

## Chapter 5. Mitigation Strategy

The mitigation goals, objectives, and strategies outlined below were developed by both the steering committee and working groups. Prior to the beginning the working group meetings, the steering committee reviewed and revised the hazard mitigation goals from the original 2005 plan. The original eight goals were reviewed and modified into ten goals in the current plan. Some goals were simply reworded for consistency with other goals, while others were clarified and condensed. In the 2011 plan, there are seven goals directly related to the various hazards in the region, including a new goal associated with human-caused hazards. The final three goals address regional issues for how to handle mitigation and capitalize on resources within the region.

At each of the working group meetings, participants discussed the goals related to the specific hazard at hand. During these brainstorming sessions, participants identified specific strategies that could be implemented via projects to mitigate hazard impacts and then classified the strategies into groups or objectives. The flooding working group utilized a different method for reviewing and updating the objectives and strategies related to flooding. Since flooding is a high risk hazard in the New River Valley, the group felt it was more appropriate to modify the strategies and objectives from the original plan and add any new objectives or strategies where necessary.

### 5.1 Mitigation Goals and Objectives

#### 1. Minimize flood-related deaths and losses of existing and future structures.

##### a. *Save lives at imminent risk.*

- i. Seek grant funding to develop early warning systems in high-risk areas utilizing new technology.
- ii. Develop regional capacity for swift-water rescue, including training and equipment purchase.
- iii. Encourage localities to participate in the Storm Ready Program offered by the National Weather Service.
- iv. Promote “Turn Around, Don’t Drown” by utilizing signage and other awareness activities.
- v. Increase 2-way communication between NWS and emergency managers during flooding events, as well as communication with residents potentially affected by flooding.
- vi. Educate homeowners and residents in vulnerable areas about the dangers of floods.
- vii. Improve regional communication to improve flood response.

##### b. *Reduce risks to critical facilities.*

- i. Do not build new critical facilities in high hazard areas (may be a general policy decision or more strict zoning).
- ii. Identify critical facilities in high-risk areas.
- iii. Replace critical facilities currently located in high-risk areas.
- iv. Identify measures to reduce risk of critical facilities in high hazard areas.

- c. *Offer mitigation assistance to owners of flood-prone properties, especially repetitive loss properties.*
  - i. Pursue mitigation grant opportunities to buy out, elevate, relocate or water-proof flood-prone properties through FEMA, VDEM, and Community Development Block Grant.
  - ii. Study feasibility of mitigation in historic districts or with historic properties.
- d. *Educate citizens about the inevitability of flooding, the dangers it poses to life and property, and the opportunities for mitigation.*
  - i. Seek to update flood insurance studies and maps to understand risks more accurately.
  - ii. Encourage the development of statewide databases and geographic information systems layers to assist local government planning efforts.
  - iii. Encourage collection and development of better hazard history locally and incorporate into geographic information systems.
  - iv. Incorporate hazard mitigation information in the future in the local comprehensive planning process.
  - v. Utilize existing documents and programs from FEMA, the NFIP, VDEM, and the NWS to educate the public about hazards and mitigation opportunities.
  - vi. Produce and distribute local newsletters and/or other mitigation documents to residents in high-hazard areas.
  - vii. Coordinate with and support Community Emergency Response Team (CERT) information distribution activities in the community.
  - viii. Provide community workshops.
  - ix. Educate citizens about the availability and value of NFIP policies and encourage greater participation.
  - x. Notify and educate property owners of structures in floodplain about the potential impacts.
  - xi. Include a notice that property is in floodplain in deed or plat.
- e. *Limit future development in floodplains.*
  - i. Utilize zoning ordinances to further restrict undeveloped floodplains.
  - ii. Encourage standards above NFIP standards when considering floodplain development.
- f. *Develop adequate drainage structures and maintenance procedures to prohibit “back-up” flooding in high-hazard areas.*
  - i. Seek grant and/or state funding for replacement of inappropriately sized culverts and drainage.
  - ii. Pursue streambed clearance through citizen groups and/or the Natural Resources Conservation Service as needed to eliminate bottlenecks.
  - iii. Encourage bottomland farm fences to catch debris before reaching culverts.
  - iv. Schedule regular drainage system maintenance including before and after storms.
  - v. Work with VDOT to inventory culverts in the region.

