

Appendices to Regional Natural Hazard Mitigation Plan

Thomas Jefferson Planning District March 2018

Introduction

Appendix A: Hazard Mitigation Working Group Documentation:

- Roster of Working Group members
- Meeting Packet for 5/23/2016
- Meeting Packet for 10/05/2016
- Meeting Packet for 12/08/2016
- Meeting Packet for 3/20/2017
- Meeting Packet for 5/23/2017
- Locality Contacts

Appendix B: Changes from 2012 Hazard Mitigation Plan

- Disposition of 2012 mitigation activities from 2015 annual meeting
- Justification for removal and revised priority of 2012 action items

Appendix C: Documentation of Public Participation

- Daily Progress Article 11-01-16
- Public Workshop 11-14-16
- Floodplain Management Workshop Flyer 12-12-17
- On-line Survey
- Draft Plan for Public Comment Notifications

Appendix D: Capability Assessments

- Albemarle County
- City of Charlottesville
- Fluvanna County
- Greene County
- Louisa County
- Nelson County



Regional Hazard Mitigation Plan Update Working Group Roster

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**Thomas Jefferson Planning District Commission
Hazard Mitigation Working Group
2016 Annual Meeting**

**Monday, May 23, 2016
1:30 – 3:00 p.m.
TJPDC Office, 401 E. Water Street, Charlottesville**

ANNUAL MEETING AGENDA

I. Introductions

The Working Group consists of at least one representative from each locality.

II. Annual Review

- *Local hazard events and impacts*
- *New critical facilities*
- *Grant applications and awards*
- *Progress of mitigation activities*
 - *Education and Outreach – awareness and individual action*
 - *Infrastructure and Buildings – physical projects*
 - *People and Vulnerable Populations – identification, facilities, and staff training*
 - *Mitigation Capacity – codes and ordinances, planning*

III. Five-Year Update – Due December 2017

- *Grant agreement, funded amount, and matching funds required*
- *Discussion of process and timeline*
 - *Two public meetings: Risk Analysis and Goals & Strategies*
 - *Methodology for generating goals and strategies*
 - *Incorporating resilience into the planning work*

ANNUAL REPORT - 2016
Regional Natural Hazard Mitigation Plan – Update Approved in 2012
Thomas Jefferson Planning District

Annual Meeting

The Working Group for the Hazard Mitigation Plan held their 2016 annual meeting on May 23, 2016. Meeting attendees included Kirby Felts – Emergency Management Coordinator for Albemarle, Charlottesville, UVa Emergency Communications Center; Cheryl Elliott – Emergency Services Coordinator, Fluvanna County; Brian Haluska – Neighborhood Development Services, City of Charlottesville; David Benish – Chief of Community Development for Albemarle County; Bart Svoboda – Planning Director Greene County; Allyson Finchum – Director of Planning for Louisa County; and Billie Campbell and Wood Hudson from the TJPDC.

Plan Maintenance

The Plan calls for the Working Group to monitor the mitigation strategies and make recommendations for additional improvements. The evaluation will address whether:

1. goals and objectives address current and expected conditions;
2. the nature, magnitude, or type of hazard affecting the region has changed;
3. current resources are appropriate for implementing the plan
4. important problems such as technical, political, legal, or coordination issues with other agencies have occurred;
5. agencies and other partners are participating as originally proposed.

The plan specifies that Working Group will meet annually in May to review the year's local hazard events and impacts, community actions that may help or hinder mitigation capabilities, and the progress of mitigation activities.

Local Hazard Events and Impacts Over the Past Year

Wind event and flooding, 10 September 2015
Hurricane Joaquin, 29 September – 2 October 2015
Winter Storm Jonas, 22-24 January 2016
Tornado in Fluvanna County, 24 February 2016
Earthquake in Louisa County, 27 March 2016
Fire in Shenandoah National Park, 16-27 April 2016

Other Community Actions

Regional

Insert on Emergency Preparedness in Daily Progress, end of September 2015
Interoperability radio system with Albemarle/Charlottesville/UVA, Fluvanna/Louisa, Orange, Madison and Green

Charlottesville-Albemarle-UVA

CERT Level 1 Orientation, January -March 2016
CERT Level 2 Course, March -April 2016
Vulnerability assessment of water system initiated
Emergency Notification System and VEOCI information sharing system
Expanded capabilities for Reverse 911 system (new vendor)

University of Virginia

New generator installed at Observatory Hill Dining Hall

Albemarle County

Included Hazard Mitigation Plan in updated Comprehensive Plan adopted June 2015

Bridge improvements: Broomley Road, Black Cat Road, Dick Wood's Road, Dry Bridge Road
Route 29 widening and grade-separated interchange at Rio & 29 under construction

Charlottesville:

Held a community event on Fire Department priorities, September 2015

Undergrounding power lines between substations (3 serving UVA), under construction

Fluvanna:

Department of Corrections water system – in design phase

New Public Safety radio system underway (expected to be operational Spring 2017)

New bridge over Rivanna River in Columbia

Upgrade water lines and hydrants for fire suppression at Lake Monticello

Greene:

Established standards to get EMS in rural areas

Reservoir Project permitted, construction documents underway

Generator installs at Ruckersville and Stanardsville Fire Departments

Generator capability expansion at Flat Top Mountain Tower Site

Amateur radio equipment installed at Flat Top Mountain Tower Site

Community outreach and event with the American Red Cross regarding their Smoke Alarm
Program – October 2015

Flu Clinic with the Thomas Jefferson Health District – October 2015

Recertification as a Storm Ready Community

Community outreach and event with the Blue Ridge Task Force regarding heroin epidemic – March
2016

Crisis kits placed in all public schools

Community outreach and event regarding National Weather Service SKYWARN Class – June 2015

Text-to-911 implementation – July 2015

Louisa:

Passed resolution to join Fluvanna's New Public Safety radio system

Added EMS/Fire Department permanent staff

Broadband Authority funded 10 new towers

With Fluvanna – James River Authority building new water line– clearing going on, easements
being acquired

New treatment facility – construction documents underway

Nelson:

Expanding capabilities for Reverse 911 system (new vendor) – to be complete in May 2016

Public Safety radio system upgraded – December 2015

Community outreach and event with the American Red Cross regarding their Smoke Alarm
Program – September 2015

Broadband Authority approved for expanding additional 8 miles – project ongoing

New Critical Facilities:

Albemarle – Upgraded Seminole Trail Fire Station

Albemarle – Ragged Mountain Dam reservoir filled

Albemarle – Albemarle Health & Rehabilitation Center near Monticello High School (formerly in
Lovingson in Nelson Co)

Albemarle – Commonwealth Assisted Living at Pantops (formerly Jefferson Heights, independent living)
Louisa – New High School completed
Nelson - Courthouse Expansion Phase 2 – to include County Offices and Circuit Court – in progress

Grants Applied for and Status

(Describe any grant applications submitted, with date submitted, grant amount, purpose of grant, funding source and current status: Pending, Not funded, Funded.

Town of Columbia – demolition of substantially damaged buildings in flood plain, \$199,500 – Funded February 29, 2016 by FEMA and VDEM

Greene County

- Rescue Squad Assistance Grant Fund – Virginia Office of EMS - \$8,425 for CPR and AED equipment – submitted February 2016 - Pending
- Rappahannock Electric LEARN Grant - \$1,500 for K9 ballistic vests – submitted April 2016 - Pending
- VDEM/FEMA - \$31,000 for emergency preparedness – funded October 2015 - Funded
- DMV Traffic Enforcement (alcohol and speed) - \$14,000 – funded for FY15/16 - Funded
- US Department of Justice - \$2,975 for equipment – funded for FY15/16 - Funded
- VDEM/FEMA - \$97,060 for the purchase of two generators – received funds and closed project in April 2016 - Funded

Louisa County – Earthquake funding through FEMA and VDEM, Funded, \$5.4 million in state and local funds related to the August 2011 earthquake

Nelson County - DMV Traffic Enforcement (alcohol and speed) - \$14,000 – funded for FY15/16 – Funded

5-Year Plan Update

The Five-Year Update is due in December 2017. The process includes plan development, review and approval by VDEM, review and approval by FEMA, and formal adoption by all localities in the Planning District.

TJPDC staff reviewed the grant agreement, funded amount, and matching funds required. The Federal Award is \$45,000, with a \$15,000 local match, for a total project cost of \$60,000. Local staff time is budgeted as \$7,000 of in-kind costs, which is part of the \$15,000 local match. Locality staff will need to submit their staff hours and costs to TJPDC for inclusion with invoices to VDEM.

TJPDC staff reviewed the timeline for the project. This includes a public meeting on Risk Analysis and Goals & Strategies, the methodology for generating goals and strategies. The process will need to Incorporate resilience into the planning work. The draft timeline reviewed is attached to this report.

Regional Hazard Mitigation Plan Update Working Group Meeting

**Wednesday, October 5, 2016
1:30 – 3:00 p.m.**

AGENDA

Goals:

- (1) *Review the preliminary Hazard Identification and Risk Analysis*
- (2) *Assess Vulnerability*
- (3) *Define next steps*

- **Welcome and Introductions**
- **Hazard Identification and Risk Assessment (HIRA)**
 - Review of HIRA findings
 - Vulnerability Assessment
 - Review list of notable events
 - Update critical facilities and high water roads – maps will be posted in the meeting room for review and mark-up
- **Next Steps in Process**
 - Public Meeting in October: Present data on hazards and ask for input on goals and actions
 - Develop draft actions: Process, people to involve
 - On-line survey of goals and actions: part of the public involvement process

Hazard Mitigation Working Group October 5, 2016 Minutes

Attendees:

Kirby Felts, Charlottesville-UVA-Albemarle Office of Emergency Management
Allison Farole, Charlottesville-UVA-Albemarle Office of Emergency Management
Cheryl Elliott, Fluvanna County (by phone)
Bart Svoboda, Greene County
Wood Hudson, Thomas Jefferson Planning District Commission
Billie Campbell, Thomas Jefferson Planning District Commission

Welcome and Introductions: Billie Campbell welcomed everyone to the meeting. All attendees introduced themselves.

Hazard Identification and Risk Analysis (HIRA)

HIRA Findings: Wood Hudson reviewed the data and analysis for the HIRA using a PowerPoint slide presentation (handout attached to these minutes). The HIRA describes all natural hazards that affect the region and provides an analysis on location, extent, severity, and probability of occurrence. The HIRA uses the latest available data, but some data is not very recent (e.g. Landslide analysis is based on a 1985 study). Hazards are presented in the order of risk as determined for the 2012 HMP. The state plan was used as a model.

Vulnerability Assessment: After reviewing the data and analysis, the Working Group jointly filled out the vulnerability assessment sheet, using Kaiser Permanente's Hazard and Vulnerability Assessment Tool for Naturally Occurring Events. Some hazards were grouped together (e.g. hurricane/high wind/windstorms). The group evaluation differed from the 2012 exercise, yielding a new list of by order of risk. The table with the group ratings and calculated averages is attached to these minutes.

List of Notable Events: A list of notable events from 2012 to 2016 was included in the presentation. The group directed the removal of Hurricane Joaquin from the list, since local impacts were not significant.

Critical Facilities and High-Water Roads: Maps were posted in the meeting room for review and mark up. Wood Hudson created these for the region, and will provide individual maps and lists specific to each locality to members of the Working Group.

Next Steps in the Process:

Public Meeting: A public meeting will be held in early November, to present the data on hazards and receive input on goals, objectives and actions.

On-Line Survey of Goals and Actions: This Survey Monkey tool will be promoted through a press release, TJDPC News Briefs, and e-mails to distribution lists by members of the Working Group. This is one tool to collect public input. A draft survey was included in the meeting packet for review and comment by the Working Group. The list of hazard will be adjusted to reflect the vulnerability assessment conducted at this meeting. Goals and Objectives from the 2012 Plan were included in the meeting packet. These will be reviewed by the Working Group at the next meeting, using comments from the public meeting and survey results to inform that discussion.

Develop Draft Actions: The list of actions from the 2012 Plan will serve as a starting point, with adjustments made based on input received and discussion by the Working Group. TJPDC is available to meet with Local Emergency Planning Committees (LEPC) to facilitate discussion of potential actions. The Plans Review Group for Charlottesville-Albemarle-UVA will meet on October 31. The meeting will include a review of actions from the 2012 Plan and generating a new list of actions for the 2017 plan. Local staff need to provide meeting dates for the LEPC and include time for a discussion of action at the meeting.

Adjournment: There being no further business, the meeting was adjourned.

**NATURAL HAZARD
MITIGATION PLAN UPDATE**

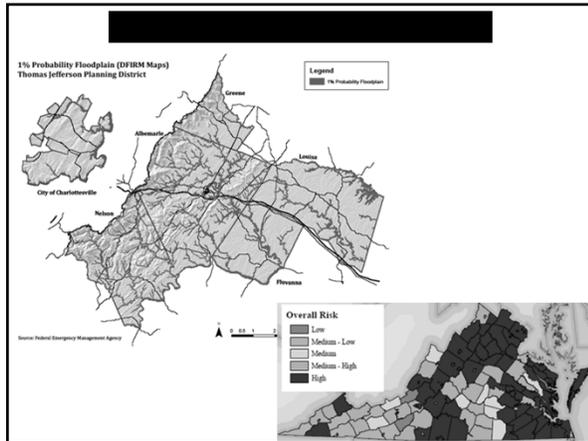
Hazard Identification and Analyses
Data Update

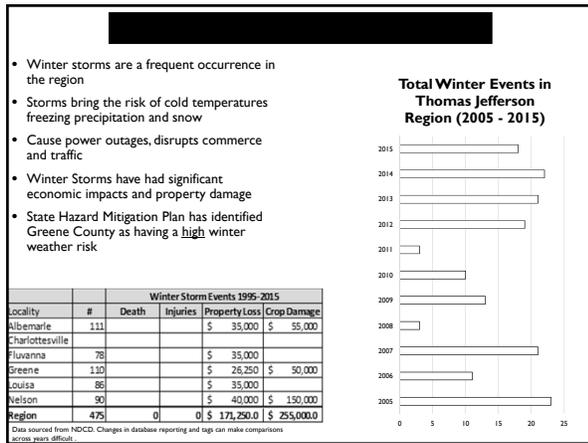
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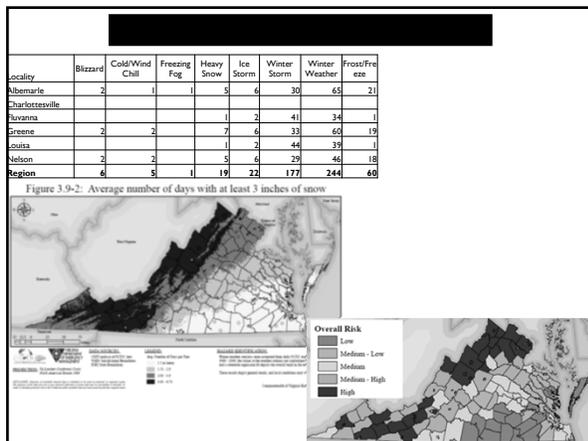
- Describe all natural hazards that affect the Planning district and provide an analysis on location, extent, severity, and probability of occurrence.
- General descriptions come from the 2006 draft of the plan and have not changed significantly
- Where Available, new data has been incorporated into the analyses of events
- Hazards are presented in order of the relative risk they pose to the region.
- Potential hazards are rated based on a risk matrix developed by Kaiser Permanente.

