHMAL and the VHMWG. Changes in federal, state, and local capabilities are included, as well as information from local hazard mitigation plans.

A comprehensive capability assessment includes an examination of administrative, political and financial support for the proposed actions. A partial listing of traditional mitigation and conservation programs available to fund some types of mitigation efforts follows. This is not a complete listing but is intended to initiate discussion of funding. It should be recognized that since the plan focuses on mitigation of state facilities, funding may be available through capital improvement budgets that each agency submits as part of the biennial budgeting process tied to the legislature.

There were two significant changes over the past three years that impact hazard mitigation in the Commonwealth. The first was Presidential Preparedness Directive #8 (PPD-8) and the Biggert-Waters Flood Insurance Reform Act of 2012. PPD-8 requires that a Threat Hazard Identification and Risk Assessment (THIRA) be developed in order to remain eligible for Emergency Management Program Grant (EMPG) funding. PPD-8 also proposed that funding for the Pre-Disaster Mitigation Grant Program (PDM) be eliminated for FY2013 and allow for hazard mitigation plans to be developed through EMPG funds.





The Biggert-Waters Flood Insurance Reform Act of 2012 has some significant implications on flood mitigation across the Commonwealth. The first being that NFIP policy owners of certain structures will begin to see their annual flood insurance premiums increase at 25% a year until the actuarial rates have been reached.

The second is that the three annual flood grants (Flood Mitigation Assistance, Repetitive Flood Claims, and Severe Repetitive Loss) are being combined into one grant (Flood Mitigation Assistance) with annual appropriations to be determined by Congress. Severe repetitive loss (SRL) and repetitive loss (RL) properties included in a grant application will received reduced cost shares. As guidance becomes available, more information can be incorporated into the next update.

4.2 Pre-Disaster Mitigation Programs

Mitigation programs reduce the vulnerability of citizens, property and natural resources to the destructive forces of natural events and human actions. Temporary measures are often implemented in emergency situations during response. Permanent measures use structural and non-structural approaches to reduce hazards.

The programs described in Table 4.1 were created by Congress and the Commonwealth to address specific natural hazards. *When adequately staffed and funded*, these programs are comprehensive and extremely effective in reducing the effects of natural hazards. However, during the past decade of state and federal budget challenges, full funding and staffing of programs has been rare. Due to the multiple disaster declarations since 2009, federal hazard mitigation assistance funds have been available however localities have had difficulties developing cost effective projects and/or coming up with the non-federal match.

4.4 Post-Disaster Assistance under a Presidential Declaration

The Stafford Act revision impacted several key disaster assistance programs. The Hazard Mitigation Grant Program (HMGP) provides grants to States, Federally Recognized Tribes, and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. HMGP, in the Commonwealth, is 15% of the total costs of eligible federal disaster assistance through the Public Assistance and Individual Assistance programs. This assistance is available but not limited to reducing future property damage to commercial, residential, public buildings, public infrastructure, and utilities through structural mitigation, mitigation planning, and initiative projects.





The Public Assistance (PA) Grant Program, which is also authorized by the Stafford Act, involves FEMA awarded grants to assist State, Tribal, and local governments and certain Private Non-Profit (PNP) entities with the response to and recovery from disasters. Specifically, the program provides assistance for debris removal, emergency protective measures, and permanent restoration of infrastructure. The federal share of these expenses typically cannot be less than 75% of eligible costs. The program also encourages protection from future damage by providing assistance for hazard mitigation measures during the recovery process.

Since November 2009, the Commonwealth has experienced 7 Presidential Disaster Declarations. According to FEMA’s website the following amount of PA grants have been obligated in Virginia:

| Table 4.1 Public Assistance Declarations | | |
|--|---------------------------|---------------------------------------|
| Disaster Number | Disaster Description | Obligated Funds (As of November 2012) |
| DR 1862 | November 2009 Nor’easter | \$7.1 Million |
| DR 1874 | December 2009 Snow Storms | \$21.8 Million |
| DR 1905 | February 2010 Snow Storms | \$26.2 Million |
| DR 4024 | Hurricane Irene 2011 | \$58.9 Million |
| DR 4042 | Mineral Earthquake 2011 | \$31.1 Million |
| DR 4045 | Tropical Storm Lee 2011 | \$5.7 Million |
| DR 4072 | Derecho 2011 | \$7.7 Million |

The Individuals Assistance (IA) program provides assistance to citizens who have suffered disaster related damages or have certain other disaster related needs. The most typical forms of aid are for rental assistance, home repair, and loss of personal property. An Individual Assistance declaration also provides help in a few other categories, such as unemployment assistance, legal assistance and, if requested and approved, crisis counseling.

The only direct form of assistance available to businesses is low interest loans through the Small Business Administration (SBA). Individuals are also able to apply for SBA loans to supplement any assistance they have received through IA. Over the past ten years, there have only been two IA declarations in the Commonwealth of Virginia. According to FEMA’s website, the following amounts were obligated in Virginia:

| Table 4.2 Individual Assistance Declarations | | |
|--|----------------------|---------------------------------------|
| Disaster Number | Disaster Description | Obligated Funds (As of November 2012) |
| DR 1491 | Hurricane Isabel | \$113 Million |
| DR 4042 | Mineral Earthquake | \$92 Million |





4.5 Funding Capabilities

There is never enough funding to adequately provide mitigation programs that will completely address properties at risk. It is hoped that as awareness of hazard mitigation increases, due in part to implementation of this plan, funding can be increased through creative use of existing programs as well as incorporation of mitigation into other non-traditional hazard mitigation programs. It should be noted that in the funding column within the program capacity analysis provided in Table 4-1, a check [✓] only means that funding is possible within the stated program. The check does not indicate that funding is adequate, readily available or has ever been applied to Commonwealth of Virginia Disaster Response, Recovery or Mitigation Programs.

4.5.1 Traditional Funding Programs for Hazard Mitigation

Following development of the Standard Plan, an outreach program was initiated at VDEM to increase participation in traditional FEMA-Commonwealth mitigation grant programs. The funding programs listed below are the more common and most utilized programs in the Commonwealth.

A. Hazard Mitigation Assistance (HMA)

The HMA grant programs provide funding opportunities for pre- and post-disaster mitigation. While the statutory origins of the programs differ, all share the common goal of reducing the risk of loss of life and property due to natural hazards. Brief descriptions of the HMA grant programs can be found below.

Hazard Mitigation Grant Program (HMGP)

Authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, United States Code (U.S.C.) 5170c. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under a Presidential major disaster declaration, in the areas of the State requested by the Governor. The amount of HMGP funding available to the Applicant is based upon the estimated total Federal assistance to be provided by FEMA for disaster recovery under the Presidential major disaster declaration.





Pre-Disaster Mitigation (PDM)

Authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. The Disaster Mitigation Act of 2000 (DMA2K) amended the Stafford act opening up the PDM funding stream and requiring state and local hazard mitigation plans. The PDM program is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future disasters. The Pre-disaster Mitigation Program was created to fund common-sense, damage-reduction approaches, based on planning developed with three principles: (1) preventive actions must be decided at the local level; (2) private sector participation is vital; and (3) long-term efforts and investments in prevention measures are essential. Local governments are currently revising local hazard mitigation plans that will allow them to compete for Pre-Disaster Mitigation funds once their local plan is approved. The federal share of the PDM program is capped at 75%. It should be noted that due to the Presidential Preparedness Directive 8 (PPD-8) the PDM program received zero funding for FY 2013 which leaves uncertainty as to availability of future funds for PDM.

Flood Mitigation Assistance (FMA)

Authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42 U.S.C. 4104c, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). This grant program is intentionally focused on those properties that, if mitigated, will benefit to the National Flood Insurance Program and its policyholders. For the most part, the projects acquire, elevate or relocate residential buildings that have a history of repetitive claims against the NFIP. All projects, including measures other than acquisition and elevation, must be cost effective and not have adverse environmental impacts. Localities wishing to apply for these funds must have an approved All-Hazards Mitigation Plan. The amount of funds available is dependent on annual appropriations. At this time FEMA is still working to develop grant guidance to account for changes to the Biggert-Waters Flood Insurance Reform Act of 2012.

Repetitive Flood Claims (RFC)

Authorized by Section 1323 of the NFIA, 42 U.S.C. 4030 with the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time.





According to the Biggert-Waters Flood Insurance Reform Act of 2012, the RFC program will be eliminated and repetitive loss properties can be mitigated through the FMA program at up to 90% federal funding. VDEM continues to target repetitive loss properties to reduce future claims to the NFIP.

RFC 2007

Virginia's first RFC grant in 2007 allowed VDEM and the City of Chesapeake to partner and acquire three properties with a grant valued at \$1,230,578. The 100% federal funding started to capture the interest of other jurisdictions. The removal of these flood prone properties demonstrated the City's interest in mitigation. This project also demonstrated the localities efforts in furthering their CRS compliance. The removal of three properties from the Repetitive Loss List demonstrated support for the NFIP.

RFC 2008

The second RFC award was received in 2008 and also provided funds to the City of Chesapeake for acquisition and demolition of flood prone properties. This grant was valued \$583,650 and was again 100% federally funded. This funding has allowed for two properties to be removed from the NFIP Repetitive Loss List.

RFC 2009

The continued success of the RFC program in Chesapeake combined with VDEM's mitigation marketing inspired three localities to apply for funding under this program. One project has been awarded to the City of Norfolk for an elevation and is valued at \$193,600. One project was denied due to not meeting BCA requirements, and the other was denied for concerns with technical feasibility.