- vi. Ensure that future culverts are adequately sized for the estimated run-off from storms.
- vii. Educate landowners about culvert maintenance to ensure culverts continue to efficiently handle stormwater.
- g. *Develop stormwater facilities or upgrades as needed to limit flooding in high hazard areas.*
  - i. Seek grant funding for regional stormwater detention facilities as needed. Reconsider design frequency of occurrence.
  - ii. Seek channel improvements or upgrades as needed to reduce peak flood flows.
  - iii. Pursue combinations of regional stormwater management strategies and onsite strategies.
  - iv. Encourage alternative stormwater management options in both new and existing facilities.
  - v. Inventory stormwater infrastructure to ensure adequate future maintenance.
  - vi. Utilize floodplains as community assets such as parks or other open spaces.
  - vii. Develop strategies for addressing impervious surfaces and their impact on stormwater.
- h. *Pursue mitigation projects that achieve multiple community goals.*
  - i. Pursue partnerships with land trusts to promote conservation easements on undeveloped floodplains and wetlands to aid flood mitigation.
  - ii. Pursue the affordable housing alternatives for low-income families now living in floodplains.
  - iii. Seek economic development opportunities, such as brownfields, which turn current “liabilities” into community assets.

## **2. Minimize economic losses and health risks during droughts.**

- a. *Develop a set of planning tools that mitigate the impacts of drought.*
  - i. Improve data and inventory of water users to better assess the vulnerability of water supplies to drought.
  - ii. Identify back-up water sources or increase storage capacity for public water systems.
  - iii. Develop a system of notification of precipitation predictions that will assist agricultural producers in short-term decision making.
  - iv. Pursue Memorandums of Understanding between localities and companies to haul in water as an alternative source of water during drought conditions.
  - v. Encourage water providers in the region to take advantage of programs designed to prevent leaks and water losses in their systems.
  - vi. Continue efforts to promote interconnections of municipal water systems for use should an emergency situation arise.

- b. *Encourage research and development of prediction capabilities that will assist in decision-making during drought conditions.*
  - i. Support the improvement of drought forecasting and predictions available from government sources (i.e., NOAA, NWS).
  - ii. Support efforts to develop and improve simulation modeling that provides information regarding all potential impacts and outcomes for decision-makers.
- c. *Promote educational efforts to assist residents in dealing with the impacts of drought.*
  - i. Provide information to residents of existing conservation measures and the sliding scale of prescriptive measures to assist in mitigating the impacts of drought.
  - ii. Promote educational efforts developed for private well owners about proper care and maintenance of their well, as well as the potential impacts associated with drought.

### **3. Minimize structural damage due to landslides.**

- a. *Develop strategies to protect existing structures from the impacts of landslides and debris flows.*
  - i. Identify areas where potential debris flow could be diverted to avoid existing structures.
  - ii. Re-vegetate areas in danger of becoming slides.
- b. *Develop educational materials and notification systems to better inform residents of landslide hazards.*
  - i. Create a database or reporting system for landslides.
  - ii. Notify permit applicants of site vulnerability to landslide and debris flow.
  - iii. Develop appropriate signage that warns of the danger of landslide and rockfall, especially during heavy rain periods.
  - iv. Install warning devices on extremely vulnerable sites that have remote notification for emergency and response personnel.
- c. *Encourage planning practices that mitigate the impacts of landslides and rockfall on new and existing developments.*
  - i. Ensure that the most accurate data is available while making planning decisions (i.e., zoning, subdivisions).
  - ii. Restrict future development in landslide prone areas.
  - iii. Continue to improve data available for future planning and mitigation.
  - iv. Incorporate additional language into ordinances to mitigate impacts from landslides.

- v. Continue to monitor A-rated rockfall cuts for future slope movement.
- vi. Encourage projects that expand catchment areas (i.e., ditches and shoulders) in potential rockfall areas of roads.
- vii. Encourage slope protection, reinforcement and reconstruction projects to prevent future rockfall events.
- viii. Engage in pre-demolition activities that control rockfall events.
- d. *Engage in activities to plan for and avoid future landslide and rockfall impacts.*
  - i. Gather existing route information for detours that may be necessary in the event of a rockfall event.

**4. Minimize risks to developments and structures in areas prone to earthquakes and new sinkholes.**

- a. *Encourage activities to protect structures from future events.*
  - i. Ensure that seismic requirements are included in building codes.
  - ii. Reinforce critical facilities to withstand seismic events.
- b. *Develop educational programs to increase residents' awareness of likelihood of geologic events.*
  - i. Develop training/education activities for all government staff on appropriate response for geologic events.
  - ii. Maintain awareness of regional seismic activity.
  - iii. Develop informational materials about potential for sinkholes in vulnerable areas.
- c. *Engage in planning activities to minimize impacts of earthquakes and sinkholes.*
  - i. Identify and mark known sinkholes.
  - ii. Conduct aerial surveys of hazardous conditions resulting from sinkholes.
  - iii. Survey local surveyors, well diggers, septic installers, soil scientists and other local experts to identify new sinkhole locations.
  - iv. Ensure that identified sinkholes are marked on plats, easements, and building permits.
  - v. Conduct water quality assessments to determine impacts of sinkholes on water sources.
  - vi. Encourage further dye tracing to track water as it moves between the surface and below ground.
  - vii. Ensure that groundwater sources are protected from contamination by requiring septic drainfields to be a minimum distance from a known sinkhole.

viii. Ensure structures are not placed near known sinkholes.