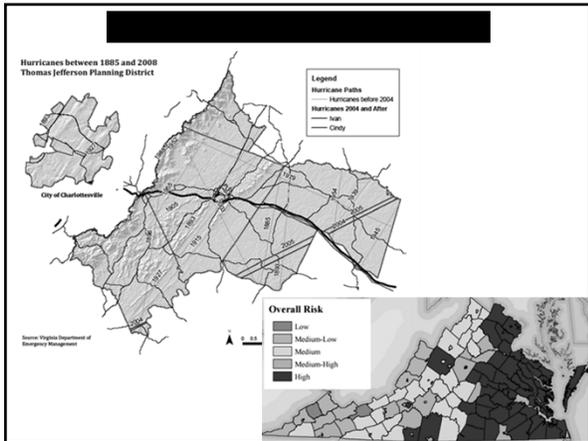
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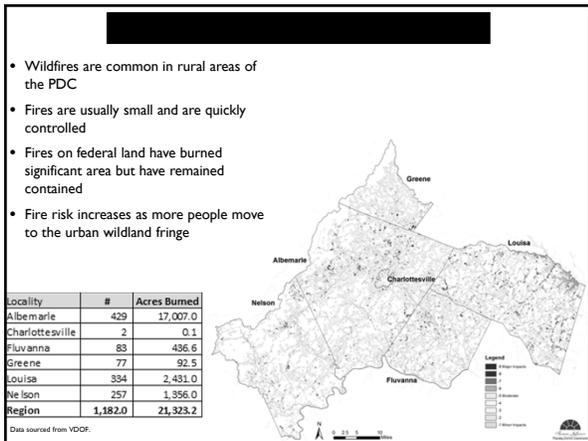
- Major Threats
 - Flooding
 - Severe Winter Storms
 - Hurricanes, High Winds and Thunderstorms
 - Wildfires
 - Tornadoes
- Minor Threats
 - Drought
 - Landslides
 - Earthquake
 - Dam Failure
 - Extreme Temperatures
 - Landslides

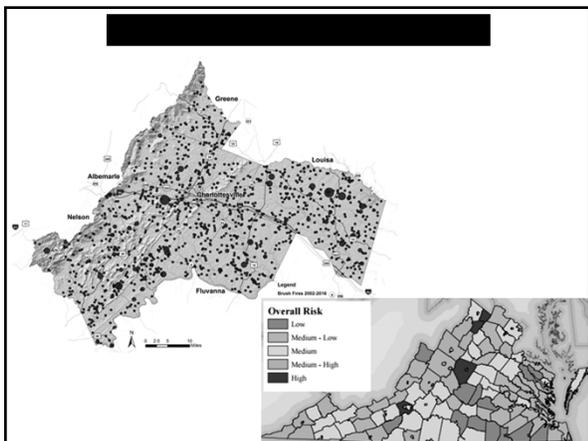


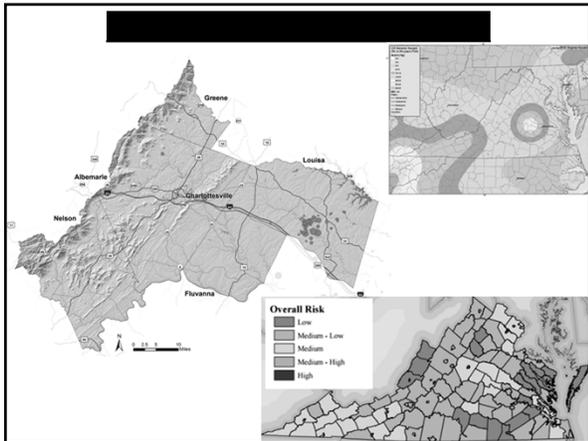








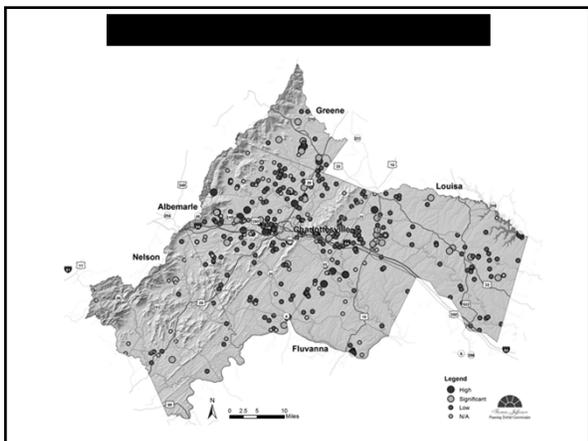




- Dam data was sourced from DCR and is maintained nationally by U.S.ACE.
- List contains public and privately owned dams
- Dams are ranked in accordance to their hazard potential in terms of the threat to loss of life
- Several populated areas are located downstream of major dams (Sugar Hollow, South Fork)

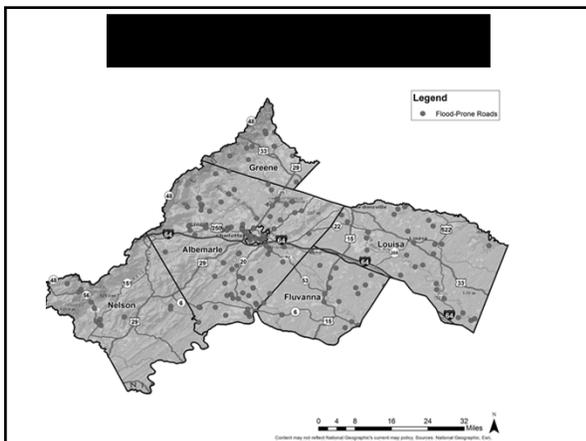
County	High	Significant	Low	N/A	Total
Albemarle County	10	12	166	47	235
Fluvanna County	5		19	13	37
Greene County	3	5	9	1	18
Louisa County	1	11	58	5	75
Nelson County		2	9	11	22
Total	19	30	261	77	387

Data sourced from USGS.



	PROBABILITY 2011	HUMAN IMPACT 2011	PROPERTY IMPACT 2011	BUSINESS IMPACT 2011	RISK 2011
	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative threat (increases with Percentage)
EVENT	0 = N/A 1 = Low 2 = Low-Moderate 3 = Moderate 4 = Hi-Moderate 5 = High	0 = N/A 1 = Low 2 = Moderate	1 = Low 2 = Moderate 3 = High	2	0 - 100%
Flooding	5	3	3	2	89%
Winter Storms	5	2	2	2	67%
Hurricanes	3	2	2	2	40%
High Wind / Windstorms	3	2	2	1	33%
Wildfire	3	1	2	1	27%
Lightning	4	1	1	1	27%
Tornadoes	2	2	2	2	27%
Drought	3	0	2	2	27%
Extreme Heat	3	2	0	1	20%
Dam Failure	1	3	3	2	18%
Landslides	2	1	1	1	13%
Earthquake	2	1	1	1	13%
Extreme Cold	1	2	1	1	9%
AVERAGE SCORE	2.64	1.57	1.57	1.36	26%

Date	Localities	Event Type
6/29/12	All	Derecho
10/29/12	All	Hurricane
3/6/13	All	Winter Snow
7/12/13	All	Winter Weather
13/2/14	All	Winter Weather
3/3/14	All	Winter Weather
16/03/14	All	Winter Weather
29/04/14	All	Severe Weather
5/15/14	All	Rainfall
4/8/14	All	Hurricane Arthur
16/02/15	All	Winter Weather
4/3/15	All	Winter Weather
10/9/15	All	Wind/Flooding
29/09/15	All	Hurricane Joaquin
22/01/16	All	Winter Weather
24/02/16	Fluvanna	Tornado
27/03/16	Louisa	Earthquake
16/04/16	Greene	Wildfire



HAZARD AND VULNERABILITY ASSESSMENT TOOL NATURALLY OCCURRING EVENTS



EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
	<i>Likelihood this will occur</i>	<i>Possibility of death or injury</i>	<i>Physical losses and damages</i>	<i>Interruption of services</i>	<i>Relative threat*</i>
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 - 100%
Hurricane/high wind/windstorms	3	3	3	3	100%
Flooding	3	1	3	2	67%
Winter storms/weather	3	1	1	3	56%
Wildfire	2	1	1	1	22%
Lightning	2	1	1	1	22%
Drought and extreme heat	2	1	1	1	22%
Dam failure	1	2	2	2	22%
Tornado	1	1	2	2	19%
Earthquake	1	1	2	2	19%
Landslide	1	1	1	1	11%
AVERAGE SCORE	1.19	0.81	1.06	1.13	7%

*Threat increases with percentage.

RISK = PROBABILITY * SEVERITY		
0.07	0.40	0.17

Goals and Objectives – from 2012 Update

Education and Outreach

- GOAL: Increase awareness of hazards and how to prepare for them through education and training
 - OBJECTIVE: Educate families and individuals on household techniques for disaster preparedness
 - OBJECTIVE: Train key agency staff and volunteer groups in disaster mitigation and preparedness, with an emphasis on emergency respondents, building inspectors and code officials
 - OBJECTIVE: Encourage and equip employers to adopt emergency action plans for their workplace
 - OBJECTIVE: Maintain a consistent message across agencies and providers for hazard mitigation and disaster response activities using clear language

- GOAL: Encourage individual action to reduce the impacts of hazards
 - OBJECTIVE: Encourage water conservation
 - OBJECTIVE: Encourage property owners to design and maintain buildings and grounds to reduce risks of damage
 - OBJECTIVE: Protect sensitive areas through conservation easements
 - OBJECTIVE: Encourage residents to provide adequate access to property for emergency services

Infrastructure and Buildings

- GOAL: Reduce the short and long-term impact of hazard events on regional infrastructure
 - OBJECTIVE: Diversify the energy system to provide multiple power source and fuel supply options
 - OBJECTIVE: Diversity the communications system to provide alternative lines for use during loss of capacity
 - OBJECTIVE: Diversify the transportation system by increasing connectivity and providing modal options

- GOAL: Identify and implement physical projects that will directly reduce impacts to structures from hazards
 - OBJECTIVE: Elevate, retrofit and relocate existing structures and facilities in vulnerable locations
 - OBJECTIVE: Maintain and/or augment critical facilities and infrastructure necessary for emergency response during and after a hazard event

People and Vulnerable Populations

- GOAL: Prepare to meet the immediate needs of population during natural hazards
 - OBJECTIVE: Identify and record concentrations of vulnerable populations, especially in high-risk areas
 - OBJECTIVE: Train staff to effectively communicate with and transport vulnerable populations
 - OBJECTIVE: Install devices and signage to improve communication and warning systems, ensure operations of emergency shelters, and reduce response time in the event of a natural hazard
 - OBJECTIVE: Ensure that facilities and equipment are in place to transport, shelter and serve vulnerable populations

Mitigation Capacity

- GOAL: Incorporate mitigation concepts into existing and future policies and plans
 - OBJECTIVE: Reduce property risks through zoning, ordinances and building codes
 - OBJECTIVE: Increase storage capacity of streams and rivers and reduce flow rates of stormwater through mitigation policies and best management practices.
 - OBJECTIVE: Link community planning and mitigation planning together to achieve common goals
 - OBJECTIVE: Incorporate mitigation planning concepts into building codes
- GOAL: Pursue funding to implement identified mitigation strategies
 - OBJECTIVE: Identify appropriate funding sources
 - OBJECTIVE: Create or strengthen partnerships to develop integrated grant proposals and coordinated implementation plans
 - OBJECTIVE: Increase staffing to implement mitigation strategies

Information and Data Development

- GOAL: Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification
 - OBJECTIVE: Identify data and information needs and develop methods to meet these needs
 - OBJECTIVE: Ensure that critical facilities meet disaster preparedness requirements

ON-LINE SURVEY QUESTIONS

1. In what locality do you live?

- Albemarle
- Charlottesville
- Fluvanna
- Greene
- Louisa
- Nelson
- Other

2. Have you or someone in your household ever experienced or been impacted by a natural disaster at your current residence?

- Yes
- No

3. Have you or someone in your household ever experienced or been impacted by a natural disaster at a previous residence?

- Yes
- No

4. If “Yes”, which of the following natural disasters did you or someone in your household experience?

- Dam Failure
- Drought or extreme heat
- Earthquake
- Flood
- Hurricane or windstorm
- Isolation from road washout
- Landslide
- Lightning
- Tornado
- Wildfire
- Winter Storm/weather
- Other:

List:

5. How concerned are you about the following natural hazards affecting your community?

	Extremely Concerned	Very Concerned	Concerned	Somewhat Concerned	Not Concerned
Dam Failure					
Drought or extreme heat					
Earthquake					
Flood					
Hurricane or windstorm					
Landslide					
Lightning					
Tornado/Wind					
Wildfire					
Winter Storm/weather					

6. List any additional natural hazards not listed above that you think are wide-scale threats to your community.

7. Is your home located in a floodplain?

Yes
No
I don't know

8. Does your household have flood insurance through the National Flood Insurance Program?

Yes
No
I don't know

9. If "No", why not?

Not located in floodplain or flood-prone area
Too expensive
Not necessary because I'm elevated or otherwise protected
Never really considered it
Not familiar with it / Don't know about it
Other (please explain):

10. Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?

Yes
No

11. Have you taken any actions to make your home or neighborhood more resistant to hazards?

Yes
No
If "Yes", please explain.

12. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?

Newspaper
Television
Radio
Internet
Mail
Public workshops/meetings

13. A number of community-wide mitigation activities can reduce our risk from hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for local government to consider pursuing.

	Very Important	Somewhat Important	Not Important
Prevention			
Property Protection			
Natural Resource Protection			
Structural Projects			
Emergency Services			
Public Education and Awareness			

14. In your opinion, what are some specific steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

15. Are there any other issues regarding the reduction of risk and loss associated with hazards or disasters in your community that you think are important?

Natural Hazard Mitigation Plan: Introduction

► Hazard Mitigation Planning

The purpose of the Regional Natural Hazard Mitigation Plan is to prepare for natural disasters before they occur, thus reducing loss of life, property damage, and disruption of commerce.

The Federal Emergency Management Agency (FEMA) requires such a plan as a condition for eligibility in certain mitigation grant programs. The plan applies to all jurisdictions in the Thomas Jefferson Planning District – Albemarle County, the City of Charlottesville, Greene County, Louisa County, Fluvanna County, Nelson County, and the Towns of Stanardsville, Louisa, Mineral & Scottsville. The original plan was adopted by all jurisdictions in 2006, and the plan was further updated in 2012.

The Following sections are included in the plan:

- 1. Introduction** – an overview of hazard mitigation generally and an outline of the plan
- 2. Planning Process** – the process through which the plan was developed, including public input
- 3. Community Profile** – general information about communities in the planning district
- 4. Hazard Identification and Analysis** – general information about potential hazards in the planning district, the historic record of hazard events, and the probability of future events
- 5. Vulnerability Assessment** – analysis of the human impact hazards could cause, with estimated potential losses for various hazard scenarios
- 6. Capabilities Assessment** – a survey of current local capacity to mitigate natural hazards
- 7. Mitigation Strategy** – goals, objectives, and action items selected to mitigate hazards identified in the region



► Planning Process

The lead agency in the preparation of this plan is the Thomas Jefferson Planning District Commission (PDC). The PDC provides resources that ensure the plan takes an efficient regional approach and is supported by a Hazard Mitigation Working Group, consisting of representatives from local planning departments, emergency managers, and local administrators to help guide updates to the plan. Once adopted the Working Group members will help monitor and implement the plan.

Regional Natural Hazard Mitigation Plan 2012 UPDATE - Approved by FEMA, July 30, 2012



Prepared by the:
Thomas Jefferson Planning District Commission
401 East Main Street - Charlottesville, VA 22902
(844) 972-7310 - info@tpdc.org
Virginia Wiley Jones Blair, FIC



extreme-heat/cold
Wildfire
Flooding
High-wind
Winter-weather
Lightning
Dam

► Hazard Identification and Analysis Process

The purpose of the hazard identification process is to describe all natural hazards that affect the Thomas Jefferson Planning District and provide an analysis on their location, extent, severity, and probability of occurrence. Each individual hazard was identified, including a description of the hazard in general written from a national perspective, followed by an in-depth analysis based on the particular impact the hazard has on the Thomas Jefferson Planning District.

The Hazard Assessment Tool was used to evaluate each identified hazard according to the probability of occurrence and the severity in terms of impact to human life, property, and business operations. Results of the 2016 assessment are outlined in the hazard vulnerability assessment matrix below.

► Hazard Vulnerability Assessment

EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative threat*
SCORE	0=N/A 1=low 2=Moderate 3=High	0=N/A 1=low 2=Moderate 3=High	0=N/A 1=low 2=Moderate 3=High	0=N/A 1=low 2=Moderate 3=High	0 - 100%
Hurricane/high wind/windstorms	3	3	3	3	100%
Flooding	3	1	3	2	67%
Winter storms/ weather	3	1	1	3	56%
Wildfire	2	1	1	1	22%
Lightning	2	1	1	1	22%
Drought and extreme heat	2	1	1	1	22%
Dam failure	1	2	2	2	22%
Tornado	1	1	2	2	19%
Earthquake	1	1	2	2	19%
Landslide	1	1	1	1	11%
AVERAGE SCORE	1.19	0.81	1.06	1.13	7%

HIRA: Hurricanes, High Wind, Wind Storms & Lightning

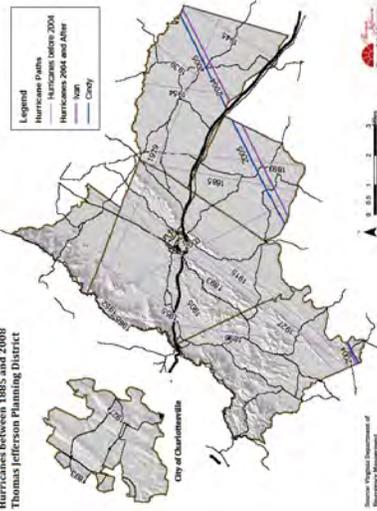
Hurricanes, High Wind, Wind Storm

Wind associated with hurricanes, thunderstorms and other weather phenomena poses the most significant risk to area residents. Wind related weather has caused in excess of \$8.2 million in property and crop damage. These events have resulted in 85 injuries and 2 deaths since 1995. Significant past wind events include the 2012 Derecho, which caused significant regional damage and was a Federally declared disaster.