RFC 2010

On December 4, 2009, VDEM submitted three projects for consideration under the 2010 RFC grant period. The first project was resubmitted from the 2009 grant cycle, for the elevation of five residential structures. This project was initially denied due to concerns of technical feasibility. VDEM worked with Lancaster County to gather additional information on costs and engineering designs and resubmitted this project. Another elevation project was submitted on behalf of Gloucester County for the elevation of eight residential structures. The final project was the acquisition of one floodprone property in Fairfax County. VDEM is waiting to hear on the status of these projects.

Severe Repetitive Loss (SRL)

Authorized by Section 1361A of the NFIA, 42 U.S.C. 4102a, with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest savings to the NFIF in the shortest period of time.





According to the Biggert-Waters Flood Insurance Reform Act of 2012, the SRL program will be eliminated and severe repetitive loss properties can be mitigated through the FMA program at up to 100% federal funding. VDEM targets repetitive loss properties to reduce future claims to the NFIP.

SRL 2008

VDEM in partnership with the City of Salem was awarded a grant to acquire and demolish six SRL properties. The federal funds awarded totaled \$821,265.20. This grant has also captured some interest from other localities due to the minimal 10% required non-federal match.

SRL 2009

Regretfully, the state had only one locality interested in this grant. VDEM could not forward the application to FEMA as the project did not meet BCA requirements.

SRL 2010

The State worked with Chesterfield County and submitted an acquisition project for one home. The homeowner is eager to sell their property after years of flooding has damaged parts of the structure severely.

SRL 2011

Due to the recent flood event as a result of the November 2009 Nor'easter, there was an increased interest in the SRL program. VDEM successfully obtained funding to elevate 14 homes in the cities of Virginia Beach and Norfolk, as well as mitigation reconstruction of two homes in the Town of Chincoteague and Northumberland County.

SRL 2012

Interest in the SRL program continued as FEMA funded the elevation of 14 homes in the cities of Hampton and Norfolk.

VDEM continues to market the SRL program through modification of mitigation strategies in local and multi-jurisdictional all-hazard mitigation plans, through workshops and the e-newsletter "EM Update." Staff will continue to work with the SRL communities to verify property locations, damages, and potential project interest.

B. Commonwealth Sum-Sufficient Match, HMGP

During the past decade, the FEMA HMGP program allows federal funding of up to 75%. The remaining 25% local match must be provided by non-federal sources. Historically, while not guaranteed, the Commonwealth has provided up to 20% of the project costs, resulting in local match requirements of only 5%. The state's support of the program has made HMGP available to many local governments who otherwise could not provide the required 25% local match. Presently, this can not be used with any of the other HMA programs.





C. Virginia Dam Safety, Flood Prevention & Protection Assistance Fund

The Virginia Dam Safety, Flood Prevention and Protection Assistance Fund was established to:

- Make matching grants and/or loans to local governments and to make loans to private entities owning dams for the correction of dam safety conditions (see category 1 projects description). State-owned and federally-owned dams, or dams not regulated pursuant to the Dam Safety Act (§10.1-604 et seq. of the Code of Virginia) are ineligible.
- Make loans to a local government that has developed a low-interest loan program to provide loans or other incentives to facilitate the correction of dam deficiencies, as required by the Department of Conservation and Recreation (DCR), provided that the monies are to be used only for the program and that the dams to be repaired or upgraded are owned by private individuals or entities.
- Make matching grants to dam owners for the mapping of dam break inundation zones of dams regulated pursuant to the Dam Safety Act (§10.1-604 et seq. of the Code of Virginia) (see category 3 projects description).
- Make matching grants to dam owners for engineering for dam repairs.
- Make matching grants to dam owners for the development of emergency action plans.
- Make matching grants to dam owners to conduct incremental damage analysis in accordance with the Virginia Impounding Structure Regulations (4VAC50-20).
- Make matching grants or loans to any local government for the purpose of assisting the local government in the development and implementation of flood prevention plans, studies, and mapping.
- Make matching grants or loans to any local government for the purpose of assisting the local government in the development and implementation of flood prevention or protection projects, including damage mitigation and reduction activities (see category 6 projects description). (DCR – VSWCB – 018) (06/09) (DCR199-183) (06/09) 2
- Provide up to \$50,000 annually for cost share with federal agencies in flood protection studies of statewide or regional significance. (For more information regarding this purpose of the Fund, which is not addressed through this manual, contact DCR) The Fund consists of moneys appropriated by the General Assembly, assessments made on flood insurance premium income pursuant to §38.2-401.1 of the Code of Virginia, funds returned in the form of interest and loan principal by recipients of funding, income from the investment of monies contained in the Fund, and other public and private funds eligible for deposit. The Fund is permanent and non-reverting and is administered and managed by the Virginia Resources Authority (VRA) in cooperation with the Department of Conservation and Recreation (DCR).





The Director of DCR will determine the type and amounts of funding available prior to each funding period, and will specify the categories that will be considered for loan and/or grant assistance. The Director is authorized to make expenditures in accordance with § 10.1-603.16 et seq. and the terms of this guidance document following approval of applications from the Virginia Soil and Water Conservation Board (Board).

D. Commonwealth of Virginia General Fund

Many of the structural mitigation projects detailed in this plan and envisioned by VHMACH members can be incorporated into capital improvement budgets that support renovation of existing structures or initiate new construction. Facilities managers have been active participants in the planning process and will serve an integral role in seeking non-traditional mitigation funding to support structural mitigation projects.

E. Community Development and Block Grants [CDGB]

Administered by the Commonwealth’s Department of Housing and Community Development, this program provides housing and commercial revitalization to many Commonwealth communities. CDGB has been effectively used in comprehensive recovery from major disasters such as Hurricanes Fran, Floyd and Isabel as well as severe storm and flooding events. CDBG will continue to be a critical funding source for housing mitigation programs, because it can also be used as the non-federal match for all the HMA programs that require a match. Henry County has a drainage improvement project through HMGP that leverages CDGB funds as a non-federal match source.

F. Increased Cost of Compliance [ICC]

If a home or business is damaged by a flood, individuals may be required to meet certain building requirements in their community to reduce future flood damage before you repair or rebuild. To help cover the costs of meeting those requirements, the National Flood Insurance Program (NFIP) includes Increased Cost of Compliance (ICC) coverage for all new and renewed Standard Flood Insurance Policies. Flood insurance policyholders in high-risk areas, also known as special flood hazard areas, can get up to \$30,000 to help pay the costs to bring their home or business into compliance with their community's floodplain ordinance. ICC assisted in recovery from major disasters such as Hurricane Isabel and will continue to be a critical funding source as the non-federal match for all HMA programs that require a match.

G. Homeland Security Grant Program (HSGP)

One of the core missions of the Department of Homeland Security (DHS) is to enhance the ability of state, territory, local, and tribal governments to prevent, protect against, respond to and recover from terrorist attacks and other disasters.





FEMA’s comprehensive suite of grant programs is an important part of the Administration’s larger, coordinated effort to strengthen homeland security preparedness.

H. Virginia Disaster Relief Fund

It is a state-managed relief fund established by Gov. Bob McDonnell to financially help Virginia residents who are impacted by disasters. In August 2011, the governor made the fund a permanent part of the Commonwealth’s disaster relief tools, serving as a fund of “last resort” if other state, federal and private aid is not available to assist victims of disasters. Donations to the fund are accepted from individuals, companies, nonprofit organizations and faith-based groups. A state contribution of \$600,000 in unspent general funds has been authorized by the governor.

Table 4.1 uses the following phrases to describe the program’s support or relevance to mitigation. It must be noted that some of the federal programs have not been used in Virginia due to timing, funding or appropriateness. The programs are listed however, as resources that have potential use in the state’s mitigation programs. As implementation of the plan begins, all relevant programs will be explored as potential funding sources or technical support resources to assist successful funding and implementation of actions ranked “high.”

Effectiveness Regarding Loss Reduction:

Support - programs, policies, funding or other assistance that helps implement mitigation.

Facilitate - programs, policies or technical assistance that assists implementation of mitigation measures.