**5. Minimize impacts of significant weather events, such as winter weather and severe weather events in the NRV.**

*a. Encourage activities to prevent impacts during storm events.*

- i. Promote the installation and maintenance of drift fences to maintain access during snow events.
- ii. Emphasize that all road maintenance be done prior to storms to prevent access issues.

*b. Develop educational materials and events to prevent loss of life and property in severe weather events.*

- i. Emphasize what should be done during a storm event (i.e., lightning) to maintain safety.
- ii. Educate landowners about how overhanging utility lines and trees can cause property damage during a storm.
- iii. Continue educational efforts during times when events are not occurring (i.e., brochures, websites, awareness weeks-promotions coordination).
- iv. Create a brochure or handout of local hazards to provide to the community.
- v. Pursue Storm Ready designation for the region's communities.

*c. Encourage preparation and planning activities that ensure minimal impacts to life and property.*

- i. Encourage personal planning for storm events and their impacts.
- ii. Inventory public facilities to determine the need for back-up power generation.
- iii. Inventory of possible roof collapses through an analysis of building permits to determine need for future mitigation efforts.
- iv. Engage in regional emergency management exercises (table-top and field) to train responders.

**6. Minimize wildfire losses in the “urban wildland interface” areas.**

*a. Educate residents and landowners on possible wildfire mitigation techniques.*

- i. Educate the public about where building is occurring and the need to clear debris to prevent loss to wildfire.
- ii. Increase awareness of conditions that could enhance wildfire impacts.
- iii. Educate homeowners about the possibility of wildfires.
- iv. Conduct practice “tagging” exercises to educate homeowners about the realities of wildfire.

- v. Engage with landscaping companies to encourage and utilize Firewise techniques on customers' property.

*b. Engage in mitigation and planning activities to minimize wildfire impacts.*

- i. Ensure that new wildland communities are built to Firewise standards through inclusion in subdivision ordinances, building permits, set-back ordinances and covenants.
- ii. Limit future development in areas with slopes greater than 50% that prevent access by fire equipment.
- iii. Work with insurance to improve incentives for homeowners engaging in Firewise activities.
- iv. Improve physical access to community for fire and rescue personnel and equipment.
- v. Encourage county-wide fire plans and Community Wildfire Protection Plans.
- vi. Search for funding to increase equipment and personnel to fight wildfires.
- vii. Enforce existing regulations that home numbers at the road are easily visible for first responders.
- viii. Improve 911 mapping systems for improved access by first responders.
- ix. Work with land and home owners with gates or locks to improve fire access.
- x. Encourage mitigation activities that prevent wildfire damage to structures, including creating a defensible space around a vulnerable structure, structural protection through ignition resistant construction activities, and hazardous fuels reduction activities.

**7. Develop information on man-made hazards that impact human health and quality of life, e.g., air, water and soil quality in the NRV.**

**8. Promote community awareness and knowledge of hazards and programs available to encourage personal safety and property protection.**

- i. Develop a warning system and evacuation procedures to be available for use by the emergency response community.
- ii. Create a system for utilizing event data in real time during a response.
- iii. Encourage research that develops effective thresholds for issuing warnings to the general public regarding possible hazard events.

**9. Capitalize on available mitigation information, services and funding from various local, regional, state, federal, and non-profit agencies for mitigation planning and implementation.**

- i. Provide information and support the utilization of multiple grant sources to maximize a project's potential.
- ii. Weigh the interactions of all natural hazards before acting to address one.
- iii. Give highest priority to projects which achieve multiple goals.
- iv. Develop diverse partnerships, government, private, non-profit, etc.
- a. *Encourage research and development in the most effect means for notifying citizens of impending hazards.*
  - v. Support research efforts to determine the most effective ways to notify the public of impending events that elicit the desired response.