Wind events caused by thunderstorms can be especially dangerous because they develop quickly. Hurricane related winds tend to have a greater impact in the eastern part of Virginia. Few hurricanes have made a direct hit on the region. Note: Tornadoes are addressed on a separate poster.

Historic Hurricane Tracks 1885-2008

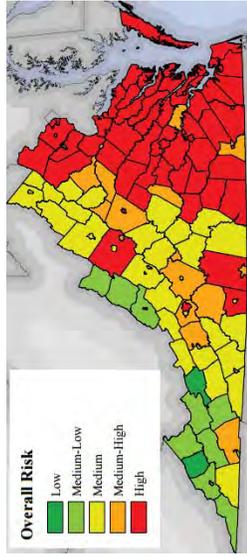
Hurricanes between 1885 and 2008
Thomas Jefferson Planning District



Hurricane/Tropical Storms 1995-2015

Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	2			\$5,000	
Charlottesville	1			\$36,000	
Fluvanna	1			\$1,000	
Greene	1				
Louisa	1				
Nelson	2			\$1,000	
Region	7	0	0	\$43,000	0

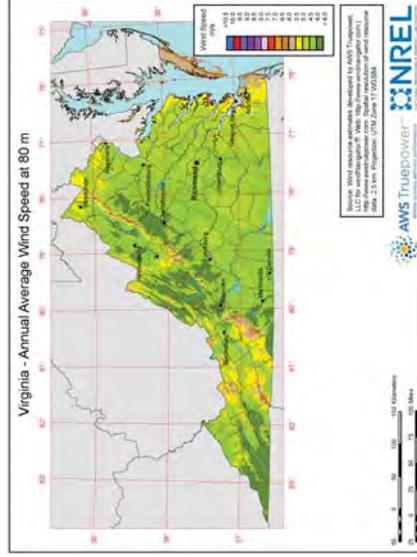
Hurricane Risk



Source: VDEM, 2013 Hazard Mitigation Plan

High/Strong Wind Events 1995-2015

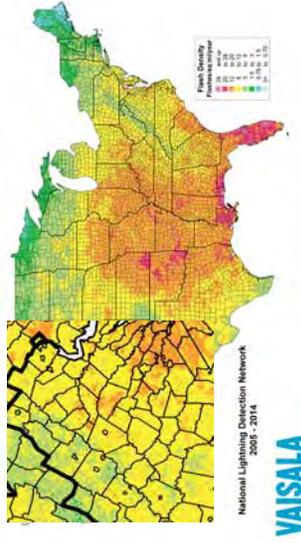
Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	26		66	\$2,163,100	\$900,000
Charlottesville	1			\$2,000	\$250,000
Greene	15			\$573,100	\$8,000
Louisa	4			\$226,600	\$370,000
Nelson	24		0	\$2,972,800	\$1,520,000
Region	70	0	66		



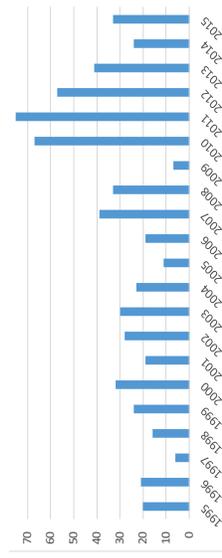
Lightning Thunderstorms/Wind 1995-2015

Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	233	2	15	\$1,128,800	\$24,250
Charlottesville	39		4	284,500	
Fluvanna	58			\$650,000	
Greene	47			\$170,500	\$7,000
Louisa	100			\$871,000	
Nelson	93			\$585,100	\$18,250
Region	570	2	19	\$3,689,900	\$49,500

VAISLA Lightning Flash Density/Mile 2005-2014



Number of Wind Events by Year 1995-2015



EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
SCORE	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative threat*
Hurricane/high wind/windstorms	0-3 MA-High	0-3 MA-High	0-3 MA-High	0-3 MA-High	3
	3	3	3	3	100%

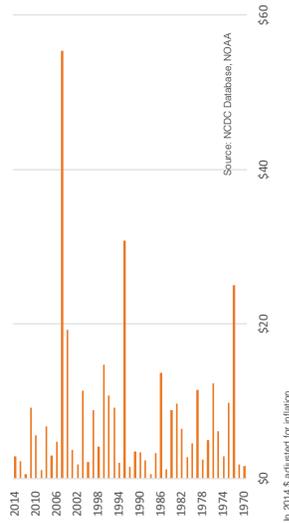
HIRA: Flooding and Dam Failure

Flooding and Dams

Flooding is considered one of the most significant risks to people and property statewide. Flooding is associated with heavy or extended rain events and may be locally constrained or occur far downstream from a weather event. Riverine flooding occurs along the regions larger river systems like the James or Rivanna Rivers. In the case of riverine flooding the storm event takes place upstream and causes floodwaters to travel downstream. Examples of this kind of flooding can be found in the towns of Scottsville and Columbia, all of which have suffered devastating floods.

Dam failure risk is evaluated based on a dam's hazard potential in terms of its threats to flooding people and property downstream. Dams are categorized into three risk classes low, significant and high. These categories factor in the dam size and the number of people in the floodway. It does not focus on the quality of the structure.

National Annual Flood Loss



In 2014 \$ adjusted for inflation

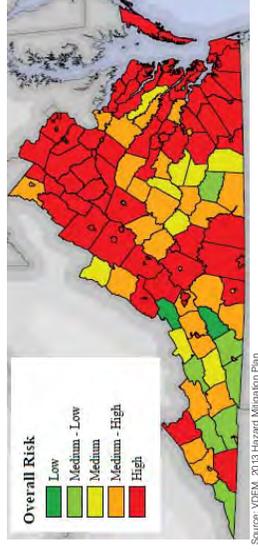
Floods 1995-2015

Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	89	1		\$240,000	\$900,000
Charlottesville	3			\$5,000	
Fluvanna	3				
Greene	44	1		\$435,500	\$80,000
Louisa	8			\$1,135,000	\$50,000
Nelson	199	1	1	\$1,815,500	\$1,030,000

100 Year Floodplain (1% Chance of Flood)



Flooding Risk



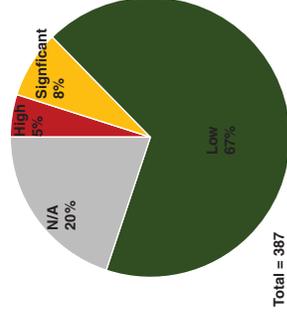
Number of Dams by Hazard Level

County	High	Significant	Low	N/A	Total
Albemarle County	10	12	166	47	235
Fluvanna County	5		19	13	37
Greene County	3	5	9	1	18
Louisa County	1	11	58	5	75
Nelson County	2	9	11	22	44
Total	19	30	261	77	387

Hazard Dams



Percentage of Area Dams by Hazard Level



HIRA Assessment

EVENT	PROBABILITY Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
SCORE	0-3 NA-High	Possibility of death or injury 0-3 NA-High	Physical losses and damages 0-3 NA-High	Interruption of services 0-3 NA-High	Relative threat* 0 - 100%
Flooding	3	1	3	2	67%
Dam failure	1	2	2	2	22%

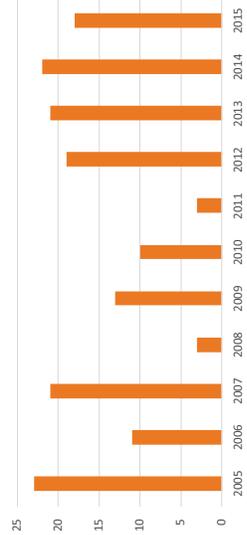
HIRA: Winter Weather

Winter Weather

Winter weather and storms are frequent occurrences in the region. Winter storms frequently cause power outages and disrupt travel in the region. Storms like nor'easter can cause significant snow accumulations, especially in areas at higher elevations. Winter storms frequently cause school closings and interruptions to transit services such as CAT and JAUNT.



Total Number of Winter Events by Year



Winter Weather 1995-2015

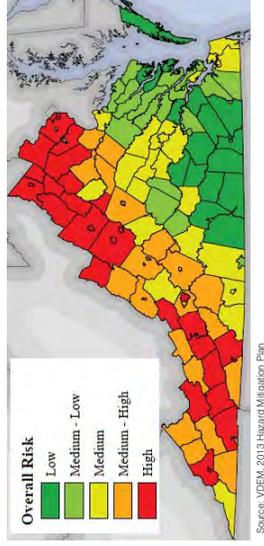
Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	111			\$35,000	\$55,000
Charlottesville	78			\$35,000	
Greene	110			\$26,250	\$50,000
Louisa	86			\$35,000	
Nelson	90			\$40,000	\$150,000
Region	475	0	0	\$171,250	\$255,000

Hazard Mitigation Plan

100 Year Floodplain (1% Chance of Flood)

Locality	Blizzard	Cold/Wind Chill	Freezing Fog	Heavy Snow	Ice Storm	Winter Storm	Winter Weather	Frost/ Freeze
Albemarle	2	1	1	5	6	30	65	21
Charlottesville								
Fluvanna	2	2		1	2	41	34	1
Greene				7	6	33	60	19
Louisa	2	2		1	2	44	39	1
Nelson	6	5	1	19	22	177	244	60
Region								

Winter Weather Risk



Source: VDEM, 2013 Hazard Mitigation Plan

Frequency of Snowfall Events

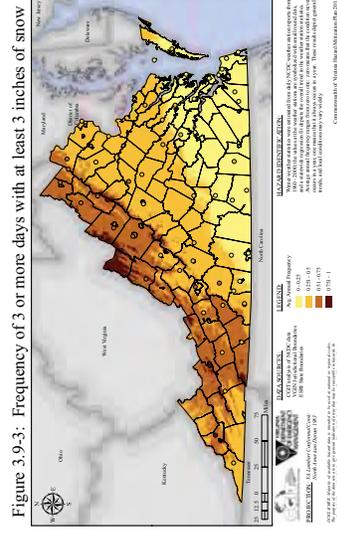


Figure 3.9-3: Frequency of 3 or more days with at least 3 inches of snow



HIRA Assessment

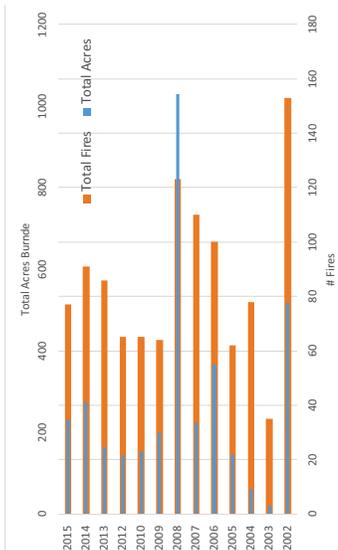
EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
Likelihood this will occur	0-3 NA-High	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative threat*
SCORE	3	1	1	3	0 - 100%
Winter storms/ weather					56%

HIRA: Wildfire

Wildfire

Wildfires are a relatively common occurrence in the rural portions of the PDC. Since 2002 there have been 5,840 fires that have burned a total of 1,191 acres of land. Most wildfires are small and are quickly brought under control by local firefighters and state Department of Forestry. Frequent causes of blazes are discarded cigarette butts and out-of-control brush pile burning. There have been a number of large notable fires but these have been mostly constrained to Federal Lands. For example, the Rocky Mountain Fire burned portions of Shenandoah National Park in Greene County. People and property are at increased fire risk as more people move into rural areas and extend the urban wildland fringe.

Wildfire Acreage and Number of Events

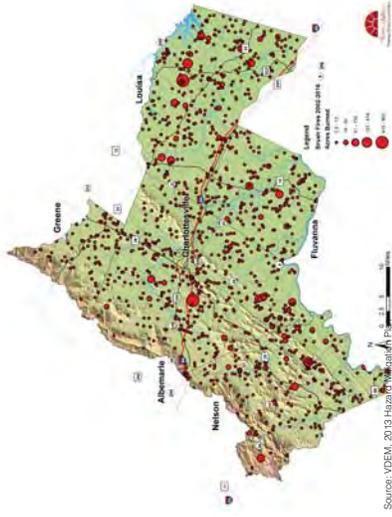


Wildfires 2002-2015

Locality	#	Acres Burned
Albemarle	1,665	387.0
Charlottesville	0	1.0
Fluvanna	436	175.0
Greene	89	74.0
Louisa	2,383	319.0
Nelson	1,267	235.0
Region	5,840.9	1,191.0

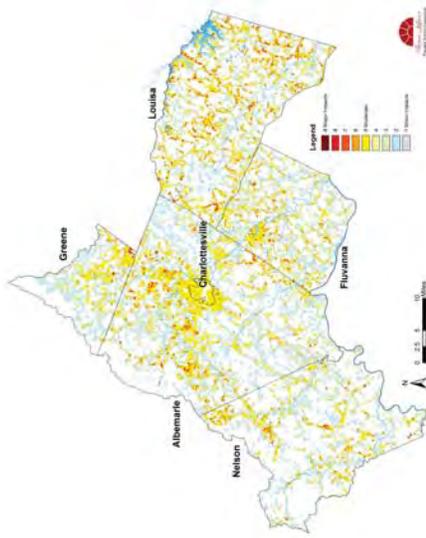


Wildfire Location and Acreage Burned

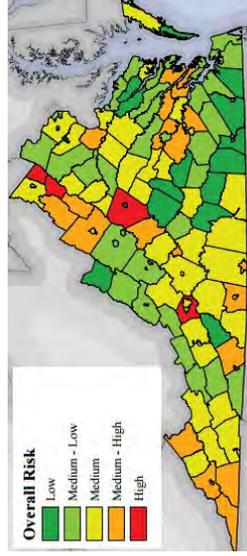


Source: VDEM, 2013 Hazard Mitigation Plan

Wildfire Risk Index



Relative Fire Risk



Source: VDEM, 2013 Hazard Mitigation Plan

HIRA Assessment

EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative Inhabit
SCDPE	0-3 NA-High	0-3 NA-High	0-3 NA-High	0-3 NA-High	0 - 100%
Wildfire	2	1	1	1	22%

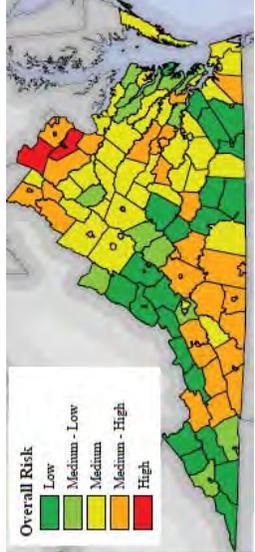
HIRA: Temperature Extremes, Drought & Landslides

Temperature Extremes and Drought

Temperature extremes are considered to be those temperatures which are 10° above or below a baseline normal temperature. Both extreme cold and heat present hazards to vulnerable populations. The regions lowest recorded temperature was -1° (February, 2015) and the highest was 105° (July 2012). Drought is a natural climatic condition caused by extended periods of limited precipitation. Factors that influence drought severity include a prolonged lack of rainfall, human demands (water withdrawals), high winds and low relative humidity (which increases evaporation). Prolonged droughts pose risks to people, agriculture and natural resources. Drought forecasts are produced by the U.S Drought Monitor.

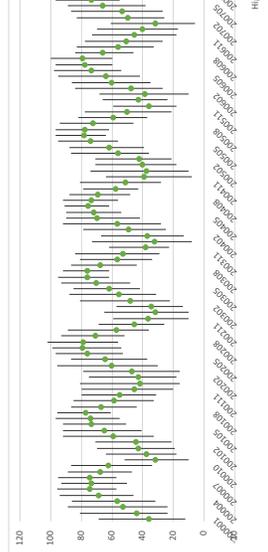
According to the USGS the eastern slopes of the Blue Ridge are characterized as having high susceptibility and a low incidence of landslide. Deforestation and the removal of vegetation greatly increase the chance of landslides.