Funding – programs that provide financial assistance for mitigation





Table 4.3 – Recovery and Mitigation Programs

| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---|---|---------------------------|------------|---------|---|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Virginia Department of Emergency Management VDEM | Commonwealth of Virginia Emergency Operations Plan (COVEOP) | ✓ | ✓ | | Directs emergency operations in response to any large-scale disaster impacting the Commonwealth. It assigns duties and responsibilities to agencies and support organizations for disaster preparedness, response, recovery and mitigation. Funding is achieved through appropriations in the biennial budget development process orchestrated by the Virginia General Assembly, and is supplemented in response to disaster declarations through sum-sufficient provisions that can provide state match to federal funding for individual assistance, public assistance and mitigation programs. | ✓ | ✓ | ✓ |
| Federal Emergency Management Agency (FEMA) | Hazard Mitigation Assistance Programs (HMA) | ✓ | ✓ | ✓ | HMGP, FMA, and PDM are HMA grant programs in which projects that reduce the long term risk to natural hazards are eligible. The grant programs promote mitigation planning and structural projects, primarily aimed at the goal of reducing future flood risk. | ✓ | ✓ | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|---|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Federal Emergency Management Agency (FEMA) | Public Assistance Program | ✓ | ✓ | ✓ | To be eligible for funding, disaster recovery work performed on an eligible facility must: <ul style="list-style-type: none"> •Be required as the result of a major disaster event, •Be located within a designated disaster area, and •Be the legal responsibility of an eligible applicant. The following project categories are eligible for reimbursement: Debris Removal, Emergency Protective Measures, Roads and Bridges, Water Control Facilities, Buildings and Equipment, Utilities, Parks, Recreational, and other Facilities | | ✓ | |
| Federal Emergency Management Agency (FEMA) | Individual and Housing Programs | ✓ | ✓ | ✓ | Federal law authorizes grants to disaster victims with disaster related expenses and needs that cannot be met through other available governmental disaster assistance programs. The Federal share of a grant to an individual family under this program shall be equal to 75% of the actual cost of meeting such an expense or need and shall be made only on condition that the remaining 25% of such costs is paid to the individual or family from funds made available by the State. No individual or family shall receive any grant or grants under this program aggregating more than a maximum amount established by Federal regulation with respect to any one major disaster. The Commonwealth maintains an Individual and Family Grant Program Administrative Plan, coordinates administration of the Individual and Family Grant Program through VDEM supervised by the State Coordinating Officer. | | ✓ | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Virginia Department of Emergency Management (VDEM) | Virginia Disaster Relief Fund | ✓ | ✓ | ✓ | The Virginia Disaster Relief Fund was established to provide financial assistance to Virginia residents who were impacted by the April 2011 tornados. Donations to the fund are accepted from individuals, companies, nonprofit organizations and faith based groups. A state contribution of \$600,000 in unspent general funds has been authorized by the Governor. Together the state contribution and all donated money go toward the Virginia Disaster Relief Fund. | | ✓ | |
| Federal Emergency Management Agency (FEMA) | Disaster Housing | ✓ | ✓ | ✓ | Temporary Housing Program: Residents within Presidentially declared areas are eligible for temporary housing assistance. The FEMA Administrator or their designee determines that other circumstances necessitate temporary housing assistance. Home Repair Program: Home repairs may be provided to those eligible applicants who are owner-occupants of the primary residence to be made habitable, whose property can be made habitable by repairs to the essential living area within 30 days following feasibility determination. The FEMA Region III Director may extend this period. | | ✓ | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|--|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| U.S. Department of Housing and Urban Development | Mortgage Assistance from HUD's Federal Housing Administration | ✓ | ✓ | ✓ | For a Presidentially declared disaster, FHA activates a mortgagee letter making a variety of insured loan programs available for disaster victims and putting into play use of special loan servicing and underwriting requirements. | ✓ | | |
| Department of Housing and Community Development (DHCD) | Statewide Building Code which includes International Building Code, 2009 | ✓ | ✓ | | Through the 2009 International Building Code, adopted by the state and local governments, along with the provisions of local floodplain management ordinances, buildings that are substantially damaged, i.e. repair costs are equal to or exceed 50% of the current appraised value of the structure, must be re-constructed or repaired to be compliant to current code requirements. The state floodplain management program, in partnership with the Department of Emergency Management and FEMA, has increased visibility of NFIP and building code requirements following disasters through aggressive contacts and educational programs directed to building officials, the insurance industry and contractors. | ✓ | | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|---|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Federal Emergency Management Agency (FEMA) | Risk Map | ✓ | ✓ | ✓ | FEMA's Risk MAP (Mapping, Assessment, and Planning) is a 5-year initiative that builds on the recently completed Map Modernization program that updated and put in digital format much of the State's floodplain maps. Risk MAP has a broader and more holistic approach than Map Modernization, emphasizing not just the delivery of accurate maps but working with communities to understand the causes of flooding and help with mitigation strategies. Risk MAP is characterized by a full alignment of FEMA's programs - from discovering local needs, mapping with better base data, working with community representatives in assessing risk and vulnerability - with planning and mitigation considerations throughout. | ✓ | | |
| Virginia Department of Conservation and Recreation | Virginia Flood Risk Information System | ✓ | ✓ | ✓ | The VA FRIS can be used to determine if a property is in the Special Flood Hazard Area (SFHA), the floodway, or the 500 year floodplain. Its purpose is to help builders make wise decisions about building site locations and for real estate agents, property buyers, and property owners to be able to determine the flood risk of a dwelling or parcel. Virginia has partnered with North Carolina to host a website to identify buildings, their risk to flooding, and expected dollar losses. | ✓ | | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Virginia Department of Conservation and Recreation (DCR) | Community Rating System (CRS) | ✓ | ✓ | ✓ | <p>The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.</p> <p>As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:</p> <ol style="list-style-type: none"> 1. Reduce flood damage to insurable property; 2. Strengthen and support the insurance aspects of the NFIP, and 3. Encourage a comprehensive approach to floodplain management | ✓ | | |
| Federal Emergency Management Agency (FEMA) | National Dam Safety Program (NDSP): | ✓ | ✓ | ✓ | Grants to reduce the risks to life and property from dam failure, through the establishment and maintenance of an effective dam safety program. | ✓ | | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---|---|---------------------------|------------|---------|---|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| U.S. Department of Agriculture (Natural Resources Conservation Service) | Emergency Watershed Protection | ✓ | ✓ | ✓ | When funding is allocated to a project, NRCS contracts the heavy construction work to local contractors, spurring creation of jobs. Typical projects funded under EWP include removing debris from waterways, protecting eroded stream banks, reseeding damaged areas, and in some cases, purchasing floodplain easements on eligible land. NRCS funds up to 75 percent of project costs, with local sponsors paying the remaining 25 percent in either cash or in-kind services. | ✓ | | |
| U.S. Department of Agriculture Farm Service Agency (FSA) | Supplemental Revenue Assistance Payment Program | | | ✓ | The SURE program provides cash payments to eligible producers who have incurred crop production losses or crop quality losses, or both. http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=sure | | ✓ | |
| US Department of Agriculture Food and Nutrition Service (FNS) | Disaster Assistance, Food Assistance | ☐ | ✓ | ✓ | The Food and Nutrition Service (FNS) coordinates with State, local and voluntary organizations to: Provide food for shelters and other mass feeding sites; Distribute food packages directly to households in need in limited situations; Issue emergency SNAP benefits; As part of the National Response Framework, FNS supplies food to disaster relief organizations such as the Red Cross and the Salvation Army for mass feeding or household distribution. State agencies notify USDA of the types and quantities of food that relief organizations need for emergency feeding operations. FNS also authorizes States to operate a Disaster Supplemental Nutrition Assistance Program (D-SNAP). | | | ✓ |





| Agency(s) | Programs, Plans, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| U.S. Department of Agriculture (Rural Development) | Housing and Community Facilities Loans | ✓ | ✓ | ✓ | Program assistance is provided in many ways, including direct or guaranteed loans, grants, technical assistance, research and educational materials. Loans are available for residential and facility development such as hospitals, roads, and bridges. http://www.rurdev.usda.gov/rd_loans.html | | ✓ | |
| U.S. Department of Agriculture Farm Service Agency (FSA) | Emergency Farm Loans | ✓ | ✓ | ✓ | Emergency Conservation program shares with agricultural producers the cost of rehabilitating eligible farmlands damaged by natural disaster. Farm Service Agency provides emergency loans to assist producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine. Natural Resources Conservation Service’s Emergency Watershed Protection Program (EWP) provides emergency measures, including purchase of floodplain easements for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on the watershed. Food and Nutrition Service’s Food Distribution division has the primary responsibility of supplying food to disaster relief organizations. | | ✓ | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|--|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| U.S. Department of Housing and Urban Development | Community Development Block Grants | ✓ | ✓ | ✓ | Community Development Block Grants – grants to entitlement communities. Preferred use of funding is for long-term needs but may be used for emergency response activities. Multi-family home mortgage insurance. Guaranteed/insured loans to finance the acquisition of proposed, under construction or existing single-family units. Homeowners are permitted to make a low down payment. For any person able to meet the cash investment, the mortgage payments and credit requirements. Special Mortgage Insurance for Low and Moderate Income Families, mortgage insurance for low and moderate-income families. The program can be used to finance rehabilitation of sub-standard properties. Anyone may apply; displaced households qualify for special terms. Co-insurance: Joint mortgage insurance by the federal government and private lenders to facilitate homeownership financing everyone eligible for mortgage insurance under the full insurance programs may apply for co-insured loans to lenders approved by HUD as co-insurers. The co-insuring lender (any mortgage approved by FSA), based upon the characteristics of the property and the credit qualifications of the borrower, determines whether to make the loan. | ✓ | ✓ | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|------------------------------------|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| NOAA National Weather Service | Forecasts and Warnings | ✓ | ✓ | ✓ | Public forecasts and warnings of hazardous weather phenomena and floods, and training programs on disaster safety rules. Available to agencies and the general public. | ✓ | | |
| U.S. Department of Energy | Disaster-related Power Outage | | | | Implements emergency related functions under the Federal Response Plan. | | | ✓ |
| US Department of Homeland Security | Urban Areas Security Initiative (UASI) | ✓ | ✓ | ✓ | A discretionary grant program that provides funding to metropolitan areas, including counties and mutual aid partners, to prepare for, prevent and respond to terrorist incidents. | ✓ | | |
| US Department of Homeland Security | Emergency Management Performance Grants (EMPG) | ✓ | ✓ | ✓ | The Emergency Management Grant assists in the development, maintenance and improvement of state and local emergency management capabilities. These also include an Urban Search and Rescue and Interoperable Communications Grant. | ✓ | | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---|---|---------------------------|------------|---------|---|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| American Red Cross, Salvation Army, VDEM, through its Volunteers and Donations Program with VOAD and other partners. | Collection and Distribution of Donated goods | | ✓ | ✓ | Establish and manage centers for receipts and distribution of donated goods such as food, clothing, furniture, medical supplies, building materials, cleaning supplies, bedding, utensils and tools. This is usually organized with a designated distribution center. | | ✓ | |
| DBHDS, Department of Social Services, DCJS, Red Cross, Salvation Army, VDEM, through its Volunteers and Donations Program with VOAD and other partners | Behavioral health, crisis first aid, emotional care | | ✓ | ✓ | Crisis intervention counseling designed to assist disasters victims and responders in coping with their situation to avoid serious psychological impairment. | | ✓ | |
| American Red Cross, Salvation Army, Department of Agriculture and Consumer Services, VDEM, through its Volunteers and Donations Program with VOAD and other partners, food banks, Meals-on-Wheels | Solidly frozen and/or non-perishable | | | ✓ | <p>Food can be provided to disaster victims and workers in several ways:</p> <ol style="list-style-type: none"> 1. Direct provision of food stocks donated by individuals and groups to disaster victims through distribution centers as described above. 2. Direct grants for food purchase or food stamp allotments (through section 409) provided to disaster victims (described earlier in the Federal Assistance section). 3. Meals provided at or from feeding centers by mobile kitchens and/or portable canteens 4. Through section 410, provision of food stocks for emergency mass feeding or distribution to an area suffering a major disaster or emergency. <p>In large scale disasters FEMA will be acting as main agent in distribution of food.</p> | | ✓ | |