**10. Use regional coordination and cooperation, as needed, to enhance mitigation.**

- i. Create a system for local government and residents to provide feedback on mapping and historical data for future plan updates.
- ii. Improved regional coordination between localities and agencies for data sharing.
- iii. Continue to gather data and develop more information related to hazards and their potential impacts throughout the region.
- a. *Develop tools for local government staff to most effectively notify citizens of impending events.*
  - iv. Develop a regional strategy for using notification system to be most effective, including ways to utilize the existing system for additional notifications.
  - v. Develop a set of actions that can be taken by the public to be correlated with specific notifications.

## **5.2 Implementation Projects**

Implementing these mitigation strategies includes developing and completing projects that address different hazards. Some of these projects could include educational campaigns covering all hazards or specific construction projects to prevent flooding. With limited local budgets, there is a need to prioritize identified projects to provide the most benefit for the cost. Based on recommendations from VDEM, the steering committee suggested the use of STAPLEE criteria to prioritize the projects. STAPLEE stands for: Social, Technical, Administrative, Political, Legal, Economic, and Environmental. Under the social criteria, localities were encouraged to consider community acceptance of the project. The technical criteria included the feasibility of the project, how quickly it could be implemented, and whether the project could be implemented in phases. Administratively, localities considered previous time investment into the project or hazard area and staffing availability to implement the project. The potential to implement a



project at the regional level and the ability or willingness of the locality to provide matching funds should a grant become available were included in the political criteria. Legally, the localities were asked to consider whether they have the authority to implement a certain action. Economically, the cost of the project, funding availability and a known funding source were considered important issues. Finally the environmental issues related to a project were considered, including the relative risk level assigned to the hazard, the potential effects of the project on surrounding land and water resources, and whether the project was consistent with previous community goals.

Table 5-1 below is a listing of projects identified at the regional level and their relative priority based on these criteria. A full description of the projects is available in Appendix 4, along with listings of locality projects.

**Table 5-1. Regional Projects and Priority Rankings**

| <b>Project Description</b>  | <b>Relative Regional Ranking</b> |
|---|----------------------------------|
| Additional hazard, risk, damage and scientific data points  | High                             |
| Regional Water Supply Planning  | High                             |
| Create all hazards educational materials  | High                             |
| Develop a regional strategy for participation in "Turn Around, Don't Drown"   | High                             |
| Wildfire prevention and mitigation such as Firewise training at more woodland home communities, creating defensible space, hazardous fuels reduction, and ignition resistant retrofitting                         | High                             |
| Acquisition and demolition, acquisition and relocation, retrofitting, elevation, floodproofing, mitigation reconstruction of NFIP defined SRL properties, or other mitigation for properties in flood-prone areas | High                             |
| Regional Telecommunication Capacity and Interoperability  | Medium                           |
| Regional inventory of emergency response equipment and personnel  | Medium                           |
| Provide weather radios to vulnerable populations  | Medium                           |
| Create all hazards educational program & distribute preparedness kits   | Medium                           |
| Inventory culverts & identify those that need attention   | Medium                           |
| Identify emergency shelters & coordinate their use and equipment  | Medium                           |
| Inventory potential rockfall areas for mitigation benefits  | Medium                           |
| Identify rockfall issues on trails and walkways   | Medium                           |
| Coordinate with VDEM too identify companies to provide large, reliable water supplies   | Medium                           |
| Create karst program to actively map and educate landowners   | Medium                           |
| Minor localized flood control projects to include but not limited to stormwater management improvements   | Medium                           |

|  |        |
|--|--------|
| Upgrade and implementation of emergency response systems     | Medium |
| Hazard education and outreach                                | Medium |
| Regional Damage Assessment Team                              | Low    |
| Regional Infrastructure and Debris Management Planning Model | Low    |
| Create maps of inaccessible areas for emergency equipment    | Low    |
| Rockfall inventory for secondary roads                       | Low    |
| Improve detour signage                                       | Low    |
| Install notification systems at likely rockfall locations    | Low    |
| Inventory smaller and private bridges                        | Low    |

### 5.3 Capabilities Assessment

The capabilities assessment in the original *New River Valley Hazard Mitigation Plan* consisted primarily of an overview of staff available to assist in hazard mitigation and the geographic information systems capability of the localities. While both important components of a successful mitigation strategy and mitigation projects, there are some additional characteristics that can be important when implementing long-term mitigation actions, such as policy changes and capital improvement investments. As a result, the capabilities assessment in this plan includes these additional characteristics and a narrative assessment of each locality.

In an effort to objectively measure the capabilities of the participating localities, a spreadsheet was designed to identify critical elements in of each localities. The purpose of the spreadsheet was to ensure that each locality was examined through the same framework.