Overall Drought Risk

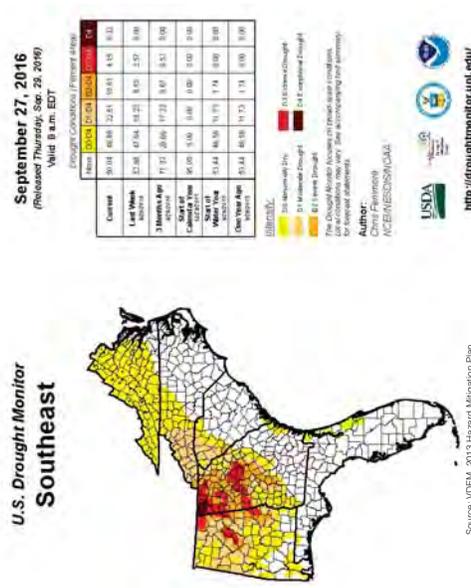


Source: VDEM, 2013 Hazard Mitigation Plan

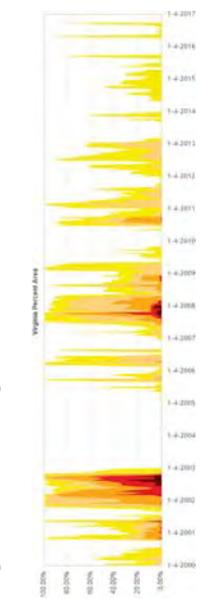
Monthly High, Low and Average Temperatures



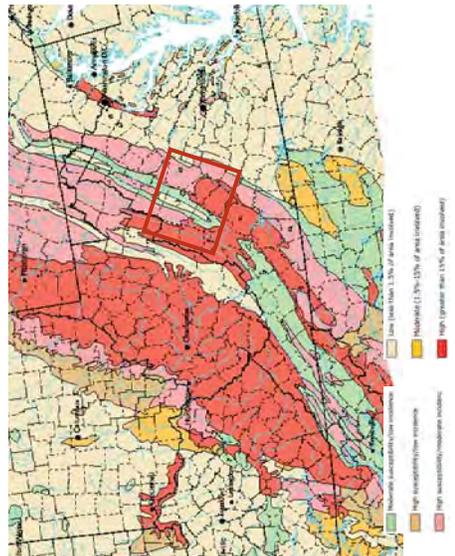
US Drought Monitor (USGS) Snapshot



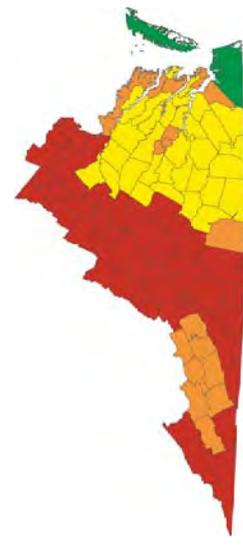
Virginia Historic Drought based on Percent Area



USGS Landslide Overview Map



Landslide potential



HIRA Assessment

EVENT	PROBABILITY this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	RISK
SCDHE	0-3 NA-High	0-3 NA-High	0-3 NA-High	0-3 NA-High	Relative threat* 0 - 100%
Drought and extreme heat	2	1	1	1	22%
Landslide	1	1	1	1	11%

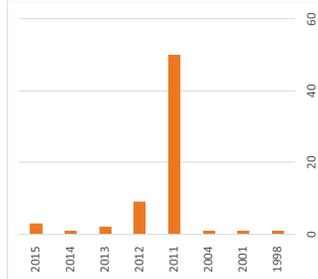
HIRA: Tornado and Earthquake

Tornado and Earthquake

The Region averages about 1 tornado a year. Most tornadoes experienced in the region are EF0 or EF1 events. However, the exception was a major tornado produced by Tropical Storm Ivy (EF2) which touched down in Fluvanna County. July is the most active month for tornadoes as it has the most number of thunderstorms. Most storms spawned by these afternoon thunderstorms tend to be weak events (EF0-EF1).

Earthquakes are a relatively rare event in the region with most quakes that do occur being a magnitude 2.5 or less. These quakes are rarely detectable to people and pose little risk to life and property. However, the region has experienced a few major quakes like the August 28, 2011 Mineral earthquake which reached 5.8 magnitude and caused damage to structures throughout the region. Most tremors since the August quake have been small aftershocks which have continued into 2016.

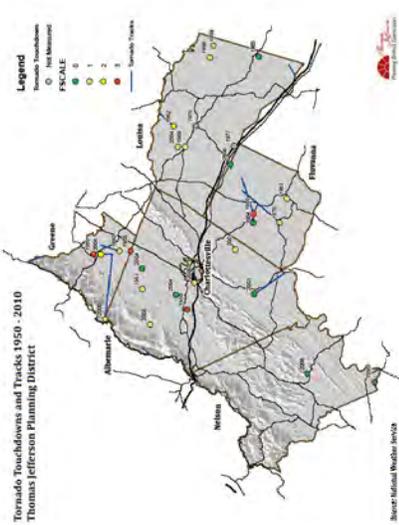
Total Number of Earthquakes



Tornados 1995-2015

Locality	#	Death	Injuries	Property Loss	Crop Damage
Albemarle	6			\$513,500	
Charlottesville	1		1	\$500,000	
Fluvanna	4			\$33,000	
Greene	2		3	\$3,001,000	
Louisa	5			\$206,000	
Nelson	2			\$58,000	
Region	20	0	4	\$4,311,500	

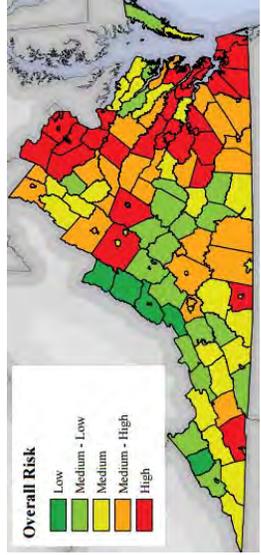
Regional Tornado Tracks



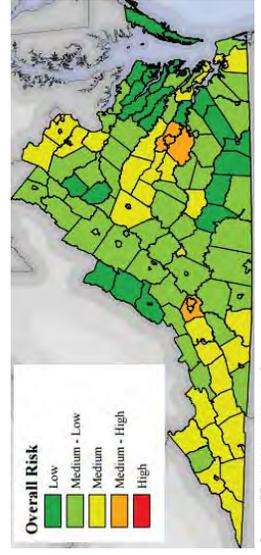
Earthquake Epicenters and Magnitudes



Overall Tornado Risk



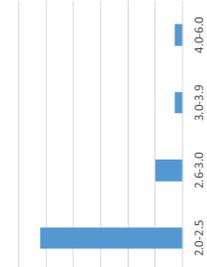
Overall Earthquake Risk



Number of Quakes

Locality	#
Albemarle	2
Charlottesville	
Fluvanna	
Greene	66
Louisa	
Nelson	
Region	68

Quake Intensity



HIRA Assessment

EVENT	PROBABILITY				BUSINESS IMPACT				RISK			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	Possibility of death or injury	Physical losses and damages	Interruption of services	Relative threat*	0 - 100%	0 - 100%	0 - 100%	0 - 100%
Tornado	1	1	2	2	0-3 NA-High	0-3 NA-High	0-3 NA-High	0-3 NA-High	19%	19%	19%	19%
Earthquake	1	1	2	2	0-3 NA-High	0-3 NA-High	0-3 NA-High	0-3 NA-High	19%	19%	19%	19%

**Regional Hazard Mitigation Plan (HMP) Update
Working Group Meeting
December 8, 2016
3:30 – 5:00 p.m.
TJPDC office, 401 E. Water Street**

AGENDA

Goals:

- (1) *Report on November Public Meeting*
- (2) *Finalize goals and objectives, including local goals that overlap with HMP*
- (3) *Prepare to gather input from LEPCs and other groups and individuals*
- (4) *Begin Capability Assessment*

- **Welcome and Introductions**
- **Report on Public Meeting held November**
 - Attendees
 - Input
- **Goals and Objectives**
- **Input on Action Items**
 - Review draft list for use with LEPCs and other groups
 - Identify new action items, including existing initiatives
 - On-line Survey
 - Other groups to engage (e.g. Red Cross)
- **Capability Assessment**
- **Next steps**

Hazard Mitigation Public Meeting – Are We Prepared?

November 14, 2016 3:30 p.m. to 5:00 p.m.

Name	Organization	E-mail	Phone
Melissa Meador	Greene County	mmeador@gva.us	434-985-5232
John Porter	ARES Cville/Alb/aut	JHP7E@hotmail.com	434-296-7539
Rebecca Quinn	self	requinn@earthlink.net	
Andrew Baxter	Cville Fire	bax@charlottesville.org	434-970-3323
AARON CROSS	VIRGINIA DIVISION OF GEOLOGY + MINERAL RESOURCES	aaron.cross@dmme.virginia.gov	434-961-6382
MIKE ROGERS	Charville Fire	rogersm@charlottesville.org	434-531-4828
Lorrie Coiner	VA Division of Geology + Mineral Resources	lorrie.coiner@dmme.virginia.gov	434-951-6356
JIM WILSON	AMT SUR AUDIO EMERGENCY SERVICE & CENT	telegraphjim@gmail.com	434 245-7041
Viviana Cristina	Red Cross	Viviana.Cristina2@redcross.org	434-242-5585
Bart Subbala	Greene Co.		

Flip Chart Transcriptions – Public Meeting, November 14, 2016

Goals and Objectives

Education and Outreach

- Encourage volunteerism
- Highlight Trouble Spots
- Signage to identify

Infrastructure and Buildings

- Notification to At-Risk Areas
- Provide for adequate redundancy in the communication system

People and Vulnerable Populations

- Language Issues
- Dealing with Evacuees coming here from other areas

Mitigation Capabilities

- General Capabilities
- Clear streams and rivers of debris and sediment (don't say "Increase Storage Capacity")
- Building codes are established at state level – remove as objectives. This concept is covered in objective related to zoning and ordinances.

Information and Data Development

- Penalty for high water use

Actions

- Training for Building Inspectors re: Post-Event inspections, immediate post-event surveys
- "Triage" system for critical infrastructure
- Technology Assessment
- Inventory all public buildings, including identification of those located in the flood plain to support decision-making
 - Insurance
 - Mitigation
- Develop apps and Code Red protocols for vulnerable populations and renters (phone books are no longer a reliable resource for distributing information)
- Inventory of resources within the Region to promote cross-jurisdictional action

Hazard Mitigation Working Group December 8, 2016 Minutes

Attendees:

Kirby Felts, Charlottesville-UVA-Albemarle Office of Emergency Management
Allison Farole, Charlottesville-UVA-Albemarle Office of Emergency Management
Cheryl Elliott, Fluvanna County
Melissa Meador, Greene County
Bart Svoboda, Greene County
Allyson Finchum, Louisa County
Wood Hudson, Thomas Jefferson Planning District Commission
Billie Campbell, Thomas Jefferson Planning District Commission

Report on Public Meeting November 14

- **Attendees:** The sign-in sheet for the meeting was included in the packet. Participants represented Greene County, the Charlottesville Fire Department, Virginia Division of Geology and Mineral Resources, Amateur Radio Emergency Service, Red Cross, and citizen/private consultant.
- **Comments:** The group reviewed a transcription of comments from the public meeting, included in the Working Group meeting packet. The group deemed some of these as appropriate for inclusion, and considered them as part of the review of actions for use with Local Emergency Planning Committees (LEPCs).

Goals and Objectives/Action Items: The group reviewed the Goals and Objectives from the 2012 Update. The group indicated that the category called “People and Vulnerable Populations” should be revised to “Whole Community.” Some objectives seem to identify potential actions and need to be more broadly stated. The group recommended that TJPDC staff crosswalk objectives and potential actions, and edit language to ensure that objectives are broad and actions are specific, and that the objectives and actions are clearly related to the overall Goal category: Education and Outreach, Infrastructure and Buildings, Whole Community, Mitigation Capacity, and Information and Data Development. Goals and Objectives should be numbered, with suggested actions under each objective for consideration by individual localities, adding specific language to the action for that specific jurisdiction. Additional information will be collected via an on-line survey to engage public comment. Proposed questions were included in the meeting packet, with no suggested changes from the Working Group.

Capability Assessment: A Capability Assessment Worksheet was included in the meeting packet. This multiple page worksheet includes questions related to capability in the following areas: Planning and Regulatory, Administrative and Technical, Financial, Education and Outreach. Each locality needs to complete the table; TJPDC will e-mail the form as a Word document. As part of the process, each locality needs to review various plans and documents, and note planned locality actions that contribute to hazard mitigation for inclusion in the Hazard Mitigation Plan (HMP). Staff should track their time on the capability assessment, to report as in-kind match for the HMP grant.

Meeting with LEPCs: TJPDC staff met with the Charlottesville-UVA-Albemarle in November, and will meet with Fluvanna’s LEPC on January 19. Local staff for Greene, Louisa and Nelson need to provide meeting dates.

Adjournment: There being no further business, the meeting was adjourned.

2017 Hazard Mitigation Plan (HMP) Goals and Objectives – DRAFT 12-30-16

Education and Outreach

- E GOAL: Increase awareness of hazards and encourage action to mitigate the impacts
 - 1. OBJECTIVE: Educate families and individuals on disaster mitigation and preparedness
 - a. Conduct FireWise workshops
 - b. Provide educational information about burn laws permit process
 - c. Encourage property owners to clear storm drain inlets, ditches and channels
 - d. Encourage volunteerism
 - e. Offer CERT training periodically
 - f. Carry out an educational campaign on creating emergency kits and evacuation plans
 - g. Ensure all houses and businesses have clear address signs that are visible during snowstorms and other emergencies
 - 2. OBJECTIVE: Train key agency staff and volunteer groups in disaster mitigation and preparedness
 - a. Conduct tabletop exercises for damage assessments
 - b. Bring in experts to conduct in-house staff training in best management practices in hazard mitigation and preparedness
 - c. Offer training on post-event inspection and develop a protocol to serve as a mechanism for prioritization
 - d. Increase the number of trained emergency responders, both staff and volunteers
 - 3. OBJECTIVE: Train staff at schools and residential facilities in disaster mitigation and preparedness
 - a. Train facility staff for schools and other public facilities
 - b. Provide training materials for staff at assisted living facilities and nursing homes
 - 4. OBJECTIVE: Encourage and equip employers to develop emergency action plans
 - a. Carry out an educational campaign for businesses to develop emergency procedures and shelter-in-place plans
 - b. Utilize the VDEM-developed pilot mitigation workshop to educate and encourage businesses to take steps to reduce or eliminate their risk to losses.
 - 5. OBJECTIVE: Protect sensitive areas through conservation practices
 - a. Carry out an educational campaign about the benefits of open space protection
 - b. Continue to pursue conservation practices in sensitive areas, including flood-prone areas.