| Agency(s) | Programs, Plans, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| VDEM, through its Volunteers and Donations Program with VOAD and other partners, Virginia Guard, AmeriCorps, Others | Personnel | ✓ | ✓ | ✓ | Provision of personnel to supplement the labor necessary to respond to emergency disaster events, especially for clean-up and damaged home repair. | | | ✓ |
| Department of Health, VDEM, State Police, Virginia Guard, ARC, Medical Examiner's Office | Medical Assistance | | | ✓ | Professional medical aid in the treatment of disaster victims, prevention or control of disease and handling and identification of persons killed during the event. | | | ✓ |
| VDEM, through its Volunteers and Donations Program with VOAD and other partners, Department of Health, AmeriCorps, NGOs | Repair of Homes | ✓ | ✓ | ✓ | Aid to homeowners to repair their homes in the absence of or to supplement FEMA's Minimal Repair Program. The ability of the listed agencies to provide assistance may vary for each event and is tied to the income level and demonstrated need of each victim. | | ✓ | |
| Local governments, Local governments' EOP's partners and/or State Shelter plan. | Shelter | ✓ | ✓ | ✓ | Establishment of shelters to protect the lives and health of persons forced to evacuate their homes due to an emergency or disaster occurs on a local, as needed basis. Shelters are short-term facilities (a few days to one week); families are returned to their homes or are placed in temporary housing locations as quickly as possible. Shelter locations are pre-designated in local Emergency Operations Plans. | ✓ | | |





Commonwealth of Virginia Hazard Mitigation Plan
Chapter 4 – Capability Assessment

| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---------------------------------------|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| Department of Forestry | Forest Protection Program | ✓ | ✓ | ✓ | The Department provides training & equipment to local fire departments that fight brush and forest fires. A network of dry hydrants throughout the state to supplement water sources such as rivers, reservoirs, lakes and ponds. An aggressive woodland homes prevention program is also managed. | ✓ | | ✓ |
| Federal Bureau of Investigation | Disaster Squad | ✓ | ✓ | ✓ | Fingerprint identification of disaster victims For any authorized state or local law enforcement agency. | | | ✓ |
| Virginia Department of Health | Emergency Health Assistance | | | ✓ | Federal agencies including, but not limited to, the U.S. Public Health Service, provide emergency health care assistance as required. The Virginia Department of Health requests this assistance as needed. | | | ✓ |
| United States Army Corps of Engineers | Flood Control Projects | ✓ | ✓ | | Design and construction of local flood control projects not specifically authorized by Congress, State, political subdivisions and other local agencies established within state law with full authority and ability to undertake required legal and financial responsibilities. | ✓ | | |





| Agency(s) | Programs, Plans, Policies, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---------------------------------------|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| United States Army Corps of Engineers | River Bank Protection | ✓ | ✓ | ✓ | Design & construction of stream and river bank protection projects to safeguard highways, highway bridges, essential public works, churches, hospitals, schools and other non-profit public critical facilities endangered by flood-caused erosion. State, political subdivisions and other local agencies established within state law with full authority and ability to undertake required legal and financial responsibilities. | ✓ | | |
| United States Army Corps of Engineers | Drought Assistance | ✓ | ✓ | ✓ | Coordinate the development of drought plans and procedures for lakes and dams within the Commonwealth under the jurisdiction of the Corps of Engineers. Provide information and reports as needed. Coordinate USACOE drought related activities. Provide water from USACOE reservoirs and dams, as available during emergencies. | ✓ | | |





| Agency(s) | Programs, Plans, Regulations, Funding and Practices | Effects of Loss Reduction | | | Description | Pre-Disaster | Post Disaster | Emergency Response |
|---------------------------------------|---|---------------------------|------------|---------|--|--------------|---------------|--------------------|
| | | Support | Facilitate | Funding | | | | |
| United States Army Corps of Engineers | Flood Plain Management | ✓ | ✓ | ✓ | Technical assistance in identification of flood-prone areas, potential losses and the flood hazard of proposed building sites; guidance in land use management to prevent flood damage. Special Studies can be developed, at the request of the Commonwealth or by localities, in line with Commonwealth goals. Studies are funded at 100% Federal cost, however funding can be contributed to expand the scope of the studies. Funding is developed by the District office in response to identified needs and is managed at USACE, Headquarters and North Atlantic Division based on national and regional needs and Federal budget. | ✓ | | |





4.6 Federal Agencies & Programs

For the 2013 update, a review of all federal programs that could assist in implementation hazard mitigation initiatives were reviewed and updated. The following list of federal programs is intended to focus on those that are most applicable to the hazards that have occurred recently in Virginia. After each declared disaster, federal resources that may support recovery are identified. Some federal programs can be accessed in an ongoing capacity to support local initiatives. As with local and state programs, these programs were in the background of the development of this plan, but were not specifically integrated into the final *Commonwealth of Virginia Hazard Mitigation Plan* because the plan primarily addresses state facilities determined to be at risk following analysis of vulnerability of state facilities to natural hazards. As implementation of the plan ensues, every opportunity to integrate existing federal programs into hazard mitigation will be explored.

Federal Emergency Management Agency (FEMA). As the nation’s emergency management agency, FEMA’s programs focus mainly on supporting state and local initiatives that will reduce the impacts of disasters. The programs provide technical assistance, regulatory standards and financial assistance. Additional information is available online at www.fema.gov. Some programs are activated only after a disaster is declared; others are ongoing:

Response & Recovery – Public Assistance (PA). Immediately following the declaration of a major disaster, FEMA and state implement procedures to assess damage, estimate the cost of restoration, and allocate funds for recovery. Public Assistance program focuses on restoration of certain non-profit and public buildings, public utility and transportation infrastructure that covers a portion of the costs to respond and recover from the event. Under certain circumstances, mitigation measures can be factored into recovery of public buildings and facilities in order to minimize the potential for future losses from comparable events through use of the 406 program. Use of this program to strengthen structures impacted by disasters as part of the repair and recovery process will be pursued as disasters occur that provide federal Public Assistance funding for eligible structures. VDEM is responsible for coordinating response and recovery efforts with FEMA and local jurisdictions. Additional information is available on FEMA’s website at <http://www.fema.gov/government/grant/pa/index.shtm> .





Response & Recovery – Individual Assistance (IA). Also implemented jointly immediately following a major disaster declaration for events which impacts citizens, the IA program provides funds for temporary housing, basic housing repairs, and replacement of essential household items. IA is available directly to citizens who were impacted by the declared event in a declared jurisdiction. Contact VDEM for additional information and check FEMA’s website at <http://www.fema.gov/assistance/process/assistance.shtm>

Response & Recovery – Hazard Mitigation Grant Program (HMGP). VDEM also manages this program, and project applications are required to be submitted to FEMA within a year of the federal disaster declaration. HMGP can fund projects such as the development/revision of state, local, and university hazard mitigation plans. HMGP can also fund projects to mitigate risk such as elevations, acquisition and demolitions, acquisition and relocations, minor localized flood control projects, infrastructure retrofits, floodproofing projects, wildfire mitigation, and safe room construction. HMGP can also fund initiative projects such as emergency generator quick connects, emergency generators, warning systems, GIS that supports mitigation, and outreach and education materials. More information on HMGP can be found on FEMA’s website: <http://www.fema.gov/hazard-mitigation-assistance>

National Flood Insurance Program (NFIP). The NFIP offers flood insurance to residents who reside in local jurisdictions that adopt and enforce certain provisions that will help to minimize future flood losses. The measures apply to all activities proposed within special flood hazard areas that are designated on maps provided by FEMA. All development must be designed and constructed to withstand damage (from water and wind-related hazards) and must not create any adverse impacts on other properties. The single most effective measure (other than building outside of flood-prone areas) is to elevate buildings above the base flood elevation. The Biggert-Waters National Flood Insurance Reform Act of 2012 will have an impact on insurance premiums and hazard mitigation assistance grants. Additional information is available through DCR or on FEMA’s website at <http://www.fema.gov/business/nfip>

RISK Map (Map Mod Phase II). FEMA transitioned from Flood Map Modernization (Map Mod) to Risk Mapping, Assessment, and Planning (Risk MAP) in fiscal year (FY) 2009. The vision for **Risk MAP** is to work collaboratively with State, local, and Tribal entities to deliver quality data that increases public awareness and leads to action that reduces risk to life and property. It also aims to foster informed risk management decisions and actions to mitigate risk through a consistent risk-based approach to assessing potential vulnerability and losses. By analyzing and depicting flood risk, communities and the American public can better understand their risk and make informed decisions to reduce their vulnerability.