The capabilities of the localities are largely defined through four characteristics: 1) staff and organizational capacity, 2) technical capacity, 3) fiscal capacity, and 4) regulatory capacity. Each of these characteristics has indicators that were uniformly examined in each locality. Below is a summary of each locality’s capabilities based on these four characteristics and their indicators.

#### 5.3.1 Floyd County

##### 5.3.1.1 Staff and Organizational Capacity

Floyd County operates with a Board of Supervisors form of government. The County Administrator is hired by the Board to carry out the day-to-day operations of the County. The County has a number of departments that could be a part of any hazard mitigation actions, including

- Building Inspections
- Community/Economic Development
- Emergency Services Coordinator
- Fire Department

- Sheriff
- Recreational Parks Authority
- Health department

### **5.3.1.2 Technical Capacity**

Floyd County has limited technical expertise to engage in hazard mitigation activities. Many County employees fill more than one role within the government structure. The County does operate and maintain a GIS database of important spatial information for the County. Internet and email access are provided to County employees by the County.

### **5.3.1.3 Fiscal Capacity**

For Fiscal Year 2010, Floyd County had an operational budget of \$31 million. Actual budget spent on public safety or capital improvements was unavailable at the time of plan drafting. With current trends it is unlikely that the County would be able to provide cash matching for potential mitigation funds.

### **5.3.1.4 Regulatory Capacity**

Floyd County does participate in the NFIP, but does not engage in any Community Rating System activities. As required by NFIP, the County does maintain floodplain regulations. Per Virginia State Code, the County does have and maintain a comprehensive plan to identify goals and areas for growth and development in the county. The County is currently revising their comprehensive plan. Adoption of the new comprehensive plan is expected in early 2011. Floyd County does have a subdivision ordinance to guide how land is divided in the county, but does not utilize a zoning ordinance.

## **5.3.2 *Town of Floyd***

### **5.3.2.1 Staff and Organizational Capacity**

The Town of Floyd in Floyd County operates under a mayor/town council form of government with only two town employees, a town manager and a clerk/treasurer. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

### **5.3.2.2 Technical Capacity**

The Town of Floyd has very limited technical expertise. The two Town employees are provided internet and email access, but the Town does not maintain its own GIS database. The Town relies on Floyd County for many of its services to residents.

### **5.3.2.3 Fiscal Capacity**

The Town of Floyd has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.2.4 Regulatory Capacity**

The Town of Floyd adopts a joint comprehensive plan with Floyd County. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits. As the Town does not participate in the NFIP, it also does not maintain any floodplain regulations.

### **5.3.3 Giles County**

#### **5.3.3.1 Organizational and Staff Capacity**

Giles County operates under a board of supervisors/county administrator form of government. The County Administrator is hired by the Board of Supervisors to oversee the day-to-day operations of the County. The County has multiple departments that could be involved in mitigation activities including

- Building and Zoning
- Sheriff
- Health Department
- Public Service Authority

#### **5.3.3.2 Technical Capacity**

Giles County employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning and zoning administrator, a county engineer, a code enforcement officer, and a building official. The County does not have a full-time dedicated Emergency Services Coordinator, rather several employees fill that role. The County is interested in finding funding to hire such a dedicated position. The County does operate and maintain a GIS database with important spatial data for the county. Internet and email is provided by the County for employees.

#### **5.3.3.3 Fiscal Capacity**

During Fiscal Year 2010, Giles County had an operational budget of just over \$51 million, with just over \$4 million dedicated to public safety. With a limited budget, it is unlikely that Giles County would be able to easily meet the matching requirements for obtaining mitigation funding.

#### **5.3.3.4 Regulatory Capacity**

Giles County does participate in the NFIP, but does not engage in any Community Rating System activities. The County does have floodplain regulations, but County contacts have limited knowledge of a county floodplain management plan. The County does utilize both a subdivision and zoning ordinance based on the County comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by the Board of Supervisors in 2005. The County does have an emergency operations plan, but information about the plan and its implementation is limited.

### **5.3.4 *Town of Glen Lyn***

#### **5.3.4.1 Staff and Organizational Capacity**

The Town of Glen Lyn in Giles County operates under a mayor/town council form of government with a town manager and other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

#### **5.3.4.2 Technical Capacity**

The Town of Glen Lyn has very limited technical expertise. The Town employees are not provided internet and email access. The Town does not maintain its own GIS database. The Town relies on Giles County for many of its services to residents.