Infrastructure and Buildings

- I GOAL: Reduce the short and long-term impact of hazard events on buildings and infrastructure
 - 1. OBJECTIVE: Diversify the energy system to provide multiple power source and fuel supply options
 - 2. OBJECTIVE: Diversity the communications system to provide alternative lines for use during loss of capacity
 - 3. OBJECTIVE: Diversify the transportation system by increasing connectivity and providing modal options
 - a. Use recreational trails as fire breaks and access lines

- b. Maintain and add more fire rings in camping areas for controlled fires
- 4. OBJECTIVE: Elevate, retrofit and relocate existing structures and facilities in vulnerable locations
 - a. Build or repair bridges to support emergency vehicles and to not impede floodways
 - b. Develop an inventory of all public buildings, identifying those located in the flood plain and noting any deficiencies
 - c. Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects
 - d. Identify repetitive loss properties, develop appropriate mitigation action, and apply for funding
 - e. Renovate locally owned public facilities to meet higher building code standards to be used as shelters and command centers.
 - f. Install more dry hydrants in high wildfire risk areas
- 5. OBJECTIVE: Construct or upgrade drainage, retention, and diversion elements to lessen the impact of a hazard
 - a. Regularly clear storm drain inlets, ditches and channels
 - b. Carry out repairs and upgrades of stormwater conveyance systems

Whole Community

- C GOAL: Prepare to meet the immediate needs of the population during natural hazards
 - 1. OBJECTIVE: Train staff to effectively communicate with and transport people regardless of their language proficiency and physical needs.
 - a. Implement community notification protocols before, during, and after a disaster event
 - b. Through collaborative efforts, identify opportunities to improve flood warning capabilities in areas of higher risk
 - c. Conduct regular disaster response drills in schools, and with staff at Assisted Living Facilities and Nursing Homes
 - d. Train local staff and volunteers to assist citizens with Limited English Proficiency.
 - e. Improve School Improvement Planning (SIP) and training
 - f. Continue and expand the use of citizen alert systems
 - g. Include homeless service agencies at the highest possible level of disaster planning
 - h. Develop effective communication methods between homeless service providers and disaster agencies.
 - 2. OBJECTIVE: Ensure that the population can access emergency shelters in a timely manner and have functional needs met, in the event of a natural hazard
 - a. Increase the ability to shelter in place in locality-owned buildings for protection during events
 - b. Procure equipment (e.g. generators) and supplies for shelters and assisted living facilities and nursing homes
 - c. Distribute emergency kits or supplies to low-income and vulnerable populations
 - d. Develop protocols and applications to communicate with individuals and households

Mitigation Capacity

M GOAL: Increase mitigation capacity through planning and project implementation

1. OBJECTIVE: Reduce property risks through planning, zoning, ordinances and regulations
 - a. Develop a comprehensive fire safety communication strategy, addressing open space, burn permit, Fire Wise, and dry hydrants
 - b. Through the development process, discourage or disallow development in flood-prone areas
 - c. Develop a post-disaster plan that addresses long-range redevelopment issues such as land use, economic development, housing, infrastructure, public services, and environmental restoration.
 - d. Identify areas to receive debris from post-event clean-up efforts.
 - e. Develop a plan to provide housing and services for evacuees from other areas.
 - f. Develop a regional inventory of assets and resources available for mitigation, response, and recovery, to promote cross-jurisdictional action
 - g. Develop a prioritization protocol for critical infrastructure
 - h. Develop a snow clearing plan, including provisions for seniors and people with disabilities; offer registration with a fee for municipal snow clearing services.
 - i. Develop Continuity of Operations Plans (COOP) for locality departments and update the plans annually.
2. OBJECTIVE: Incorporate mitigation planning concepts into local plans and ordinances
 - a. Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans
 - c. Review Water Supply Plan and add specific recommendations
 - d. Review Drought Plan and add specific recommendations
3. OBJECTIVE: Pursue funding to implement identified mitigation strategies
 - a. Identify appropriate funding sources
 - b. Create or strengthen partnerships to develop integrated grant proposals and coordinated implementation plans
 - c. Ensure adequate staffing to implement mitigation strategies

Information and Data Development

D GOAL: Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification

1. OBJECTIVE: Identify data and information needs and develop methods to meet these needs
 - a. Expand GIS data for use in mitigation planning, preparedness planning, and response activities
 - b. Inventory technology systems and equipment, to assess needs and schedule upgrades and replacement
 - c. Inventory all public buildings, including identification of those located in the flood plain, to support decision-making regarding insurance, upgrades, and mitigation
2. OBJECTIVE: Ensure that each critical facility has a disaster plan in place
 - a. Assess resistance of existing critical facilities to natural hazards

Capability Assessment Worksheet

Jurisdiction: _____

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards?
		Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan		
Capital Improvements Plan		
Economic Development Plan		
Local Emergency Operations Plan		
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan		
Community Wildfire Protection Plan		
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code		Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire department ISO rating		Rating:
Site plan review requirements		
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance		
Subdivision ordinance		
Floodplain ordinance		
Natural hazard specific ordinance (stormwater, steep slope, wildfire)		
Flood insurance rate maps		
Acquisition of land for open space and public recreation uses		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)		
Mutual aid agreements		
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator		
Emergency Manager		
Community Planner		
Civil Engineer		
GIS Coordinator		
Other		

1. Full-time (FT) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)		
Hazard data and information		
Grant writing		
Hazus analysis		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding		
Authority to levy taxes for specific purposes		
Fees for water, sewer, gas, or electric services		
Impact fees for new development		
Storm water utility fee		
Incur debt through general obligation bonds and/or special tax bonds		
Incur debt through private activities		
Community Development Block Grant		
Other federal funding programs		
State funding programs		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural disaster or safety related school programs		
StormReady certification		
Firewise Communities certification		
Public-private partnership initiatives addressing disaster-related issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		

**Regional Hazard Mitigation Plan (HMP) Update
Working Group Meeting
Monday, March 20, 2017
3:00 – 4:30 p.m.
TJPDC office, 401 E. Water Street**

AGENDA

Goals:

- (1) *Review where we are right now*
- (2) *Set actions steps and a timeline to complete the draft for VDEM*
- (3) *Discuss any other issues related to this planning process*

- **Welcome and Introductions**
- **Survey Responses**
- **Status of Plan**
 - Introduction
 - Planning Process and Public Involvement
 - Community Profile
 - Hazard Identification and Analysis
 - Capabilities Assessment
 - Mitigation Actions
- **Action Steps to Complete Draft for Submission to VDEM**
 - Meetings with LEPCs or other groups/mechanisms for receiving input on actions to include in the plan
 - Review of Capabilities and identifying actions from local plans
- **Other Business**

Hazard Mitigation Working Group
March 20, 2017 Minutes

Attendees:

Kirby Felts, Charlottesville-UVA-Albemarle Office of Emergency Management
Allison Farole, Charlottesville-UVA-Albemarle Office of Emergency Management
Brian Haluska, City of Charlottesville
Cheryl Elliott, Fluvanna County
Bart Svoboda, Greene County
Wood Hudson, Thomas Jefferson Planning District Commission
Billie Campbell, Thomas Jefferson Planning District Commission

Earthquakes in Central Virginia

The Division of Geology and Mineral Resources (DGMR) under the Department of Mines, Minerals and Energy (DMME) received a 3-year Federal Emergency Management Agency (FEMA) funded grant to identify and map faults in the seismically active regions of Virginia, including the Central Virginia and Giles County seismic zones. The mapping will be used to help determine the earthquake hazard potential to communities in the seismically active regions of Virginia. Wood Hudson attended a workshop held at the Department of Forestry Building in Charlottesville on February 23, 2017 on Earthquakes in Central Virginia, and provided an overview. The meeting included a presentation of useful information that DMME has learned about Virginia earthquakes covering these topics:

- the Central Virginia seismic zone
- pre-historic and historic earthquakes in Virginia
- known faults and the new DMME fault geodatabase
- the relationship between earthquakes and faults
- earthquakes and hazard planning
- earthquake preparedness

The Mineral earthquake in August 2011 was not an anomaly. DMME is updating information on the location of faults. Some updates to building codes may be prudent. The DMME is getting the message out about what localities can do.

Survey Responses

Throughout February and March 2017, an online survey was used to assess familiarity with hazard mitigation concepts, weigh the relative concern over various hazards, prioritize the goals and objectives of the plan, gauge the political will for mitigation policies, and find new ideas for effective action items. The survey received 74 responses, with participants from every locality in the Planning District. This was a useful tool for gathering input from informed and enthusiastic members of the public. The survey responses were provided to the Working Group as graphs and listing of comments. The results are appended to these minutes.

Actions Steps to Complete the Draft for Submission to VDEM. TJPDC staff are responsible for the following sections: Introduction, Planning Process, Community Profile, Hazard Identification and Analysis (HIRA), and the Vulnerability Assessment. Information on each locality's capabilities and proposed actions to include in the plan will need to be prepared by locality staff. TJPDC staff will write

the Capabilities section based on the completed forms, and will compile the actions from each locality into a listing (the abridged form) and color-coded tables with details on each action, using materials from the localities. The group agreed on an April 20 deadline to submit the following:

- **Completed Capabilities Assessment:** A fillable form will be sent out. As locality staff gather information to complete the form, they are also encouraged to review locality plans for projects/activities to include in the Mitigation Actions.
- **A list of Mitigation Actions:** This will be needed in two formats: abridged (list form) and unabridged (with a table describing each action, lead staff, costs and time frames). The tables will be color-coded by locality in the plan. Actions should be number sequentially with higher priority action items appearing earlier on the list. The format for numbering the actions is locality, priority, goal and sequential number. LHM1 would be an action in Louisa County, High priority, Mitigation Capacity goal category, and the first item for the priority and goal category. The page showing the Activity Codes was distributed at the meeting. This is slightly different than the 2012 codes due to renaming the category now identified as Whole Community. TJPDC staff compiled the input from the working group into a list of goals, objectives and potential actions, as a source for potential actions to include in the plan. This Mitigation Strategy section is the heart of the plan, and will position actions for application for funding through FEMA/VDEM.

Locality staff also need to track their time working on the plan. TJPDC has developed and distributed a Staff Time Log Sheet as an Excel file for localities to use. This information is needed for the quarterly submission to VDEM due by the 15th of the month following the end of the quarter. Localities are requested send their forms to TJPDC by the 10th of the month following the end of the quarter (e.g. April 10). The budget for the project does rely on locality staff time as part of the required match for FEMA funding.

Adjournment: There being no further business, the meeting was adjourned.

**Thomas Jefferson Planning District Commission
Hazard Mitigation Working Group
2017 Annual Meeting**

Tuesday, May 23, 2017

9:30 – 11:00 a.m.

TJPDC Office, 401 E. Water Street, Charlottesville

ANNUAL MEETING AGENDA

I. Introductions

The Working Group consists of at least one representative from each locality.

II. Annual Review

- *Local hazard events and impacts*
- *New critical facilities*
- *Grant applications and awards*
- *Progress of mitigation activities*
 - *Education and Outreach – awareness and individual action*
 - *Infrastructure and Buildings – physical projects*
 - *People and Vulnerable Populations – identification, facilities, and staff training*
 - *Mitigation Capacity – codes and ordinances, planning*

III. Five-Year Update – Due December 2017

- *Draft Plan to be submitted to VDEM by May 31. Elements needed:*
 - *Abridged and unabridged mitigation actions for each locality*
 - *Capability Assessments*

**Hazard Mitigation Working Group
May 23, 2017 Minutes**

Attendees:

Kirby Felts, Charlottesville-UVA-Albemarle Office of Emergency Management
Allison Farole, Charlottesville-UVA-Albemarle Office of Emergency Management
Brian Haluska, City of Charlottesville
Cheryl Elliott, Fluvanna County
Melissa Meador, Greene County
Allyson Finchum, Louisa County
Wood Hudson, Thomas Jefferson Planning District Commission
Billie Campbell, Thomas Jefferson Planning District Commission

Introductions: All attendees introduced themselves.

Annual Review: This meeting also served as the annual review meeting, as called for in the Maintenance Section of the Hazard Mitigation Plan. The narrative of the Annual Report is attached to these minutes as a record of those proceeding.

Five-Year Update – Due December 2017: The goal had been to submit the draft plan to VDEM by the end of May, but not all materials have been received from localities:

- **Mitigation Actions:** Abridged (list form) and unabridged (table for each action) mitigations for each locality need to be included in the HMP. These have been received from the City of Charlottesville and sent out to the Working Group as an example to follow. Materials from Albemarle County and Fluvanna County have just been received. Lists are needed from Louisa County and Nelson County. Nelson's new Emergency Services Coordinator will not be on board until mid-June. TJPDC will send the Goals, Objectives and potential actions developed by the Working Group to Louisa, along with the abridged and unabridged listings for the county from the 2012 HMP.
- **Capability Assessments:** Fluvanna provided ISO ratings at the meeting to add to their Capability Assessment. Documents are still needed from Louisa and Nelson.
- **Crosswalk Document:** TJPDC will prepare this to accompany the draft to VDEM.

Adjournment: There being no further business, the meeting was adjourned.

ANNUAL REPORT - 2017
Regional Natural Hazard Mitigation Plan – Update Approved in 2012
Thomas Jefferson Planning District

Annual Meeting

The Working Group for the Hazard Mitigation Plan held their 2017 annual meeting on May 23, 2017. Meeting attendees included Kirby Felts – Emergency Management Coordinator for Albemarle, Charlottesville, UVa Emergency Communications Center; Allison Farole - Assistant Emergency Management Coordinator for Albemarle, Charlottesville, UVa Emergency Communications Center; Brian Haluska – Neighborhood Development Services, City of Charlottesville; Cheryl Elliott – Emergency Services Coordinator, Fluvanna County; Melissa Meador – Emergency Services Manager for Greene County; Allyson Finchum – Director of Planning for Louisa County; and Billie Campbell and Wood Hudson from the TJPDC.

Plan Maintenance

The Plan calls for the Working Group to monitor the mitigation strategies and make recommendations for additional improvements. The evaluation will address whether:

1. goals and objectives address current and expected conditions;
2. the nature, magnitude, or type of hazard affecting the region has changed;
3. current resources are appropriate for implementing the plan
4. important problems such as technical, political, legal, or coordination issues with other agencies have occurred;
5. agencies and other partners are participating as originally proposed.

The plan specifies that Working Group will meet annually in May to review the year’s local hazard events and impacts, community actions that may help or hinder mitigation capabilities, and the progress of mitigation activities.

Local Hazard Events and Impacts Over the Past Year (May 24, 2016 to May 23, 2017)

This was a quiet year, with no disaster declarations and a mild winter.

Other Community Actions

Regional

- Insert on Emergency Preparedness in Daily Progress, September 2016
- Interoperability radio system with Albemarle/Charlottesville/UVA, Fluvanna/Louisa, Orange, Madison and Greene – still in progress
- Update of Regional Hazard Mitigation Plan – underway

Charlottesville-Albemarle-UVA

- CERT Level 1 Orientation, July – September 2016
- CERT Level 2 Course, September – October 2016
- SKYWARN® Training, April 2017
- Vulnerability assessment of water system nearing completion
- 150 outreach events during the year
- Evaluations of locations for new Emergency Communications/Operations Center underway

Albemarle County

- Grade-separated interchange at Rio & Route 29 completed
- Route 29 widening is continuing (expected completion date is June 30, 2017)

Charlottesville:

- Fire Department response time study
- Old abandoned bridge abutments on Carlton Road removed
- Undergrounding power lines between substations, still underway
- Study initiated for new fire and police facilities

Fluvanna and Louisa:

- James River Water Authority (JRWA) Partnership – building new water pipeline to supply both counties with a projected 50 year-water need.
- Louisa joined Fluvanna County's Public Safety Radio System (contracts in place)

Fluvanna:

- Water intake at James River– design work and acquisition of property easements underway (part of JRWA Partnership work)
- Zion Crossroads water system – design phase continues, including water tower on Route 15 and several pump stations and water line
- New Public Safety radio system underway (expected to be operational Summer 2017)
- Broadband Task Force formed and meeting regularly
- New bridge over Rivanna River in Columbia - completed
- Upgrade water lines and hydrants for fire suppression at Lake Monticello (need to check with Catherine Nealy)
- New bridge over Hardware River, near Route 6 in Scottsville, completed
- New Roundabout at Routes 15 and 53 nearing completion
- Emergency Operations Plan (EOP) updated and adopted
- Rescue Squad Building (?)

Greene:

- Water Supply Plan updated
- Reservoir Project – identifying land area, funding plan, and securing DEQ permits for stream migration
- Community outreach and event with the American Red Cross regarding their Smoke Alarm Program – December 2016 – January 2017
- Flu Clinic with the Thomas Jefferson Health District – October 2016
- Darkening shades for classroom installed in all public schools – April 2017
- Community outreach and event regarding National Weather Service SKYWARN Class – September 2016
- Broadband Study initiated, survey underway
- DMV-funded Traffic Enforcement project (alcohol and speed) - completed
- CERT Classes (Melissa to check)

Louisa:

- Broadband Authority – four towers to be built; currently in public hearing process, construction to start in late summer 2017
- New water treatment facility – finishing easement acquisition and construction documents

Nelson:

- Public Safety radio system upgraded – ongoing
- Broadband Authority expansion for additional 8 miles – project ongoing

New Critical Facilities:

Nelson - Courthouse Expansion Phase 2 –in progress

Grants Applied for and Status

(Describe any grant applications submitted, with date submitted, grant amount, purpose of grant, funding source and current status: Pending, Not funded, Funded.

Town of Columbia – demolition of substantially damaged buildings in flood plain, \$199,500 – Funded February 29, 2016 by FEMA and VDEM. Property acquisition underway. Project to be completed during calendar year 2017.