Map Mod transformed the majority of the flood hazard mapping inventory to 21st century digital technology and restored confidence in the reliability of floodplain boundaries, while making updates to the underlying engineering data. More information on the RiskMap initiative can be found through FEMA's website at <http://www.fema.gov/rm-main>.

Cooperating Technical Partners (CTP). With over 20,000 communities in the National Flood Insurance Program (NFIP), maintaining current maps is a daunting task. The current map modernization effort is a collaborative process which spans all levels of government as well as a multitude of other organizations. This collaborative process results in partnerships among state, regional, and local stakeholders. The Commonwealth participates in the Map Modernization initiative as a CTP. DCR completed its Map Modernization Program Business Plan in 2004 and has imitated implementation of this plan. Several local jurisdictions participated in this effort as well. Additional Information is available through DCR.

Community Rating System (CRS). The CRS is an incentive program that rewards communities that exceed NFIP regulations in ways that reduce damage and improve safety. The incentive is a reduction in the cost of flood insurance premiums. Communities must apply, annually certify their programs, and undergo periodic audits. In Virginia, 20 communities participate in providing flood insurance premium discounts of 5% to 15% to their residents. Additional details are available through DCR and the following website: <http://www.fema.gov/national-flood-insurance-program/community-rating-system>.

National Earthquake Hazard Reduction Program (NEHRP). The National Earthquake Hazards Reduction Program (NEHRP) was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law (PL) 95–124. At the time of its creation, Congress' stated purpose for NEHRP was "to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program." In establishing NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. More information on the NEHRP program can be found through their website: <http://www.nehrp.gov/>





National Hurricane Program (NHP). FEMA funding is provided to hurricane-prone states to establish, enhance and maintain basic levels of preparedness and mitigation capabilities, to promote effective mitigation measures, to conduct hazard identification and evacuation studies, to conduct post-storm analyses of mitigation measures, to conduct training, and to promote public awareness and education of hurricane safety and preparedness. Commonwealth’s participation is coordinated through the Preparedness Division at VDEM. More information can be found at: <http://www.fema.gov/region-iii-mitigation-division/national-hurricane-program>.

National Dam Safety Program (NDSP). FEMA coordinates the NDSP among federal agencies and state partners. In addition to maintaining a dam inventory, encouraging research, and promoting the implementation of state programs, the program also provides training and funds. Virginia’s participation is coordinated with the Division of Dam Safety and Floodplain Management at DCR with constant and continual integration with VDEM regarding community eligibility status in the NFIP, Training, Repetitive Loss Data, Map Modernization and Technical Assistance on Flood proofing, Floodplain Management and Coastal Flooding issues. <http://www.fema.gov/about-national-dam-safety-program>

Virginia Flood Risk Information System. The State of North Carolina and the Virginia DCR forged a partnership in 2012 to improve the floodplain program in Virginia by creating a free, publicly-accessible, geospatial web application allowing search, downloading, and display of hazards, vulnerabilities and risk associated with flooding. An interstate partnership will benefit both North Carolina and Virginia several ways. The two states share river basins and desire seamless data, models and maps associated with flooding within those inter-state river basins. Both North Carolina and Virginia strive to realize efficiencies and improved public service through multi-government partnerships. North Carolina already laid down the ground work for a geospatial web application when they created one for their own state, which means Virginia is receiving a high-quality product at a reduced fee. [http://nfrmp.us/state/docs/Virginia/VAFRIS Silver Jackets Pilot Project SOW v2.pdf](http://nfrmp.us/state/docs/Virginia/VAFRIS_Silver_Jackets_Pilot_Project_SOW_v2.pdf)

Dam Break Early Warning System. On July 3rd, 2012, a contract was awarded for a Dam Break Early Warning System. This is a state-wide system that will significantly improve public safety for residents that live downstream of over 600 High and Significant Hazard Dams and has been shown to reduce fatalities from dam failures. The system is a real time, web-based system that monitors live feeds from the NWS, NOAA, NRCS, USGS, compares rainfall and stream data against pre-set thresholds and triggers alerts to notify dam owners and emergency responders of potential dam breaks. Work has begun on the implementation of the system. This program is coordinated through DCR.





Hazards U.S. (HAZUS). HAZUS is a computer program that utilizes a set of Geographic Information System (GIS)-based mapping tools that help to estimate losses associated with earthquakes, floods, and wind. Developed in partnership with the National Institutes for Building Safety, HAZUS can be used to model event scenarios useful to compare risks between regions as well as evaluate effects of certain mitigation measures. Each state receives a copy of the software and certain baseline data. Recent improvements were made in the quality of data that characterize building types and locations, significantly improving analysis results. HAZUS was utilized within this plan update for the hurricane and earthquake modules.

<http://www.fema.gov/hazus>

U.S. Department of Housing and Urban Development (HUD). HUD programs are administered through the Virginia Department of Housing and Community Development and offer several programs to support local efforts to address hazards and implement mitigation measures. The following are some of the more active programs used to minimize flood hazards:

Community Development Block Grant (CDBG). The CDBG program works to ensure decent affordable housing, to provide services to the most vulnerable in our communities, and to create jobs through the expansion and retention of businesses. CDBG is an important tool for helping local governments tackle serious challenges facing their communities. The CDBG program has made a difference in the lives of millions of people and their communities across the Nation. CDGB funds are routinely used in disaster-impacted areas for repair, elevation and acquisition/demolition of damaged structures, particularly citizens that qualify for the HMGP program. Following Hurricane Isabel, a special CDGB congressional funding allotment was targeted to communities where HGMP funds could not fully address mitigation needs. In Henry County, a drainage improvement project was funded through HMGP in Basset, Virginia where a CDBG grant was obtained to re-vitalize the town. This is the most recent example of coordination between CDBG and FEMA-VDEM funding to assist disaster recovery

Emergency Capital Repair Program (ECRP). The intent of these grants is to provide one-time assistance for emergency items that could not be absorbed within the project's operating budget and other project resources, and where the tenants' continued occupancy in the immediate near future would be jeopardized by a delay in initiating the proposed cure. Funds may be used to repair or replace systems including, but not limited to: (1) Existing major building and structural components that are in critical condition; and (2) Repairs or replacements to existing mechanical equipment to the extent that they are necessary for health and safety reasons. The purchase of high efficiency heating and cooling systems (Energy Star) for the approved replacement equipment is encouraged to promote energy conservation. The Virginia Department of Housing and Community Development coordinates the Emergency Capital Repair Program.





U.S. Department of Commerce, Economic Development Administration (EDA). EDA supports economic recovery strategies, in part by providing cost-shared funds for planning and technical assistance, emergency infrastructure grants, construction grants and a Revolving Loan Fund to assist communities and quasi-public entities such as local development corporations and public or private non-profit organizations. EDA funds have been used to retrofit or relocate public water supply or wastewater treatment facilities. After disasters, some communities use EDA long-term recovery funding to help businesses move to safer locations.

U.S. Army Corps of Engineers. In addition to managing several large dams, levee protection projects and beach nourishment projects, the Corps supports state and local floodplain management and mitigation through the following programs:

Floodplain Management Services (FPMS). Under FPMS, the Corps provides a full range of technical services and planning guidance support for state and local efforts. The same services are available to non-governmental entities, including individuals, on a reimbursable basis. The Corps can provide information on flooding, estimates of potential flood losses, and guidance for managing floods hazard areas. Under FPMS, the Corps investigates methods to prevent and reduce flood damage, including retrofit and other flood proofing methods.

Flood Control Projects (Section 205). Authorized by Section 205 of the 1949 Flood Control Act, as amended, USACE can review and construct flood risk reduction projects. Alternatives include non-structural measures such Flood proofing structures. The Federal share, including planning, design and construction may not exceed \$7 million.

Planning Assistance to States (Section 22). Assistance and planning guidance to state, regional and local governments is provided on a cost-shared basis and can address a variety of water resources issues, including floodplain management, flood damage reduction, dam safety, water supply, water quality, coastal zone management, wetlands management and environmental conservation and preservation.

Hurricane Evacuation Studies (HES). Coordinated with FEMA and the National Weather Service (NWS), the Corps leads development of regional evacuation studies based on predicted storm conditions developed by the NWS. Virginia’s involvement is coordinated by VDEM and resulted in the Virginia Hurricane Response plan, revised in June of 2008 and is part of the COVEOP.

The Corps is currently working on several projects within the Commonwealth that are critical to hazard reduction and support the principle goals and objectives of the Standard Plan. These include the Virginia Silver Jackets Program, Virginia Flood Risk Information System, FEMA RiskMap Initiative, and studies such as the Chowan River Basin study and the Rappahannock River Basin study.





The Corps of Engineers and the Commonwealth of Virginia recently approved a flood control project to protect the Harbor of Tangier Island.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS).