#### **5.3.4.3 Fiscal Capacity**

The Town of Glen Lyn has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.4.4 Regulatory Capacity**

The Town of Glen Lyn does participate in the NFIP and utilizes a floodplain regulation. It is unclear whether the Town has a floodplain management plan. The Town of Glen Lyn adopted its most recent comprehensive plan in 2001. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

### **5.3.5 *Town of Narrows***

#### **5.3.5.1 Staff and Organizational Capacity**

The Town of Narrows in Giles County operates under a mayor/town council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

#### **5.3.5.2 Technical Capacity**

The Town of Narrows has very limited technical expertise. The Town employees are provided limited internet and email access. The Town does not maintain its own GIS database. The Town relies on Giles County for many of its services to residents.

#### **5.3.5.3 Fiscal Capacity**

The Town of Narrows has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.5.4 Regulatory Capacity**

The Town of Narrows does participate in the NFIP and utilizes a floodplain regulation. It is unclear whether the Town has a floodplain management plan. The Town of Narrows adopted its most recent comprehensive plan in 2001. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

### **5.3.6 Town of Pearisburg**

#### **5.3.6.1 Staff and Organizational Capacity**

The Town of Pearisburg in Giles County operates under a mayor/town council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town. The Town has several departments that could be involved in mitigation activities including

- Public Works
- Building Inspections
- Fire Department
- Police Department

#### **5.3.6.2 Technical Capacity**

The Town of Pearisburg has more technical expertise than other towns in Giles County, but is still relatively limited. The Town employees are provided internet and email access. The Town does not maintain its own GIS database.

#### **5.3.6.3 Fiscal Capacity**

The Town of Pearisburg has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.6.4 Regulatory Capacity**

The Town of Pearisburg does participate in the NFIP and utilizes a floodplain regulation. It is unclear whether the Town has a Floodplain Management Plan. The Town of Pearisburg adopted its most recent comprehensive plan in 2007. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

### **5.3.7 Town of Pembroke**

#### **5.3.7.1 Staff and Organizational Capacity**

The Town of Pembroke in Giles County operates under a mayor/council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

#### **5.3.7.2 Technical Capacity**

The Town of Pembroke has very limited technical expertise. The Town employees are provided limited internet and email access. The Town does not maintain its own GIS database. The Town relies on Giles County for many of its services to residents.

#### **5.3.7.3 Fiscal Capacity**

The Town of Pembroke has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.7.4 Regulatory Capacity**

The Town of Pembroke does participate in the NFIP and utilizes a floodplain regulation. It is unclear whether the Town has a floodplain management plan. The Town of Pembroke adopted its most recent comprehensive plan in 2003. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

#### **5.3.8 Town of Rich Creek**

##### **5.3.8.1 Staff and Organizational Capacity**

The Town of Rich Creek in Giles County operates under a mayor/council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

##### **5.3.8.2 Technical Capacity**

The Town of Rich Creek has limited technical expertise. The Town employees are not provided internet and email access. The Town does not maintain its own GIS database. The Town relies on Giles County for many of its services to residents.

##### **5.3.8.3 Fiscal Capacity**

The Town of Rich Creek has a very limited budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

##### **5.3.8.4 Regulatory Capacity**

The Town of Rich Creek does participate in the NFIP and utilizes a floodplain regulation. It is unclear whether the Town has a floodplain management plan. The Town of Rich Creek adopted its most recent comprehensive plan in 2008. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

#### **5.3.9 Montgomery County**

##### **5.3.9.1 Organizational and Staff Capacity**

Montgomery County operates under a board of supervisors/county administrator form of government. The County Administrator is hired by the Board of Supervisors to oversee the day-to-day operations of the County. The County has 36 departments, some of which could be involved in mitigation activities including

- Building and Zoning
- Sheriff
- Emergency Services
- Health Department
- Public Service Authority

### **5.3.9.2 Technical Capacity**

Montgomery County employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning director, a planning and zoning administrator, a county engineer, a code enforcement officer, GIS manager, an emergency services coordinator, and a building official. The County does operate and maintain a GIS database with important spatial data for the county. Internet and email is provided by the County for employees.

### **5.3.9.3 Fiscal Capacity**

During Fiscal Year 2010, Montgomery County had an operational budget of just over \$158 million. With current economic stressors in the county, as well as around the country, it is unlikely that the County would be able to meet the matching requirements for obtaining mitigation funding.

### **5.3.9.4 Regulatory Capacity**

Montgomery County does participate in the NFIP and engages in many Community Rating System activities though it is not in the Community Rating System. The County does have floodplain regulations, but County contacts have limited knowledge of a county floodplain management plan. The County does utilize both a subdivision and zoning ordinance based on the county comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by the Board of Supervisors in 2004 and has been updated several times, as recently as 2010. The County does have an emergency operations plan, but information about the plan and its implementation is limited. Additionally, Montgomery County does have an open space plan that guides acquisition and development of open spaces and parks around the county.