Greene County

- Rescue Squad Assistance Grant Fund – Virginia Office of EMS - \$8,425 for CPR and AED equipment – submitted February 2016 - Funded
- Rappahannock Electric LEARN Grant - \$1,500 for K9 ballistic vests – submitted April 2016 – Not funded

Louisa County

- Staffing for Adequate Fire & Emergency Response (SAFER) Grant, to hire 14 new full-time firefighters - Pending

Regional

- Local Emergency Management Performance Grant (LEMPG) and Rescue Squad Assistance Fund (RSAF) Grant - ongoing grants in all localities in the region
- Albemarle-Charlottesville-UVA VDEM Homeland Security, “Safe at Home” project - \$10,000 – funded
- Louisa and Nelson – education sessions and supplies to low-income and vulnerable populations

Contact Information for Jurisdictions in the Thomas Jefferson Planning District

Elected Body	CAO	Address	City/Zip	Phone & e-mail	CLEO
Charlottesville City Council	Maurice Jones, City Manager	P.O. Box 911 605 E Main St	Charlottesville 22902	(434) 970-3101 cityman@charlottesville.org	Mike Signer Mayor
Albemarle County Board of Supervisors	Jeffrey Richardson, County Executive	401 McIntire Rd	Charlottesville 22902	434-296-5841 dmullins@albemarle.org	Diantha McKeel BOS Chair
Fluvanna County Board of Supervisors	Steven Nichols, County Administrator	P.O. Box 540	Palmyra 22963	(434) 591-1910 snichols@fluvannacounty.org	Mike Sheridan, BOS Chair
Greene County Board of Supervisors	John Barkley, County Administrator	40 Celt Road	Stanardsville 22973	(434) 985-5201 jbarkley@gcva.us	Michelle Flynn, BOS Chair
Louisa County Board of Supervisors	Christian Goodwin, County Administrator	1 Woolfolk Ave P.O. Box 160	Louisa 23093	(540) 967-0401 cgoodwin@louisa.org	Mike Sheridan, BOS Chair
Nelson County Board of Supervisors	Stephen Carter, County Administrator	84 Courthouse Sq P.O. Box 336	Lovingston 22949	(434) 263-7000 scarter@nelsoncounty.org	Thomas D. Harvey BOS Chair
Louisa Town Council	Tom Filer, Town Manager	212 Fredericksburg Av P.O. Box 531	Louisa 23093	540-967-1400 tfiler@louisatown.org	R. Garland Nuckols, Mayor
Mineral Town Council	Sal Luciano Town Manager	312 Mineral Ave P.O. Box 316	Mineral 23117	(540) 894-5100 mineraltownmanager@gmail.com	Pam Harlowe Mayor
Scottsville Town Council	Amy E. Moyer Town Clerk	Victory Hall -2nd floor 401 Valley Street	Scottsville 24590	434.286.9267 amoyer@scottsville.org	Nancy E. Gill Mayor
Stanardsville Town Council	No staff	19 Celt Road, P.O. Box 152	Stanardsville 22973	(434) 985-8615 elowe1@aol.com	Gary Lowe Mayor

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Progress on Mitigation Strategies

The following table summarizes actions and progress to date on mitigation activities included in the Regional Hazard Mitigation Plan. Status Codes: C=Complete; IP=In Progress, NS=Not Started, M=Modified, D=Deferred, X = Canceled.

No.	Activity Code	Activity Description	Status Narrative	Status Code
Thomas Jefferson Region				
	RHE1	Create a hazards library and information toolkit		NS
	RHE2	Provide a copy of the Regional Natural Hazard Mitigation Plan to each library in the Jefferson-Madison Regional Library system		NS
	RHI1	Adopt a cooperative agreement between localities to set a single code to alter traffic signals for use by emergency response vehicles from each jurisdiction		NS
	RHP1	Establish a registry of individuals with specialized needs, including their location, and their requirements for transportation assistance	Louisa County has developed a list for emergency responders to contact. TJPDC submitted an unsuccessful grant application to develop an implementation plan for the registry.	IP
	RHP2	Ensure that emergency shelters meet accessibility requirements, have back-up power, and are capable of housing caretakers, medical equipment and service animals for the elderly and those with disabilities	Charlottesville-Albemarle-UVA Emergency Communications Center is working with the Red Cross on this and will incorporate accessibility requirements in shelter assessments this coming year.	IP
	RHD1	Update addresses in Repetitive Loss Properties database		
	RME1	Create a website and app that allows members of public to report potentially hazardous situations as they are observed	Charlottesville received a grant for a pilot project under a statewide initiative to pull GIS data together in a shared platform for trusted users to report on conditions.	IP
	RME2	Conduct a public education program on disaster preparedness, leveraging existing materials and sharing resources regionally	PSAs have aired on local radio stations	IP
	RME3	Encourage all property owners of commercial, industrial, and multifamily housing facilities to have an Emergency Action Plan, including evacuation, sheltering, and communications protocol		NS
	RME4	Encourage all businesses and congregate housing facilities to have an Emergency Action Plan that is coordinated with plans for the facility		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
	RME5	Encourage major businesses to adopt a Business Continuity Plan, especially businesses that provide critical services in the aftermath of a natural disaster		NS
	RMP1	Incorporate training on how to effectively communicate with people with disabilities during an emergency event into existing education for transit drivers, first responders and emergency management staff	The regional Local Medical Reserve Corps had training on working with people with hearing impairments during the past year.	IP
	RMD1	Identify locations for deposit of debris after a hazard	Some locations were used during the Derecho.	IP
	RLE1	Add emergency preparedness and response information into local phone books	Louisa County has a specific phone book for seniors with emergency information	IP
	RLE2	Establish a "Hazard Awareness Week" with local media to educate public about natural hazards		NS
	RLE3	Identify, engage and coordinate with amateur radio operators to prepare for communications during an event	Have initiated this in Greene. Ch-Alb also has a radio club.	IP
	RLP1	Coordinate with Neighborhood Associations to establish a point person within each neighborhood for communications and assisting vulnerable populations	Alb-Ch has begun work on this through the CERT program, and work with City neighborhoods. In Alb linkages are being established through the Neighborhood Watch Program (to be re-branded)	IS
	RLP2	Coordinate with local churches to distribute necessary resources to households and assist in evacuation	An intern will work at the CH-ALB-UVA Emergency Communications Center in the summer to begin outreach to churches.	
	RLM1	Plan for facilitating affordable housing in the aftermath of a disaster, in cases where the regional housing supply is temporarily reduced		NS
	RLM2	Adopt a Regional Recovery Plan that provides a blueprint for the restoration of business operations and rebuilding of communities and infrastructure		NS
	RLD1	Identify potential locations for temporary housing for use after a hazard		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
Albemarle County				
	AHE1	Create educational campaign about the benefits of open space protection		
	AHE2	Provide educational information about the burn permit process		
	AHI1	Retrofit Observatory Hill Dining Facilities with generator quick connects to enable generator hook-up to support the provision of ongoing food service for state shelter and local needs		NS
	AHI2	Partner with utility companies to keep power lines free of vegetation	This is in progress with DP, not sure about the other three power companies.	IP
	AHI3	Implement recommendations from the Community Water Supply Plan		
	AHI4	Conduct structural evaluations of all current and proposed shelters	Communicating with Red Cross for these assessments	NS
	AHP1	Add or modify paratransit routes to serve the new Martha Jefferson hospital site		
	AHM1	Incorporate hazard mitigation plan into community plans		IP
	AHM2	Increase number of trained emergency responders	ACFR has new hires	IP
	AHD1	Assess resistance of existing critical facilities to natural hazards		NS
	AME1	Conduct FireWise workshops		
	AMI1	Build or repair bridges so as to not impede floodwaters		
	AMI2	Upgrade all area bridges to support emergency vehicles		
	AMP1	Ensure that all schools have regular disaster response drills		IP
	AMM1	Implement recommendations from Drought Management Plan		
	AMM2	Continue to pursue conservation easements in sensitive areas, including flood-prone areas.		
	AMD1	Expand GIS data for use in mitigation planning, preparedness planning, and response activities		IP
	ALE1	Encourage residents and agencies to clear storm drain inlets, ditches, and channels		
	ALI1	Encourage property owners to clear creek beds or dredge creeks to remove debris where flooding has increased		
	ALI2	Reduce pollution discharge via stormwater systems		

No.	Activity Code	Activity Description	Status Narrative	Status Code
	ALI3	Install more dry hydrants in high wildfire risk areas		
	ALI4	Adopt a policy to create safe interior spaces in county-owned buildings for protection during tornados and high wind events		NS
	ALM1	Use recreational trails as fire breaks and access lines		
	ALM2	Maintain and add more fire rings in camping areas for controlled fires		
Town of Scottsville				
	ASMM1	Ensure all houses have clear address signs that are visible during snowstorms		
	ASLM2	Incorporate hazard mitigation plan into community plans		

No.	Activity Code	Activity Description	Status Narrative	Status Code
City of Charlottesville				
	CHE1	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building		
	CHI1	Implement recommendations from the Community Water Supply Plan		
	CHP1	Ensure that all schools have regular disaster response drills		IP
	CHM1	Incorporate hazard mitigation plan into community plans		IP
	CHM2	Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster		IP
	CHM3	Provide incentives to institutions and homeowners for use of low-flow appliances		
	CHM4	Continue and expand use of citizen alert systems		IP
	CHM5	Implement recommendations from Drought Management Plan		
	CHM6	Ensure that all shelters and public buildings have a battery-powered emergency radio and flashlight		NS
	CME1	Support purchase of rain barrels		
	CMI1	Build or repair bridges so as not to impede floodwaters		
	CMI2	Add signage to roads in locations that frequently flood		

No.	Activity Code	Activity Description	Status Narrative	Status Code
	CMI3	Retrofit emergency service buildings for hazard resistance		
	CMM1	Support volunteer groups and encourage collaboration on public outreach and education programs on hazard mitigation		NS
	CMM2	Create a strategy for using existing media outlets for communications during a hazard event		IP
	CLE1	Provide citizens with literature about flood and drought-smart landscaping		
	CLE2	Create educational campaign about the benefits of open space and sensitive area protection		
	CLI1	Improve the maintenance of stormwater conveyance systems		
	CLI2	Reduce pollution discharge via stormwater systems		
	CLI3	Retrofit stormwater management basins		
	CLM1	Hire a floodplain management official and enforce floodplain regulations.		

No.	Activity Code	Activity Description	Status Narrative	Status Code
Fluvanna County				
	FHI1	Conduct structural evaluations and study of resistance to hazards of all current and proposed shelters		
	FHI2	Implement recommendations from Water Supply Plan		
	FHI3	Implement recommendations from the Wireless Telecommunications Facility Master Plan to enhance emergency communications		
	FHI4	Retrofit emergency services building for hazard resistance		
	FHI5	Install backup generators in shelters and critical facilities		
	FHP1	Ensure that all schools have regular disaster response drills		
	FHM1	Improve local capabilities to perform earthquake building safety evaluations and enforce building codes in high seismic hazard areas		
	FME1	Create a community toolbox with tools and information for local homeowners		
	FMM1	Ensure all houses have clear address signs that are visible during snowstorms		

No.	Activity Code	Activity Description	Status Narrative	Status Code
	FMM2	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building		
	FLE1	Develop an all-hazard resource center at libraries or other public office, including a copy of the Regional Natural Hazard Mitigation Plan		
	FLE2	Create an educational program to help residents understand the benefits and costs of earthquake insurance		
	FLI1	Retrofit existing public buildings to meet contemporary standards for earthquake resistance		
	FLI2	Equip owners of historic properties that may be more susceptible to earthquake damage with information about retrofitting structures to improve earthquake resistance		
	FLI3	Update building codes to improve earthquake resilience		
	FLM1	Require protective stormwater mitigation measures such as reducing impervious surfaces, stilling and infiltration basins, and restoring wetlands in growth areas		
Town of Columbia				
	FCHI1	Acquire existing structures within the floodplain and either demolish or relocate		
	FCHM1	Create a relocation plan for residents currently living within the floodplain to offer housing choices outside of a hazard area		
	FCMI1	Enhance emergency communications to provide reliable mobile coverage within the Town, per the adopted Fluvanna County telecommunications plan		
	FCMI2	Repurpose the properties within the floodplain to serve the Town of Columbia without imposing risks from future flooding		
	FCLI1	Expand cell phone coverage to provide reliable service to the whole Town		
	FCLI2	Maintain an evacuation route out of town with proper signage		
	FCLI1	Repair, replace or relocate septic and drainage fields that leak sewage into the river during flooding		
	FCLM1	Incorporate hazard mitigation plans into community plans		

No.	Activity Code	Activity Description	Status Narrative	Status Code
Greene County				
	GHI1	Partner with utility companies to keep power lines free of vegetation		IP
	GHI2	Conduct structural evaluations of current and proposed shelters		IP
	GHI3	Install backup generators in shelters and critical facilities		IP
	GHP1	Ensure that all schools have regular disaster response drills	Completed...but on-going	C
	GHM1	Continue and expand use of citizen alert systems	Completed...but on-going	C
	GHM2	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building	Additional staff members still require training	C
	GHM3	Ensure all critical facilities have updated shelter-in-place plans		IP
	GHM4	Update driveway codes to allow access for emergency vehicles	Planning Dept needs to confirm this item	IP
	GHM5	Routinely inspect fire hydrants	RSA inspects hydrants on a routine basis	IP
	GHM6	Update local stormwater ordinances to be in compliance with statewide regulations	Planning Dept needs to update/confirm this item	???
	GME1	Develop cooperative agreement between all agencies involved in emergency management, provide methods of communication between agencies responsible for being present at Emergency Communication Center following disaster, and conduct joint emergency exercises	Completed...but on-going	C
	GMM1	Incorporate hazard mitigation plan into community plans		NS
	GMM2	Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster	CERT classes began in April 2013 (\$6,000 VDEM Grant)	IP
	GMM3	Investigate safety and maintenance of roads in private communities	Planning/Public Works will need to confirm status	???
	GMD1	Standardize GIS data for use in mitigation planning		C
	GMD2	Conduct channel improvement study		NS
	GMD3	Create needs survey identifying special populations	EMC outreach to community/church leaders	IP
	GMD4	Ensure evacuation routes are upgraded to proper standards		NS
	GLE1	Develop all-hazard resource center		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
	GLI1	Retrofit emergency services building for hazard resistance		IP
	GLI2	Build and repair bridges so as not to impede floodwaters	Mutton Hollow Bridge on the Rt810 side replaced by VDOT	IP
	GLI3	Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris	On-going activities by VDOT	IP
	GLP1	Update Greene County Emergency Operations Plan	EOP due for revision in February 2014	IP
	GLM1	Adopt more stringent policy to discourage floodplain development	Planning and Zoning will need to confirm status	???
	GLM2	Provide paid fire and rescue staff	Paid EMS staff / all volunteer fire personnel	C/IP
	GLM3	Ensure all houses have clear address signs that are visible during snowstorms		NS
Town of Stanardsville				
	GSHM1	Increase water capacity and pressure for the Town of Stanardsville to enable optimal emergency response	Planning will need to confirm status	???
	GSMP1	Partner with Greene County to provide a mobile pet shelter for use during hazard events		NS
	GSMM1	Ensure all houses have clear address signs that are visible during snowstorms		NS
	GSLM1	Incorporate Hazard Mitigation Plan into community plans		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
Louisa County				
	LHI1	Enhance access to broadband internet in rural areas	Board of Supervisors agreed to consider “white space” or “super wi-fi” technology as Internet source in areas where cell towers have yet to provide service	IP
	LHI2	Install backup generators in shelters and critical facilities	The high school had a portable generator before the earthquake – since then it has been housed at the middle school. There is also one available at the Fire/Emergency Services training center, located just east of the town of Mineral. There is also one at the County Office Building. There is a wired generator at Moss Nuckols Elementary School, which serves as a shelter during emergencies. All of the schools, library and courthouse have battery powered lights, if not generators.	IP
	LHI3	Implement recommendations from Water Supply Plan	County is considering expansion of infrastructure in growth areas; have agreed with Fluvanna County to renew James River Water Authority discussions	IP
	LHI4	Ensure all shelters and public buildings have a battery-powered emergency radio & flashlight	All buildings which the general public is likely to need access should have these	C
	LHP1	Ensure that all schools have regular disaster response drills	All schools hold two earthquake and two tornado drills annually; fire drills monthly	IP
	LHM1	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building	There has been training on back end (after a disaster) to provide for unified damage assessment	NS
	LHM2	Continue and expand use of citizen alert systems countywide, including within Towns	County will soon implement such a system through contract with Everbridge. Fire/EMS is increasing use of Facebook to reach out to people.	IP