The NRCS is dedicated to the conservation of soil and water and related resources. Technical assistance is provided to individuals, groups, organizations and government agencies through conservation districts. Virginia's Departments of Agriculture and Consumer Services and Department of Conservation and Recreation are the state's contacts for NRCS programs:

- Under authority in Public Law 566, numerous flood reduction projects were constructed to address problems in small watersheds. NRCS supports river basin and watershed planning initiatives undertaken by local jurisdictions.
- The Emergency Watershed Protection Program can provide technical and financial assistance to communities to repair and restore clogged and damaged waterways to pre-disaster conditions.
- The Emergency Conservation Program, coordinated with the USDA Farm Services Agency, provides technical assistance to the agricultural community after disasters.
- Wetland Reserve Program provides technical and financial support to help landowners implement wetland restoration, conservation and wildlife practices.

NRCS most frequently works with disaster recovery and mitigation in a post-disaster setting in the Commonwealth addressing stream and river flooding issues through the EWP program. This has been used extensively in western mountain flood events in the 1990's and the early part of this decade. NRCS assisted with flood evaluation in urban watersheds following the severe weather disaster of June, 2006 (DR-1655-VA).

U.S. Department of Agriculture, Other Programs. USDA has a number of loan and grant programs that may support mitigation initiatives and post-disaster recovery. Additional information may be obtained from the U.S. Department of Agriculture or on-line at www.usda.gov:

- Rural Business-Cooperative Development Service Business and Industrial Loans help create jobs and stimulate rural economies by backing rural businesses.
- Rural Housing Service Community Facilities Loans and Grants can be used to construct, enlarge or improve community services for health care, public safety, and public services.
- Water and Waste Grants and Loans are used to develop, replace, or repair water and waste disposal (including storm drainage) systems in rural areas and small towns.
- Farm Service Agency Emergency Conservation Program assistance can be used to rehabilitate certain farmland damaged by floods or other disasters.
- Farm Service Agency Tree Assistance provides cost-shared payments to orchardists, maple sugar producers, greenhouse operators and vineyard growers who incur losses due to damaging weather.
- Federal Multi-Peril Crop Insurance policies insure against losses due to natural causes such as drought, excessive moisture, hail, wind, frost, insects and disease.





- Non-insured Crop Disaster Assistance Program helps growers of crops for which crop insurance is not available.
- Farm Service Agency Flood Risk Reduction allows farmers to voluntarily enter into contracts to receive payments on lands with high flood potential in return for foregoing certain USDA program benefits.
- Supplemental Revenue Assistance Payment Program (SURE) for crop losses in communities declared a disaster by the Secretary of Agriculture.
- Emergency Loans program provides loans to restore or replace essential property damaged in the disaster; finance production losses to crops and livestock; fund essential family living and farm operation expenses, or refinance certain debts.
- Emergency Conserve Program provides funding to address new conservation problems created by disaster that, if not treated, would impair or endanger the land. Funds can be used to rehabilitate farmland damaged by wind erosion, floods, hurricanes, or other natural disasters and to carry out water conservation measures during drought.

U.S. Small Business Administration (SBA). The SBA has the authority to declare disaster areas based on the number of homes and businesses that are affected, even if the event does not warrant a declaration by the President. SBA provides low-interest loans, and can authorize loan amounts up to 20% above the costs of restoration if the applicant agrees to implement mitigation measures. Individuals and businesses can use SBA funds to pay for the non-federal share of HMGP and FMA projects to elevate-in-place, relocate, or flood-proof buildings in flood hazard areas. The Virginia Department of Business Assistance is one source of information, and the SBA is on-line at www.sba.gov:

SBA Business Physical Damage Loan Program. Available to help businesses and nonprofit organizations repair or replace uninsured damaged property such as real estate, machinery and equipment, inventory, and supplies. SBA requires borrowers to obtain and maintain appropriate insurance, especially if located in a flood hazard area.

SBA Economic Injury Disaster Loan. These loans of “last resort” provide working capital to small businesses and small agricultural cooperatives to help them through the recovery period.

SBA Disaster Assistance Program Loans. These loans are available to eligible homeowners through the Robert T. Stafford Act as part of the Individual Assistance Program. The loans can include mitigation measures such as drainage improvement, flood proofing and hurricane shutter installation. This program provides an opportunity for citizens within declared jurisdictions to work independently of a traditional grant program to assume responsibility for mitigation of their disaster-prone property.

During 2011, the Commonwealth sought and received SBA assistance for three federally declared Public Assistance Disasters so that some assistance was available to affected residents.





4.7 State Programs and Capabilities

The following agencies and programs either have a direct or indirect role in mitigation in the Commonwealth. Many of these agencies are a part of the Virginia Emergency Response Team (VERT) as Emergency Support Functions (ESF). These programs play a key role in reducing risk to natural hazards in the Commonwealth and improve the effectiveness of mitigation activities.

Virginia Department of Emergency Management (VDEM).

VDEM's primary mission is to protect the lives and property of Virginia's citizens from emergencies and disasters by coordinating state emergency preparedness, response, recovery and mitigation programs. The responsibility of VDEM is to ensure a comprehensive, efficient and effective response to emergencies and disasters throughout Virginia, including provision of assistance in the absence of events for which federal aid is made available.

VDEM is charged with supporting mitigation planning and administers Hazard Mitigation Assistance (HMA) programs that provide grants to eligible entities to implement cost effective mitigation projects in the pre-disaster and post-disaster periods. VDEM also leads the state and federal Public Assistance Programs, which provide disaster assistance to state agencies, local jurisdictions, and certain private nonprofit entities to repair and restore damaged facilities. Damaged facilities must be repaired in a manner that is compliant with existing codes and standards. VDEM Emergency Operations Center manages the National Weather Service's Integrated Flood Observing and Warning System (IFLOWS) in several western and southwestern counties. IFLOWS improves local flash flood warnings through a linked wide area monitoring and communications network. With other state agencies and local jurisdictions, VDEM coordinates hurricane evacuations, relying in part on information developed as part of the updated Virginia Hurricane Response Plan.

Use of the HMA grant programs was explored as funding sources for structural mitigation and data development objectives and strategies. Mitigation most directly interfaces the public assistance program through use of the section 406 public assistance mitigation program immediately post-disaster. As the structural mitigation measures were not directed specifically at post-disaster actions but were more proactive in examination of holistic, long-term mitigation strategies, public assistance was not directly integrated into the plan.

The Commonwealth of Virginia has many tools in building a mitigation plan to address human caused disasters. Since the 2007 plan, the Commonwealth has developed and/or revised the Pandemic Flu, Terrorism and Consequence Management, Oil and Hazardous Materials, and the Critical Infrastructure Protection Plan.





The Commonwealth also has been involved in the Buffer Zone Protection Plan program. VDEM has also taken the lead role in developing the Threat Hazard Identification and Risk Assessment (THIRA) as required by Presidential Preparedness Directive #8 (PPD-8). Future revisions of this plan will incorporate all hazards.

Department of Conservation & Recreation (DCR).

DCR enhances natural and recreational resources through land management planning, funding, education and regulations. DCR is the State Coordinating Office for National Flood Insurance Programs, administers the dam safety program, and participates in interagency initiatives concerning coastal erosion. A number of DCR's programs have the potential to support certain flood mitigation projects. *The Virginia Dam Safety, Flood Prevention and Protection Assistance Fund* helps local jurisdictions address problem areas.

Some easement and other programs may support floodplain acquisition projects, including Scenic Rivers Program, funding from the Virginia Outdoors Fund, Conservation Reserve & Enhancement Program, and Best Management Practices implemented with Water Quality Improvement grants. The Map Modernization Program is coordinated by the Virginia Department of Conservation and Recreation. It is described in several sections of this plan. Implementation of the map modernization strategic plan has impacted local and state HIRAs and has been included in the analysis in Chapter 3.

The Division of Dam Safety and Floodplain Management using a grant from FEMA started the Dam First Aid program in calendar year 2012. Basically the program will make available mobile equipment that will let emergency responders, dam owners, State Park maintenance staff and DCR's Division of Dam Safety & Floodplain Management respond to dams to lower water levels in the lakes and ponds. Four trailers will be equipped with one hundred fifty feet of six inch PVC pipe along with fittings to allow water to be siphoned over the dam from the pond to safely discharge in the plunge pool below the dam. Equipment in these trailers will facilitate the siphon setup and filling with water for continuous use in darkness or sunlight. It must be understood that a limiting condition to a single six inch siphon is its maximum capacity.

Practically, the capacity of a single six inch siphon will not allow discharge of large inflows from severe storms as quickly as the water is running into the lakes but these four trailers can be brought from the State Parks across the state where they will be stored and potentially used together to provide more capacity. The primary purpose of these siphons will be to lower water levels when gates are broken or blocked by beavers so repairs to the structures can be made.





The next phase of the program will training for the user group on basic setup and use of the equipment. Rules for use of the equipment will be specified requiring, for instance, that gasoline used during the emergency be replaced prior to returning the trailer to the storage location. The training and agreement to use this equipment will be mandatory to check out the equipment. Users will also be required to provide their own tow vehicles to move this equipment.

Department of Housing & Community Development (DHCD).

DHCD collaborates with communities to assist them in fully developing their economic potential, and create a healthy, safe and affordable living environment. Three key aspects of DHCD’s broad responsibilities merit particular attention: Several funding programs can support local mitigation measures, including the Community Development Block Grant program and other federally funded programs.