## **5.3.10 *Town of Blacksburg***

### **5.3.10.1 Organizational and Staff Capacity**

The Town of Blacksburg operates under a town council/town manager form of government. The Town Manager is hired by the Town Council to oversee the day-to-day operations of the Town. The Town has 18 departments, some of which could be involved in mitigation activities including:

- Engineering and GIS
- Parks and Recreation
- Planning and Building
- Police
- Public Works

### **5.3.10.2 Technical Capacity**

The Town of Blacksburg employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning and zoning administrator, a town engineer, a code enforcement officer, and a building official. The



Town does operate and maintain a GIS database with important spatial data for the town. Internet and email is provided by the Town for employees.

### **5.3.10.3 Fiscal Capacity**

During Fiscal Year 2010, the Town of Blacksburg had an operational budget of just over \$27 million, with a public safety budget of just over \$7 million. With current economic stressors in the town, as well as around the country, it is unlikely that the Town would be able to meet the matching requirements for obtaining mitigation funding.

### **5.3.10.4 Regulatory Capacity**

The Town of Blacksburg participates and is in good standing with the NFIP. The town zoning ordinance consists of the Floodplain Overlay and Creek Valley Overlay districts to regulate uses, activities, and development in flood prone areas defined by FEMA and the Town of Blacksburg. The Town Floodplain Management Program meets and or exceeds the minimum standards set forth by the NFIP and employs Certified Floodplain Managers (CFM) to manage the program. The Floodplain Overlay section of the zoning ordinance was updated to reflect new FEMA maps and regulations in 2009. The Town does utilize both a subdivision and zoning ordinance based on the town comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by the Town Council in 2006. Additionally, the Town of Blacksburg does have an open space plan that guides acquisition and development of open spaces and parks around the town.

Emergency Operation Plans are in place in the Police Department, Fire Department, Rescue Squad, and the Public Works Department. Plans covering various situations are in place in the Engineering Department, Finance Department, and the Technology Department. There is also a draft Emergency Management Plan that the Emergency Preparedness Committee has reviewed.

In the event of a significant emergency the Virginia Department of Emergency Management (VDEM) coordinates assistance through Montgomery County who in turn assists the Town. Depending on the type of emergency the Town Manager may designate the Police Chief, Fire Chief, Rescue Chief, or another Department Director as the lead individual depending on the specifics of the situation.

In the next year the Emergency Preparedness Committee will finalize the Emergency Management Plan and review it with all Town Departments.

## ***5.3.11 Town of Christiansburg***

### **5.3.11.1 Organizational and Staff Capacity**

The Town of Christiansburg operates under a town council/town manager form of government. The Town Manager is hired by the Town Council to oversee the day-to-day operations of the Town. The Town has 10 departments, some of which could be involved in mitigation activities including:

- Building Inspections
- Engineering

- Planning & Zoning
- Public Works

### **5.3.11.2 Technical Capacity**

The Town of Christiansburg employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning and zoning administrator, a town engineer, a code enforcement officer, and a building official. The Town does operate and maintain a GIS database with important spatial data for the town. Internet and email is provided by the Town for employees.

### **5.3.11.3 Fiscal Capacity**

No current budget information is available for the Town of Christiansburg. With current economic stressors in the Town, as well as around the country, it is assumed that it is unlikely the Town would be able to meet the matching requirements for obtaining mitigation funding.

### **5.3.11.4 Regulatory Capacity**

The Town of Christiansburg does participate in the NFIP, but does not engage in any Community Rating System activities. The Town does have floodplain regulations, but Town contacts have limited knowledge of a town floodplain management plan. The Town does utilize both a subdivision and zoning ordinance based on the town comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by the Town Council in 2003. The Town has an emergency operations plan, but information about the plan and its implementation is limited.

## **5.3.12 Pulaski County**

### **5.3.12.1 Organizational and Staff Capacity**

Pulaski County operates under a board of supervisors/county administrator form of government. The County Administrator is hired by the Board of Supervisors to oversee the day-to-day operations of the County. The County has several departments which could be involved in mitigation activities including:

- Building
- Zoning
- Sheriff
- Emergency Management
- Public Service Authority
- Health department

### **5.3.12.2 Technical Capacity**

Pulaski County employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning and zoning

administrator, a county engineer, a code enforcement officer, a building official, and an emergency services coordinator. The County does operate and maintain a GIS database with important spatial data for the county. Internet and email is provided by the County for employees.