No.	Activity Code	Activity Description	Status Narrative	Status Code
	LHM3	Increase number of trained emergency responders	No change in numbers in past couple years (57 career staff; 212 volunteers), although there has been an increase in training levels.	IP
	LHM4	Improve local capabilities to perform earthquake building safety evaluations and enforce building codes in high seismic hazard areas	There has been training on back end (after a disaster) to provide for unified damage assessment. Not likely to impose more stringent quake-related building codes.	IP
	LMI1	Put high water marks on bridges	This may be a VDOT responsibility	IP
	LMP1	Create a needs survey that identifies special need homes or facilities needing attention in case of emergencies or evacuations	Fire/EMS and Human Services has system in place to move people from these facilities if necessary and has list of over 100 individuals to contact in case they need to be moved from their homes after an event.	C
	LMM1	Investigate safety and maintenance of roads in private communities		IP
	LMM2	Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster	The CERT chapter does regular training on CPR, etc.	NS
	LMM3	Ensure all houses have clear address signs that are visible during snowstorms	Do not mandate, but individuals can buy a "911 sign" for \$15	IP
	LMM4	Incorporate hazard mitigation plans into community plans		NS
	LMM5	Incorporate special needs populations into Hazard Mitigation and Emergency Operations Plans	Fire/EMS and Human Services has system in place to move people from these facilities if necessary using JAUNT and school buses and has list of over 100 individuals to contact in case they need to be moved from their homes after an event.	NS
	LLE1	Provide more education about the burn permit process	No formal education process, but Department of Forestry in Louisa will provide education as requested	IP
	LLE2	Create an educational program to help residents understand the benefits and costs of earthquake insurance		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
	LLI1	Equip owners of historic properties that may be more susceptible to earthquake damage with information about retrofitting structures to improve earthquake resistance	Workshop was organized by Louisa County Historical Society on this subject, 2012 (specific to older homes with certain types of construction)	IP
	LLI2	Add signage to roads in locations that frequently flood	This may be a VDOT responsibility	NS
	LLD1	Track and map space available for pets at local SPCA and other animal shelters	Citizen Animal Response Team (CART) is being formed to ensure there is space at shelters (the animal shelter as well as shelters used by people) after a disaster, at least for common house pets	IP
Town of Louisa				
	LLHM1	Incorporate hazard mitigation plans into community plans		NS
	LLMM1	Ensure all houses have clear address signs that are visible during snowstorms	Do not mandate, but individuals can buy a "911 sign" for \$15	IP
	LLLI1	Bury utilities underground in town of Louisa		NS
Town of Mineral				
	LMHM1	Incorporate hazard mitigation plans into community plans		NS
	LMMM1	Ensure all houses have clear address signs that are visible during snowstorms	Do not mandate, but individuals can buy a "911 sign" for \$15	IP
	LMLI1	Bury utilities underground in town of Mineral		NS

No.	Activity Code	Activity Description	Status Narrative	Status Code
Nelson County				
	NHI1	Install backup generators in shelters and critical facilities	Generators are at all fire and rescue stations and have been tested. Maintenance performed if needed. Working with schools at this time to address issues with generators at two schools.	IP
	NHM1	Continue and expand use of citizen alert systems	Citizen alert system has been used several times successfully. Now looking to expand to cell phones and email subscriptions.	IP
	NHM2	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building		
	NHM3	Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster		X
	NME1	Conduct Firewise Workshops		IP
	NME2	Provide educational instruction and materials to school age youth and their teachers on proper procedures for responding to natural disasters		IP
	NMI1	Investigate safety and maintenance of roads in private communities	Working with fire and rescue agencies to assure that roadways in these communities are safe.	IP
	NMM1	Ensure all houses have clear address signs that are visible during snowstorms	Fire, EMS and L.E. are assisting in assuring that houses have address signs.	IP
	NLE1	Ensure that all homeowners and businesses located in areas prone to landslides are aware of the risks and appropriate responses to an event		
	NLI2	Maintain and add more fire rings in camping areas for controlled fires	Working with Dept of Forestry to complete this task.	IP

JUSTIFICATION FOR REMOVAL OR REVISED PRIORITY OF 2012 ACTION ITEMS

Activity Code	Activity Description	Justification	2017 Status
Thomas Jefferson Region			
RHE1	Create a hazards library and information toolkit	Limited resources for this task on a regional level.	NS
RHI1	Adopt a cooperative agreement between localities to set a single code to alter traffic signals for use by emergency response vehicles from each jurisdiction	Some cooperation agreements are in place between localities; address at local level	NS
RHP1	Establish a registry of individuals with specialized needs, including their location, and their requirements for transportation assistance	Completed contact list in Louisa County. No resources identified for region or other localities	IP
RHP2	Ensure that emergency shelters meet accessibility requirements, have back-up power, and are capable of housing caretakers, medical equipment and service animals for the elderly and those with disabilities	Addressed by localities	IP
RHD1	Update addresses in Repetitive Loss Properties database	VDEM maintains this list	NS
RME1	Create a website and app that allows members of public to report potentially hazardous situations as they are observed	Charlottesville carried out pilot project. No resources for full region.	IP
RME3	Encourage all property owners of commercial, industrial, and multifamily housing facilities to have an Emergency Action Plan, including evacuation, sheltering, and communications protocol	Too vague to effectively address. No action taken	NS
RME4	Encourage all businesses and congregate housing facilities to have an Emergency Action Plan that is coordinated with plans for the facility	Too vague to effectively address. No action taken.	NS
RME5	Encourage major businesses to adopt a Business Continuity Plan, especially businesses that provide critical services in the aftermath of a natural disaster	Too vague to effectively address. No action taken.	NS
RMP1	Incorporate training on how to effectively communicate with people with disabilities during an emergency event into existing education for transit drivers, first responders and emergency management staff	Regional Local Medical Reserve Corps provided training.	C
RLE1	Add emergency preparedness and response information into local phone books	Phone books are no longer in general use	IP
RLE2	Establish a "Hazard Awareness Week" with local media to educate public about natural hazards	Incorporated into public education program activity	NS
RLE3	Identify, engage and coordinate with amateur radio operators to prepare for communications during an event	Progress in Greene. Ch-Alb. No other activity in region.	IP

Activity Code	Activity Description	Justification	2017 Status
RLP1	Coordinate with Neighborhood Associations to establish a point person within each neighborhood for communications and assisting vulnerable populations	Done as part of local CERT programs. Not a regional effort.	IP
RLP2	Coordinate with local churches to distribute necessary resources to households and assist in evacuation	Limited resources	NS
RLM1	Plan for facilitating affordable housing in the aftermath of a disaster, in cases where the regional housing supply is temporarily reduced	Needs best addressed at the local level	NS
RLM2	Adopt a Regional Recovery Plan that provides a blueprint for the restoration of business operations and rebuilding of communities and infrastructure	Limited resources.	NS
RLD1	Identify potential locations for temporary housing for use after a hazard	Limited resources.	NS
Albemarle County			
AHE1	Create educational campaign about the benefits of open space protection	Combined into a comprehensive communications/education strategy. Now AHE1	Ongoing
AHE2	Provide educational information about the burn process		
AME1	Conduct FireWise workshops		
AHI1	Retrofit Observatory Hill Dining Facilities with generator quick connects to enable generator hook-up to support the provision of ongoing food service for state shelter and local needs	Completed	C
AHI2	Partner with utility companies to keep power lines free of vegetation	Partnerships in place. Priority reduced to Low. Now ALI4	C
AHI4	Conduct structural evaluations of all current and proposed shelters	Completed by Red Cross	C
AHP1	Add or modify paratransit routes to serve the new Martha Jefferson hospital site	Completed	C
ALI1	Encourage property owners to clear creek beds or dredge creeks to remove debris where flooding has increased	Combined into ALE1	
ALI4	Adopt a policy to create safe interior spaces in county-owned buildings for protection during tornados and high wind events	Revised to ALC1: Increase the capacity to shelter in place in public buildings	
ALM1	Use recreational trails as fire breaks and access lines	Combined into AHM2 with a higher priority	
ALM2	Maintain and add more fire rings in camping areas for controlled fires.		
Town of Scottsville			
ASHM1	Increase the storage capacity of Mink Creek to enhance flood control	Removed by Town Council; no study showing the need for this.	NS

Activity Code	Activity Description	Justification	2017 Status
City of Charlottesville			
CLM1	Hire a floodplain management official and enforce floodplain regulations.	Floodplain management is part of the Development Services Manager's responsibilities. The City has developed a Floodplain permitting process to enforce regulations.	C
Fluvanna County			
FHI1	Conduct structural evaluations and study of resistance to hazards of all current and proposed shelters	Completed as part of update of Emergency Operations Plan	C
FHI2	Implement recommendations from Water Supply Plan	Building new water pipeline to supply Fluvanna & Louisa Counties. Water lines and hydrants updated at Lake Monticello	IP
FHI3	Implement recommendations from the Wireless Telecommunications Facility Master Plan to enhance emergency communications	New public safety radio system installed and operational in the Spring of 2017. Louisa County has joined the system.	C
FHI4	Retrofit emergency services building for hazard resistance	Rescue Squad Building upgraded	C
FHI5	Install backup generators in shelters and critical facilities	Completed	C
FHP1	Ensure that all schools have regular disaster response drills	Replaced with FHC2 for drills at schools, ALFs and NHs	IP
FHM1	Improve local capabilities to perform earthquake building safety evaluations and enforce building codes in high seismic hazard areas	Training addressed in FME1, FME2, FME3, FME4.	IP
FME1	Create a community toolbox with tools and information for local homeowners	Web-based information posted	C
FMM2	Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building	Replaced with FME2, FME3 and FME4 identifying specific trainings to be conducted	IP
FLE1	Develop an all-hazard resource center at libraries or other public office, including a copy of the Regional Natural Hazard Mitigation Plan	Regional Natural Hazard Mitigation Plan placed at library. Resources posted on-line	C
FLE2	Create an educational program to help residents understand the benefits and costs of earthquake insurance	Completed	C
FLI1	Retrofit existing public buildings to meet contemporary standards for earthquake resistance	Deemed unnecessary. Public building sustained limited damage.	NS
FLI2	Equip owners of historic properties that may be more susceptible to earthquake damage with information about retrofitting structures to improve earthquake resistance	This is still included for Louisa County where most damage was sustained, but removed for Fluvanna County where damage was minimal	NS

Activity Code	Activity Description	Justification	2017 Status
FLI3	Update building codes to improve earthquake resilience	Reviewed, but determined that revisions were not needed	NS
FLM1	Require protective stormwater mitigation measures such as reducing impervious surfaces, stilling and infiltration basins, and restoring wetlands in growth areas	Reviewed stormwater ordinances. No changes to requirements made.	NS
Town of Columbia – No longer a town,			
FCHI1	Acquire existing structures within the floodplain and either demolish or relocate	HMPG project underway to acquire and demolish 4 buildings in the flood plain.	IP
FCHM1	Create a relocation plan for residents currently living within the floodplain to offer housing choices outside of a hazard area		
FCMI1	Enhance emergency communications to provide reliable mobile coverage within the Town, per the adopted Fluvanna County telecommunications plan	New County public safety radio system installed and operational in the Spring of 2017	C
FCMI2	Repurpose the properties within the floodplain to serve the Town of Columbia without imposing risks from future flooding		
FCLI1	Expand cell phone coverage to provide reliable service to the whole Town	New cell tower installed	C
FCLI2	Maintain an evacuation route out of town with proper signage	Replaced with FLM2 – County-wide objective	
FCLI1	Repair, replace or relocate septic and drainage fields that leak sewage into the river during flooding		
Greene County			
GHP1	Ensure that all schools have regular disaster response drills	All have drills. Replaced with GHC1. Regular drills to continue.	C
GHM6	Update local stormwater ordinances to be in compliance with statewide regulations	Completed	C
GME1	Develop cooperative agreement between all agencies involved in emergency management, provide methods of communication between agencies responsible for being present Emergency Communication Center following disaster, and conduct join emergency exercises.	Completed. Now part of continuing operations.	C

Louisa County			
LHI4	Ensure all shelters and public buildings have a battery-powered emergency radio & flashlight	Completed	C
LHM4	Improve local capabilities to perform earthquake building safety evaluations and enforce building codes in high seismic hazard areas	Training on unified damage assessment provided. Earthquake codes reviewed, and no changes proposed.	C
LMP1	Create a needs survey that identifies special need homes or facilities needing attention in case of emergencies or evacuations	Fire/EMS and Human Services has system in place to move people from these facilities if necessary and has list of over 100 individuals to contact in case they need to be moved from their homes after an event.	C
LLI1	Equip owners of historic properties that may be more susceptible to earthquake damage with information about retrofitting structures to improve earthquake resistance	Workshop was organized by Louisa County Historical Society on this subject, 2012 (specific to older homes with certain types of construction)	C
Town of Louisa			
LLL1	Bury utilities underground in town of Louisa	Was planned as part of TAP grant, but proved to be cost-prohibitive. Still desired, but no current plans to carry out this activity.	NS
Nelson County			
NHM3	Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster	Canceled	X
NMI1	Investigate safety and maintenance of roads in private communities	Worked with fire and rescue agencies to assure that roadways in these communities are safe.	C

Disaster planning workshop Nov. 14

The Thomas Jefferson Planning District Commission will hold a public workshop to discuss updating the Regional Hazard Mitigation Plan.

The workshop will be held from 3:30 to 5 p.m. Nov. 14 at the commission's Water Street Center at 407 E. Water St. Participants will be able to generate ideas to enhance the region's ability to be prepared for emergency responses and to bounce back after a natural disaster.

The prior plan was adopted by all jurisdictions in the planning district — Charlottesville and the counties of Albemarle, Fluvanna, Greene, Louisa and Nelson — and was approved by the Federal Emergency Management Agency in 2012. The plan is required to be updated every five years for localities to be eligible for FEMA's Hazard Mitigation Grant Program.

Are We Prepared? Making Our Community More Resilient to Natural Disasters

**Public Meeting
 Water Street Center
 Monday, November 14, 2016, 3:30 – 5:00 p.m.**

AGENDA

Goals:

- (1) *Provide an overview of hazard mitigation*
- (2) *Update goals and objectives for our region*
- (3) *Generate ideas for actions in our region*

3: 30 p.m.	Welcome	Billie Campbell
3: 35 p.m.	What is Hazard Mitigation? Definition Planning Process	Billie Campbell
3: 40 p.m.	Group Work on Goals and Objectives Overview of results of Hazard Identification and Risk Analysis (HIRA)	Wood Hudson
3: 55 p.m.	Goals and Objectives from 2012 Group work: goals and objectives	Billie Campbell Participants
4: 15 p.m.	Group reports	
4: 30 p.m.	Group Work on Actions Action Categories Issues from past hazard events Ideas for actions to include	Billie Campbell Participants
4: 50 p.m.	Group reports	
4: 55 p.m.	Next Steps Meetings with localities to identify specific activities On-line survey Public Hearing and adoption process	Wood Hudson

Hazard Mitigation Public Meeting – Are We Prepared?

November 14, 2016 3:30 p.m. to 5:00 p.m.

Name	Organization	E-mail	Phone
Melissa Meador	Greene County	mmeador@gva.us	434-985-5232
John Porter	ARES Cville/Alb/aut	JHP7E@hotmail.com	434-296-7539
Rebecca Quinn	self	requinn@earthlink.net	
Andrew Baxter	Cville Fire	bax@charlottesville.org	434-970-3323
AARON CROSS	VIRGINIA DIVISION OF GEOLOGY + MINERAL RESOURCES	aaron.cross@dmme.virginia.gov	434-961-6382
MIKE ROGERS	Charville Fire	rogersm@charlottesville.org	434-531-4828
Lorrie Coiner	VA Division of Geology + Mineral Resources	lorrie.coiner@dmme.virginia.gov	434-951-6356
JIM WILSON	AMT SUR AUDIO EMERGENCY SERVICE & CENT	telegraphjim@gmail.com	434 245-7041
Viviana Cristina	Red Cross	Viviana.Cristina2@redcross.org	434-242-5585
Bart Subbala	Greene Co.		