Following Hurricane Isabel, DHCD grant staff coordinated with VDEM hazard mitigation and human service managers to target funds to communities hardest hit by Isabel. This effort resulted in more than \$5M in CDGB monies supporting elevations of flood prone properties, increasing the capacity of the Isabel HMGP program (\$19M) by 25%. After catastrophic disasters of regional proportions, DHCD coordinates local Long-Term Disaster Recovery Task Force. These task forces are critical to coordination of various economic assistance and redevelopment programs, volunteer efforts, donations and redevelopment. Strong local recovery task forces have support disaster recovery in southwest Virginia (flooding and severe weather), Franklin Virginia (Hurricane Floyd) and Poquoson (Hurricane Isabel).

Department of Forestry (DOF).

One of Virginia’s strongest programs in the nation is responsible for 15 million acres of forestland, providing protection and management for forest fire, insects, and disease. DOF is directly responsible for suppression of forest fires and supports response to natural disasters. Full-time and part-time wildland firefighters are trained and qualified by DOF in fire control tactics and the Incident Command System. An emergency interagency response center is located in Charlottesville; mobile command centers that are available for rapid deployment. Funded by National Fire Plan grants, DOF has initiated statewide wildland fire risk assessments that are maintained in a geographic information database system.





Virginia Resources Authority (VRA).

The VRA facilitates loans to support local infrastructure for projects concerning environmental quality, public health, transportation and economic development. Since its inception, VRA has funded more than 875 critical projects across the Commonwealth exceeding \$5 billion of investment in Virginia’s communities. Financing solutions draw on VRA’s creativity and unique ability to provide revolving fund loans to localities at below-market interest rates and to issue bonds backed by the moral obligation of the Commonwealth. The VRA staff offers extensive experience and expertise in a variety of financings and provides ongoing assistance to localities in connection with their public projects.

Department of General Services (DGS).

DGS oversees the design and construction of state-owned buildings, applying the International 2009 Building Code provisions related to wind, seismic, snow, and flood loads. The *Governor’s Executive Memorandum 2-97* designates DGS as the agency responsible for ensuring state construction proposed in mapped flood hazard areas complies with the National Flood Insurance Program (NFIP). All proposals are processed as variances, and must be reviewed by DCR.

Virginia Department of Transportation (VDOT).

VDOT is responsible for building, maintaining and operating state’s roads, bridges and tunnels, including repairs and replacements required after natural disasters. In accordance with requirements of the Federal Highway Administration, VDOT routinely factors flood hazards into the planning and design of transportation infrastructure, and seismic provisions are required in the southwestern portion of the state.

Risk Management Division, Department of Treasury (RMD).

RMD maintains a blanket insurance policy, which covers all state buildings. Each agency pays premiums based on their buildings and loss history. Claims can be made for building structural and contents damage. RMD also houses the Virginia Property System (VAPS) database.

Department of Mines, Minerals & Energy (DMME). DMME operates six divisions. Four of these divisions regulate the mining and reclamation of more than 30 different mineral resources such as coal, gas, oil, and non-petroleum minerals like rock and gravel. The primary goal of these divisions is to provide for safe and environmentally sound mineral and fossil fuel extraction. This includes an objective to eliminate adverse environmental conditions and public safety hazards associated with extraction sites, such as flood hazards and slope failures.





The primary goal of the Division of Geology and Mineral Resources is to enhance the safe and environmentally sound use of Virginia’s resources. This includes an objective to reduce the impact of geologic hazards that pose safety and environmental problems, such as landslides and karst. The Division provides office provides maps and digital data to local jurisdictions to be included in local plans. Maps of steep slope areas, including areas where landslides have occurred, are available for some areas.

Department of Environmental Quality (DEQ).

DEQ is the lead agency for the Virginia Drought Monitoring Task Force, DEQ then compiles Drought Status Reports using information from several state and federal agencies. The reports, which are distributed by VDEM, contain sections relating to current climatologically conditions and situation reports regarding water supplies, water quality, forest fire risks and agriculture and crop reports. DEQ also has major responsibility for the environmental consequences of accidents and disasters. The agency plays a major role in hazardous materials containment, testing and abatement and provides oversight to the section 401/404 joint permitting process that oversees any activity with potential impacts to rivers, streams or wetlands.

Virginia Coastal Program.

The Virginia Coastal Zone Management (CZM) Program is a network of Virginia state agencies and local governments, established in 1986 through an Executive Order, which administers enforceable laws, regulations and policies that protect coastal resources, strengthen the coastal economy and foster sustainable development. The Department of Environmental Quality (DEQ) serves as the lead agency for Virginia’s networked program and administers an annual CZM grant award from the National Oceanic and Atmospheric Administration. The Virginia CZM Program helps agencies and localities develop and implement coordinated coastal policies and solve coastal management problems. The Program’s Coastal Policy Team, composed of representatives of all of the program’s member agencies, facilitates cooperation among the agencies and provides a forum for discussion and resolution of cross-cutting coastal resource management issues. One of the goals of the Program is “To reduce or prevent losses of coastal habitat, life, and property caused by shoreline erosion, storms, and other coastal hazards in a manner that balances environmental and economic considerations”. The Program addresses coastal hazards through a number of initiatives that promote the concept of coastal resiliency. Flood hazard-related land features addressed through the Program include tidal and non-tidal wetlands, dunes and beaches, riparian buffers, barrier islands, and highly erodible/high hazard lands. A number of Virginia CZM Program initiatives have focused on shoreline management and adaptation to sea level rise/ recurrent flooding.





Virginia Silver Jackets.

The Virginia Silver Jackets team brings individuals from different agencies together to facilitate collaboration, share information, and leverage resources to identify and implement solutions to reduce flood hazards. In addition to the Army Corps of Engineers, the Virginia Team currently includes staff from the Virginia Department of Emergency Management, Virginia Department of Conservation and Recreation, Natural Resources Conservation Service, Federal Emergency Management Agency, National Weather Service, and U.S. Geological Survey. The Virginia Silver Jackets team brings individuals from different agencies and fields of expertise together to facilitate communication, share information, and provide 'one-stop' for local and state governments to obtain information and identify solutions to reduce flood hazards. The Virginia Silver Jackets Team first met on June 23, 2010, and the Charter was signed December 22, 2010.

4.7.1 Related State Plans and Documents

There are many state plans and documents related to mitigation planning and projects in Virginia. Existing state plans and documents that most affect mitigation are summarized below.

Biggert-Waters Flood Insurance Reform Act (2012)

Effective July 1, 2012 the President signed the Biggert-Waters National Flood Insurance Reform Act of 2012. While official guidance from FEMA has not been distributed, there are some pretty significant implications to flood insurance and mitigation grants. Most notably the increase in flood insurance premiums to actuarial rates (certain houses that were grandfathered in as being built before the NFIP, will now see their rates increase) and the three traditional annual flood mitigation grants (Flood Mitigation Assistance, Repetitive Flood Claims, and Severe Repetitive Loss) will be combined to one grant (Flood Mitigation Assistance). A summary of the act can be found through the following website -

http://xa.yimg.com/kq/groups/3381535/97041825/name/2012_NFIP_Reform_Act_ASFP_M_Summary_of_Contents.pdf

Floodplain Management Plan for the Commonwealth of Virginia (2005)

(Virginia Department of Conservation and Recreation). This document contains valuable information on flood hazards and risks, and defines the state's role in floodplain management. It contains a modest action agenda, which is reflective of concerns about reductions in program staff and resources in the early 1990s. A summary of the status of the action agenda set forth in the Plan is included.





A review of the Plan, on file with VDEM and DCR, recommends that the *Floodplain Management Plan* form the technical basis for the flood-related actions set forth in this Hazard Mitigation Plan. However, delay of revision of the *State Floodplain Management Plan* precluded its use in developing the hazard and risk analysis for this plan. The State Floodplain Management Coordinator began revision of the plan during spring, 2004. It was completed in March, 2005 and serves as an annex to the state Hazard Mitigation Plan.

Executive Memorandum 2-97, Floodplain Management for State Agencies (1997).

Developed in the early 1990s and adopted after Hurricane Fran in 1996, this document is a clear statement of the Governor’s intent that all state agencies have some responsibility in managing flood hazards and reducing their impacts through a series of different avoidance, promotion, and coordination activities. A summary review is on file with VDEM and DCR. As set forth in the Executive Memorandum, the Governor addresses important aspects of state performance:

- DCR is charged as the State Coordinating Office of the NFIP and the technical advisor on the viability of proposed flood mitigation projects;
- All State agencies engaged in construction or land disturbing activities are to comply with locally adopted floodplain management ordinances;
- New state buildings in flood hazard areas must be authorized by a variance obtained from the Director of Department of General Services’ Division of Engineering and Buildings in consultation with DCR; and
- The State Corporation Commission determines the adequacy of the Commonwealth’s insurance with respect to potential flood damage.

All state agencies follow the directives listed above routinely. Therefore, the Executive Memorandum is considered state policy that must be followed by all state agencies. It represents ongoing mitigation efforts, not new initiatives, so is not further addressed by this plan.

Post Disaster Mitigation Strategy:

Prepared by the Commonwealth and FEMA immediately following establishment of a Disaster Field Office to respond to each presidential declared disaster, the Mitigation Strategy focuses mitigation priorities specific to recovery from that disaster. In conjunction with the state’s mitigation goals and vision statement, the Mitigation Strategy priorities are determined to support recovery operations for the specific disaster event. These priorities can include education, support of local officials in administration of floodplain ordinance requirements, targeted technical training and development of specific mitigation messages for affected residents, businesses and local governments. The Strategy outlines priorities for implementing Hazard Mitigation Grant Program funding that is determined as 15% of eligible program expenditures for the disaster. Immediate recovery priorities are outlined to guide eligible HMGP applicants.