#### **5.3.12.3 Fiscal Capacity**

During Fiscal Year 2010, Pulaski County had a limited budget. With current economic stressors in the county, as well as around the country, it is unlikely that the County would be able to meet the matching requirements for obtaining mitigation funding.

#### **5.3.12.4 Regulatory Capacity**

Pulaski County does participate in the NFIP, but does not engage in any Community Rating System activities. The County does have floodplain regulations, but County contacts have limited knowledge of a county floodplain management plan. The County does utilize both a subdivision and zoning ordinance based on the county comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by the Board of Supervisors in 2009. The County does have an emergency operations plan, but information about the plan and its implementation is limited.

### ***5.3.13 Town of Dublin***

#### **5.3.13.1 Staff and Organizational Capacity**

The Town of Dublin in Pulaski County operates under a mayor/council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

#### **5.3.13.2 Technical Capacity**

The Town of Dublin has limited technical expertise. Town employees are provided internet and email access by the Town. The Town does not maintain its own GIS database. The Town relies on Pulaski County for many of its services to residents.

#### **5.3.13.3 Fiscal Capacity**

The Town of Dublin has a very limited operational budget of just over \$1 million in Fiscal Year 2009, with public safety accounting for almost half of that budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding. The most recent capital improvement plan was adopted in 1998.

#### **5.3.13.4 Regulatory Capacity**

The Town of Dublin does participate in the NFIP and utilizes a floodplain regulation, but does not participate in Community Rating System activities. It is unclear whether the Town has a floodplain management plan. The Town of Dublin adopted its most recent comprehensive plan in 1999. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits.

### ***5.3.14 Town of Pulaski***

#### **5.3.14.1 Staff and Organizational Capacity**

The Town of Pulaski in Pulaski County operates under a mayor/council form of government with a town manager and several other Town employees. The Town Manager is hired by Town Council to carry out the day-to-day operations of the Town.

#### **5.3.14.2 Technical Capacity**

The Town of Pulaski has limited technical expertise. Town employees are provided internet and email access by the Town. The Town does maintain its own GIS database.

#### **5.3.14.3 Fiscal Capacity**

The Town of Pulaski has a very limited operational budget. It is highly unlikely that the Town would be able to meet matching requirements of mitigation funding.

#### **5.3.14.4 Regulatory Capacity**

The Town of Pulaski does participate in the NFIP and utilizes a floodplain regulation, but does not participate in Community Rating System activities. It is unclear whether the Town has a floodplain management plan. A stormwater management plan is maintained by the Town engineering department. The Town of Pulaski adopted its most recent comprehensive plan in 2004. The Town does utilize zoning and subdivision ordinances to determine growth and development within Town limits. While there is limited knowledge of an emergency operations plan, the Town may have a joint plan with Pulaski County.

### ***5.3.15 City of Radford***

#### **5.3.15.1 Organizational and Staff Capacity**

The City of Radford operates under a city council/city manager form of government. The City Manager is hired by the City Council to oversee the day-to-day operations of the City. The City has 18 departments, some of which could be involved in mitigation activities including has several departments which could be involved in mitigation activities including:

- Building
- Engineering
- Projects
- Planning
- Health department
- Fire
- Police

### **5.3.15.2 Technical Capacity**

The City of Radford employs several full-time dedicated employees that would assist in identifying and implementing hazard mitigation activities. Among these are a planning and zoning administrator, a city engineer, a code enforcement officer and a building official. The City does operate and maintain a GIS database with important spatial data for the city. Internet and email is provided by the City for employees.

### **5.3.15.3 Fiscal Capacity**

During Fiscal Year 2010, the City of Radford had an operational budget of approximately \$47 million with almost \$6 million dedicated to public safety and about \$2.5 million dedicated to health and welfare. With current economic stressors in the city, as well as around the country, it is unlikely that the City would be able to meet the matching requirements for obtaining mitigation funding.

### **5.3.15.4 Regulatory Capacity**

The City of Radford does participate in the NFIP, but does not engage in any Community Rating System activities. The City does have floodplain regulations, but City contacts have limited knowledge of a city floodplain management plan. The City does utilize both a subdivision and zoning ordinance based on the city comprehensive plan to guide growth and development. The most recent comprehensive plan was approved by City Council in 2009. The City does have an emergency operations plan, but information about the plan and its implementation is limited. Additionally, the City of Radford does have an open space plan adopted in 2007 that guides acquisition and development of open spaces and parks around the City.