4.8 Local Capabilities

With respect to addressing natural hazards, local jurisdictions control land use through plans, ordinances and codes. These programs are enabled through state law and regulation and like the many state programs described in this chapter, contribute significantly to mitigation of natural hazards. These programs were not directly considered during development of the final *Commonwealth of Virginia Mitigation Plan* because the plan primarily addresses state facilities determined to be at risk following analysis of vulnerability of state facilities to natural hazards. However, these efforts are extremely relevant as state agencies generally manage state facilities in a manner that is consistent and complementary of local comprehensive planning and zoning. State-sponsored construction adheres to the Uniform Statewide Building Code that incorporates the International Building Code, 2009.

Use of the Uniform Statewide Building Code is required for all new construction as well as significant repairs or additions within Commonwealth cities, counties and towns. Many of the local strategies that were identified by Virginia jurisdictions reflect the building code and address natural hazards. These local initiatives significantly contribute to mitigating hazards.

Comprehensive Plans are prepared by local planning commissions and address the physical development of land within a jurisdiction’s boundaries. The comprehensive plan “shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants” (§15.2-2223, *Code of Virginia*). Most plans evaluate and provide guidance for both land uses and the environment. Residential, business, industrial, agricultural, parks and open space, public land, floodplains, transportation corridors, community facilities, historical districts and areas targeted for redevelopment are all addressed within the plan. Also included are demographic trends such as population densities and information on age and quality of housing stock.

Zoning Ordinances are for general purpose of promoting health, safety or general welfare of the public. Some consideration to the following is given within each zoning district, where applicable:

- adequate light, air, convenience of access, and safety from fire, flood, crime and other dangers;
- provision of adequate police and fire protection, disaster evacuation, water, sewerage, flood protection, and other public requirements; and
- protection against loss of life, health, or property from fire, flood, panic and other dangers;





Land Subdivision and Development Ordinances are prescribed by statute and provide restrictions for plats, utilities, and streets, and address flood control, drainage, and other regulations that control the density and use of the land. (§15.2-2241, *Code of Virginia*).

2009 Uniform Statewide Building Code includes provisions related to wind hazards, snow loads, seismic risk flood hazards, and structural fire hazards. The Uniform Statewide Building Code, in partnership with the International Code Council, is promulgated by the Board of Housing and Community Development (BHCD) incorporated into the USBC the 2009 IBC, IRC and the IEBC March 1, 2010 which supersedes previous building codes and regulations (§36-98, *Code of Virginia*). The code has been cross-walked with the National Flood Insurance Program regulations and is consistent with local floodplain ordinances. The State Building Code Official provides technical assistance and interpretation of regulations to local governments. Periodic revision of the statewide building code usually includes adoption of the current IBC, IRC and the IEBC along with other state-specific regulations. This most recent adoption, provided wind strengthening measures that will reduce damages from severe storms and hurricanes.

Floodplain Management, Flooding has always been problematic in the Commonwealth with many severe floods documented soon after European settlement. To complement the National Flood Insurance Program, created in 1968, Virginia's General Assembly enacted the Virginia Flood Damage Reduction Act of 1989. This legislation was the result of several disastrous floods or coastal storms that hit the state between 1969 and 1985. To improve Virginia's flood protection programs and place related programs in one agency, responsibility for coordination of all state floodplain programs was transferred in 1987 from the Water Control Board to the Department of Conservation and Recreation (DCR). DCR was named manager of the state's floodplain program and designated coordinating agency of the National Flood Insurance Program under the act, §10.1-602, and a governor's memorandum released in July 1997. Floodplain Management Program staff work with localities to establish and enforce floodplain management regulations. Localities use the program's state model ordinances, in which minimum standards for local regulations are set, to write their own in order to participate in the National Flood Insurance Program. Local governments can set more restrictive standards to ensure higher levels of protection for residents in flood hazard areas. Also, the state has uses the Virginia Uniform Statewide Building Code to set construction standards for structures built in Federal Emergency Management Agency designated flood hazard areas.





Floodplain zoning regulates development within floodplains. The program's main goal is to protect people and their property from unwise floodplain development practices. It also protects society from costs associated with the development of risk-prone floodplains.

Stormwater Management, (Title 10.1, Chapter 6, Article 1.1 of the Code of Virginia)

These statutes specifically set forth regulations regarding land development activities to prevent water pollution, stream channel erosion, depletion of groundwater resources, and more frequent localized flooding to protect property value and natural resources. Stormwater management programs operated according to the law are intended to address these adverse impacts and comprehensively manage the quality and quantity of stormwater runoff on a watershed-wide basis.

CBLA and the Virginia Bay Act, (Title 10.1, Chapter 21 of the Code of Virginia)

The Bay Act is designed to improve water quality in the Chesapeake Bay and its tributaries by requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive lands. At the heart of the Bay Act is the concept that land can be used and developed in ways that minimize negative impacts on water quality. The first sentence of the Bay Act serves as a theme for the entire statute:

"Healthy state and local economies and a healthy Chesapeake Bay are integrally related; balanced economic development and water quality protection are not mutually exclusive."

Local Bay Act programs started implementing the provisions of the Bay Act regulations in the early '90s by amending their local comprehensive plans and land use ordinances. These localities have incorporated water quality protection measures consistent with the Bay Act Regulations into their zoning ordinances, subdivision ordinances, and comprehensive plans. The Regulations address non-point source pollution by identifying and protecting certain lands called Chesapeake Bay Preservation Areas. The Regulations use a resource-based approach that recognizes differences between various land forms and treats them differently.

4.8.1 Effectiveness of Local Policies, Programs, and Capabilities

Since the majority of mitigation activities in the Commonwealth are carried out at the local level, it is important to determine the effectiveness of local policies, programs, and capabilities. Comprehensive planning throughout the state has required localities to look at future land use planning. This is very effective in conjunction with local floodplain ordinances in restricting the type of development within the floodplain.





Hazard mitigation plans are beginning to be integrated into comprehensive plans; the cities of Chesapeake and Poquoson have integrated the two plans in their 5 year plan revisions. This integration will assist local decision makers in determining the risks of future development in certain areas. Both of these cities also require at least 1 foot of freeboard in their local floodplain ordinances. This provides additional risk reduction should a flood exceed the BFE or if the BFE changes over time due to changes in development and/or sea level rise for coastal communities.

4.8.2 Local Plan Capability Assessments

Capability assessments from each of the 26 local hazard mitigation plans were reviewed to determine the capabilities at the regional and local level. Table 4.2 is a display of the common plans, codes, and ordinances that were found in the local plans. This table isn't a true representation of each locality, but at least one locality within the plan had these capabilities in place. Comprehensive Land Use plans, subdivision ordinances, and building codes are represented throughout local capabilities as required through the codes referenced above.





Table 4.4 - Local Capability Matrix

| Local Plans and Ordinances | Comprehensive Plan | Land Use Plan | Subdivision Ordinance | Zoning Ordinance | NFIP/Floodplain Ordinance | Building Code | Local EOP | Stormwater Management | Fire Codes | Capital Improvement | Hazard Mitigation Plan | Economic Development |
|-------------------------------|--|---------------|-----------------------|------------------|---------------------------|---------------|-----------|-----------------------|------------|---------------------|------------------------|----------------------|
| Central Shenandoah | <i>No Capability Assessment Included</i> | | | | | | | | | | X | |
| City of Chesapeake | X | | X | X | X | X | X | X | | | X | |
| Commonwealth Regional Council | X | X | X | X | X | X | X | X | X | X | X | X |
| CRATER | X | X | X | X | X | X | | X | X | | X | |
| Cumberland Plateau | X | X | X | | X | X | X | X | | | X | |
| City of Franklin | X | X | X | X | X | X | X | X | X | X | X | |
| George Washington RC | X | X | X | X | X | X | X | X | | | X | |
| LENOWISCO | X | | X | X | | X | X | | | | X | |
| Middle Peninsula | X | X | X | X | X | X | X | | | | X | |
| Mount Rogers | <i>No Capability Assessment Included</i> | | | | | | | | | | X | |
| New River Valley | X | | X | | X | X | X | | | | X | |
| Northern Neck | X | X | X | X | X | X | X | X | | | X | X |
| Northern Shenandoah | X | | X | X | X | X | X | | X | X | X | |
| Northern Virginia | X | | X | X | X | X | X | X | X | X | X | X |
| City of Poquoson | X | X | X | X | X | X | X | X | | | X | |
| Rappahannock-Rapidan | X | X | X | X | X | X | X | X | X | X | X | |
| Region 2000 | X | | X | | X | X | X | X | | | X | |
| Richmond Regional | X | X | X | X | X | X | X | X | X | | X | X |
| Roanoke Valley-Alleghany | <i>No Capability Assessment Included</i> | | | | | | | | | | X | |
| Southampton County | X | X | X | X | | X | | | | X | X | |
| Southside | <i>No Capability Assessment Included</i> | | | | | | | | | | | |
| Southside Hampton Roads | X | X | X | X | X | X | X | X | X | X | X | X |
| Thomas Jefferson | X | X | X | X | X | X | X | X | | X | X | |
| West Piedmont | X | X | X | X | X | X | X | X | X | X | X | X |