**NATURAL HAZARD
MITIGATION PLAN UPDATE**

Hazard Identification and Analyses
Data Update

**NATURAL HAZARD MITIGATION
PLANNING**

- Purpose: Prepare for natural disasters before they occur
- Incentive: FEMA requires Natural HMPs as a condition for eligibility in certain mitigation grant programs
- Plan includes the following sections:
 1. Planning Process – the process through which the plan was developed, including public input
 2. Community Profile – general information about communities in the planning district
 3. **Hazard Identification and Analysis** – general information about potential hazards in the planning district, the historic record of hazard events, and the probability of future events
 4. Vulnerability Assessment – analysis of the human impact hazards could cause, with estimated potential losses for various hazard scenarios
 5. Capabilities Assessment – a survey of current local capacity to mitigate natural hazards
 6. Mitigation Strategy – goals, objectives, and action items selected to mitigate hazards identified in the region

HIRA

- Describes all natural hazards that affect the Planning District and provide an analysis on location, extent, severity, and probability of occurrence
- General descriptions of events
- Data on events such as frequency, duration, severity and financial impact
- Hazards are presented in order of the relative risk they pose to the region
- Hazards are rated based on a risk matrix developed by Kaiser Permanente

TORNADO

- Virginia experiences an average of 17.7 tornados per year
- PDC averages just over 1 tornado per year.
- Albemarle has experienced the most tornados (6) in the PDC and is ranked as having a high risk according to the State HMP

NOTABLE EVENTS

Date	Localities	Event Type
6/29/12	All	Derecho
10/29/12	All	Hurricane
3/6/13	All	Winter Snow
7/12/13	All	Winter Weather
02/13/14	All	Winter Weather
3/3/14	All	Winter Weather
03/16/14	All	Winter Weather
04/29/14	All	Severe Weather
5/15/14	All	Rainfall
08/04/14	All	Hurricane Arthur
02/16/15	All	Winter Weather
03/04/15	All	Winter Weather
9/10/15	All	Wind/Flooding
01/22/16	All	Winter Weather
02/24/16	Fluvanna	Tornado
03/27/16	Louisa	Earthquake
04/06/16	Greene	Wildfire

Goals and Objectives – from 2012 Update

Education and Outreach

- GOAL: Increase awareness of hazards and how to prepare for them through education and training
 - OBJECTIVE: Educate families and individuals on household techniques for disaster preparedness
 - OBJECTIVE: Train key agency staff and volunteer groups in disaster mitigation and preparedness, with an emphasis on emergency respondents, building inspectors and code officials
 - OBJECTIVE: Encourage and equip employers to adopt emergency action plans for their workplace
 - OBJECTIVE: Maintain a consistent message across agencies and providers for hazard mitigation and disaster response activities using clear language

- GOAL: Encourage individual action to reduce the impacts of hazards
 - OBJECTIVE: Encourage water conservation
 - OBJECTIVE: Encourage property owners to design and maintain buildings and grounds to reduce risks of damage
 - OBJECTIVE: Protect sensitive areas through conservation easements
 - OBJECTIVE: Encourage residents to provide adequate access to property for emergency services

Infrastructure and Buildings

- GOAL: Reduce the short and long-term impact of hazard events on regional infrastructure
 - OBJECTIVE: Diversify the energy system to provide multiple power source and fuel supply options
 - OBJECTIVE: Diversity the communications system to provide alternative lines for use during loss of capacity
 - OBJECTIVE: Diversify the transportation system by increasing connectivity and providing modal options

- GOAL: Identify and implement physical projects that will directly reduce impacts to structures from hazards
 - OBJECTIVE: Elevate, retrofit and relocate existing structures and facilities in vulnerable locations
 - OBJECTIVE: Maintain and/or augment critical facilities and infrastructure necessary for emergency response during and after a hazard event

People and Vulnerable Populations

- GOAL: Prepare to meet the immediate needs of population during natural hazards
 - OBJECTIVE: Identify and record concentrations of vulnerable populations, especially in high-risk areas
 - OBJECTIVE: Train staff to effectively communicate with and transport vulnerable populations
 - OBJECTIVE: Install devices and signage to improve communication and warning systems, ensure operations of emergency shelters, and reduce response time in the event of a natural hazard
 - OBJECTIVE: Ensure that facilities and equipment are in place to transport, shelter and serve vulnerable populations

Mitigation Capacity

- GOAL: Incorporate mitigation concepts into existing and future policies and plans
 - OBJECTIVE: Reduce property risks through zoning, ordinances and building codes
 - OBJECTIVE: Increase storage capacity of streams and rivers and reduce flow rates of stormwater through mitigation policies and best management practices.
 - OBJECTIVE: Link community planning and mitigation planning together to achieve common goals
 - OBJECTIVE: Incorporate mitigation planning concepts into building codes
- GOAL: Pursue funding to implement identified mitigation strategies
 - OBJECTIVE: Identify appropriate funding sources
 - OBJECTIVE: Create or strengthen partnerships to develop integrated grant proposals and coordinated implementation plans
 - OBJECTIVE: Increase staffing to implement mitigation strategies

Information and Data Development

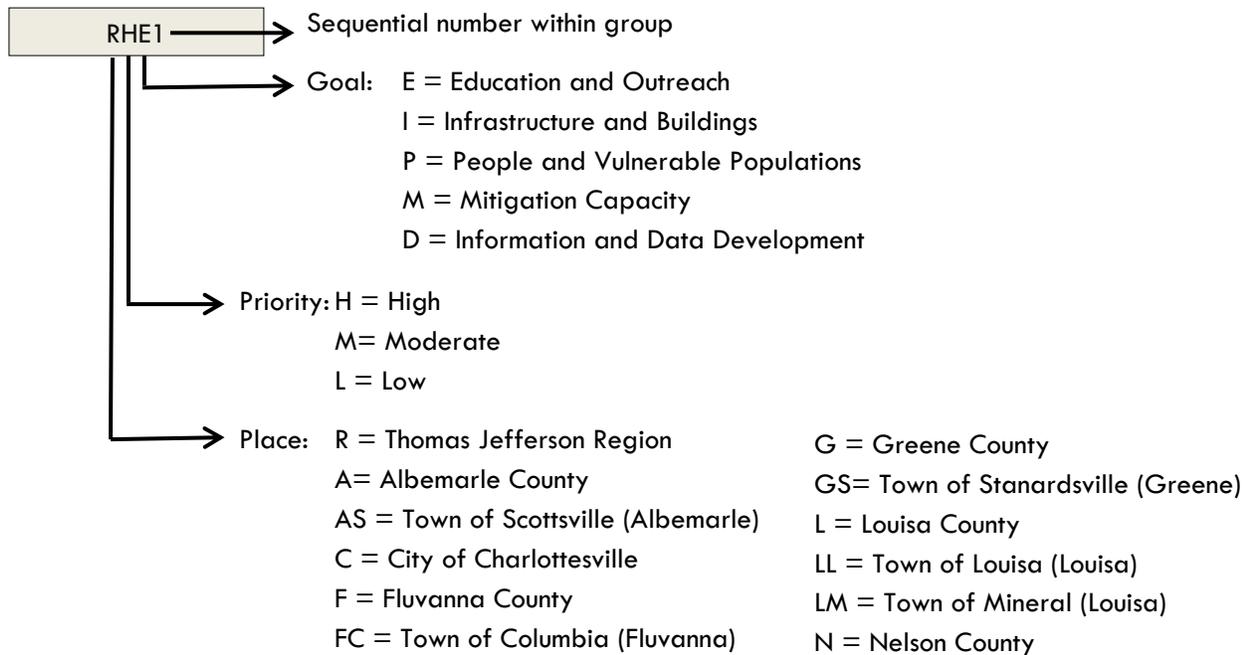
- GOAL: Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification
 - OBJECTIVE: Identify data and information needs and develop methods to meet these needs
 - OBJECTIVE: Ensure that critical facilities meet disaster preparedness requirements

Mitigation Action Items

A set of mitigation action items are designated for each locality to substantively further the objectives of the plan. The detailed list of action items includes the supporting goal, hazard to be mitigated, party responsible for implementation, timeframe of implementation, estimated cost, and potential funding sources. Furthermore, all action items are prioritized and listed in order from high, moderate, to low priority.

On the following page is an abridged list of action items for each jurisdiction and the Thomas Jefferson region:

*Activity Code Key



ON-LINE SURVEY QUESTIONS

1. In what locality do you live?

- Albemarle
- Charlottesville
- Fluvanna
- Greene
- Louisa
- Nelson
- Other

2. Have you or someone in your household ever experienced or been impacted by a natural disaster at your current residence?

- Yes
- No

3. Have you or someone in your household ever experienced or been impacted by a natural disaster at a previous residence?

- Yes
- No

4. If “Yes”, which of the following natural disasters did you or someone in your household experience?

- Dam Failure
- Drought or extreme heat
- Earthquake
- Flood
- Hurricane or windstorm
- Isolation from road washout
- Landslide
- Lightning
- Tornado
- Wildfire
- Winter Storm/weather
- Other:

List:

5. How concerned are you about the following natural hazards affecting your community?

	Extremely Concerned	Very Concerned	Concerned	Somewhat Concerned	Not Concerned
Dam Failure					
Drought or extreme heat					
Earthquake					
Flood					
Hurricane or windstorm					
Landslide					
Lightning					
Tornado/Wind					
Wildfire					
Winter Storm/weather					

6. List any additional natural hazards not listed above that you think are wide-scale threats to your community.

7. Is your home located in a floodplain?

Yes
No
I don't know

8. Does your household have flood insurance through the National Flood Insurance Program?

Yes
No
I don't know

9. If "No", why not?

Not located in floodplain or flood-prone area
Too expensive
Not necessary because I'm elevated or otherwise protected
Never really considered it
Not familiar with it / Don't know about it
Other (please explain):

10. Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?

Yes
No

11. Have you taken any actions to make your home or neighborhood more resistant to hazards?

Yes
No
If "Yes", please explain.

12. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?

Newspaper
Television
Radio
Internet
Mail
Public workshops/meetings

13. A number of community-wide mitigation activities can reduce our risk from hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for local government to consider pursuing.

	Very Important	Somewhat Important	Not Important
Prevention			
Property Protection			
Natural Resource Protection			
Structural Projects			
Emergency Services			
Public Education and Awareness			

14. In your opinion, what are some specific steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

15. Are there any other issues regarding the reduction of risk and loss associated with hazards or disasters in your community that you think are important?

Flip Chart Transcriptions – Public Meeting, November 14, 2016

Goals and Objectives

Education and Outreach

- Encourage volunteerism
- Highlight Trouble Spots
- Signage to identify

Infrastructure and Buildings

- Notification to At-Risk Areas
- Provide for adequate redundancy in the communication system

People and Vulnerable Populations

- Language Issues
- Dealing with Evacuees coming here from other areas

Mitigation Capabilities

- General Capabilities
- Clear streams and rivers of debris and sediment (don't say "Increase Storage Capacity")
- Building codes are established at state level – remove as objectives. This concept is covered in objective related to zoning and ordinances.

Information and Data Development

- Penalty for high water use

Actions

- Training for Building Inspectors re: Post-Event inspections, immediate post-event surveys
- "Triage" system for critical infrastructure
- Technology Assessment
- Inventory all public buildings, including identification of those located in the flood plain to support decision-making
 - Insurance
 - Mitigation
- Develop apps and Code Red protocols for vulnerable populations and renters (phone books are no longer a reliable resource for distributing information)
- Inventory of resources within the Region to promote cross-jurisdictional action

Billie Campbell

Subject: FW: TJPDC News Brief - February 15, 2017

The Thomas Jefferson Planning District Commission serves the City of Charlottesville, and the Counties of Albemarle, Fluvanna, Greene, Louisa and Nelson.



TJPDC News Brief: February 15, 2017

[View content in your browser](#)

Public Online Survey for Hazard Mitigation Plan Update

Over the last quarter, TJPDC has shifted from analyzing hazards in our region to facilitating participation to determine effective mitigation strategies. The mitigation strategy phase commenced with a November 14, 2016 public meeting, and is continuing with meetings held with locality staff and Local Emergency Planning Committee. TJPDC also invites the public to share their experiences, concerns, and suggestions for specific steps local governments could take to reduce or eliminate the risk of future hazard damages. All residents in the region are encouraged to [complete the online survey](#). Responses will be collected until mid-March.

Caregiver Education Series

The Geriatric Collaborative of Central Virginia (GCCV), a program of the TJPDC

Corporation, will offer an education series for caregivers in April.



Upcoming Events

Planning and Zoning Committee

February 21, 2017
3:00 p.m.

Citizens Committee (CTAC)

March 1, 2017
10:00 a.m.

TJPD Commission Meeting

March 2, 2017
7:00 p.m.

MPO Technical Committee

March 21, 2017
10:00 a.m.

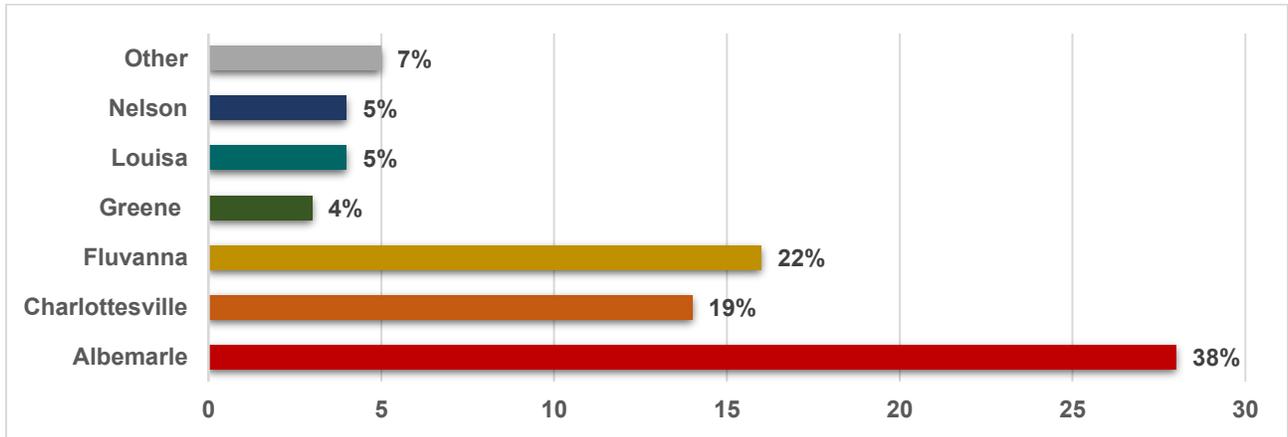
Rural Transportation Committee (RTAC)

March 21, 2017
1:00 p.m.

MPO Policy Board

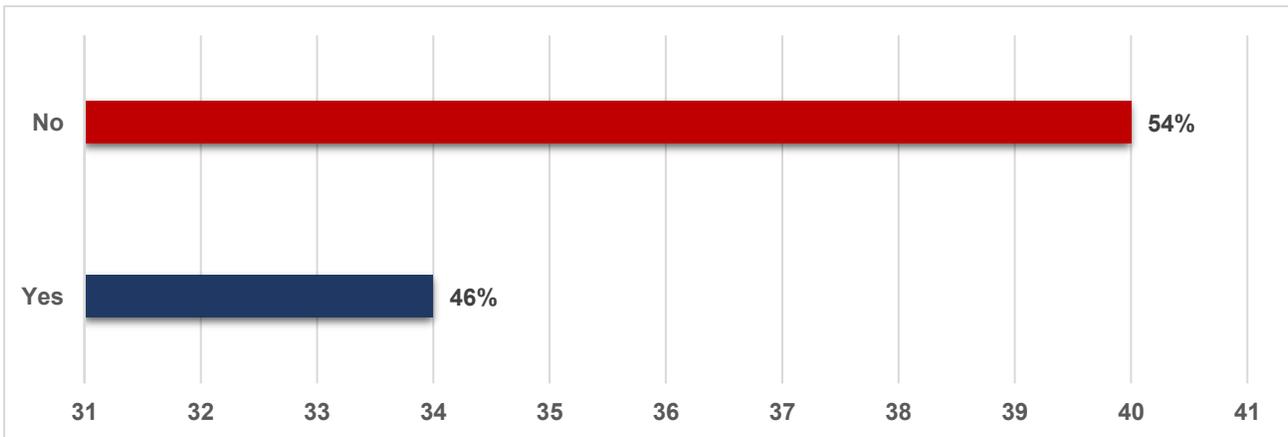
March 22, 2017
4:00 p.m.

1) In what locality do you live?



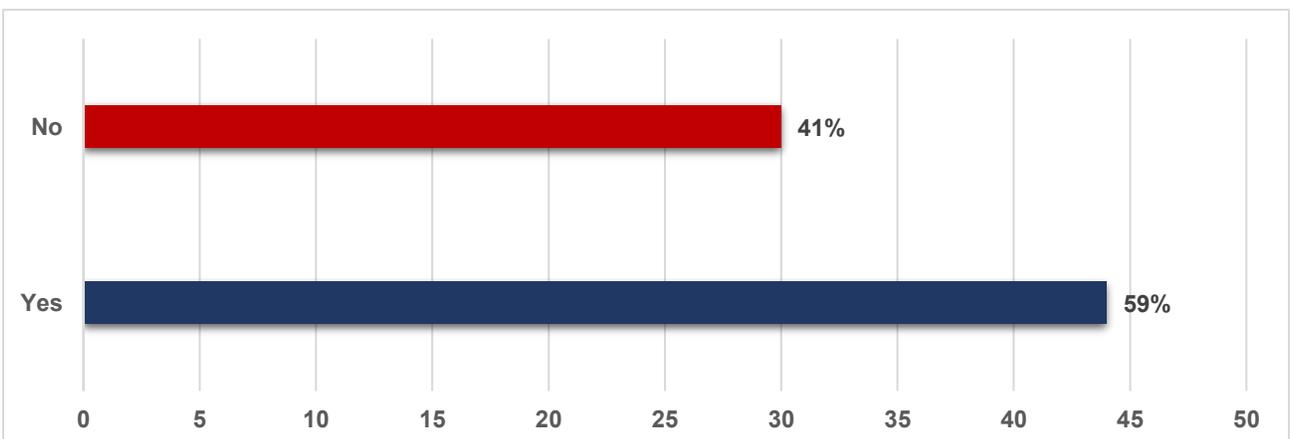
Number of Responses

2) Have you or someone in your household ever experienced or been impacted by a natural disaster at your CURRENT residence?



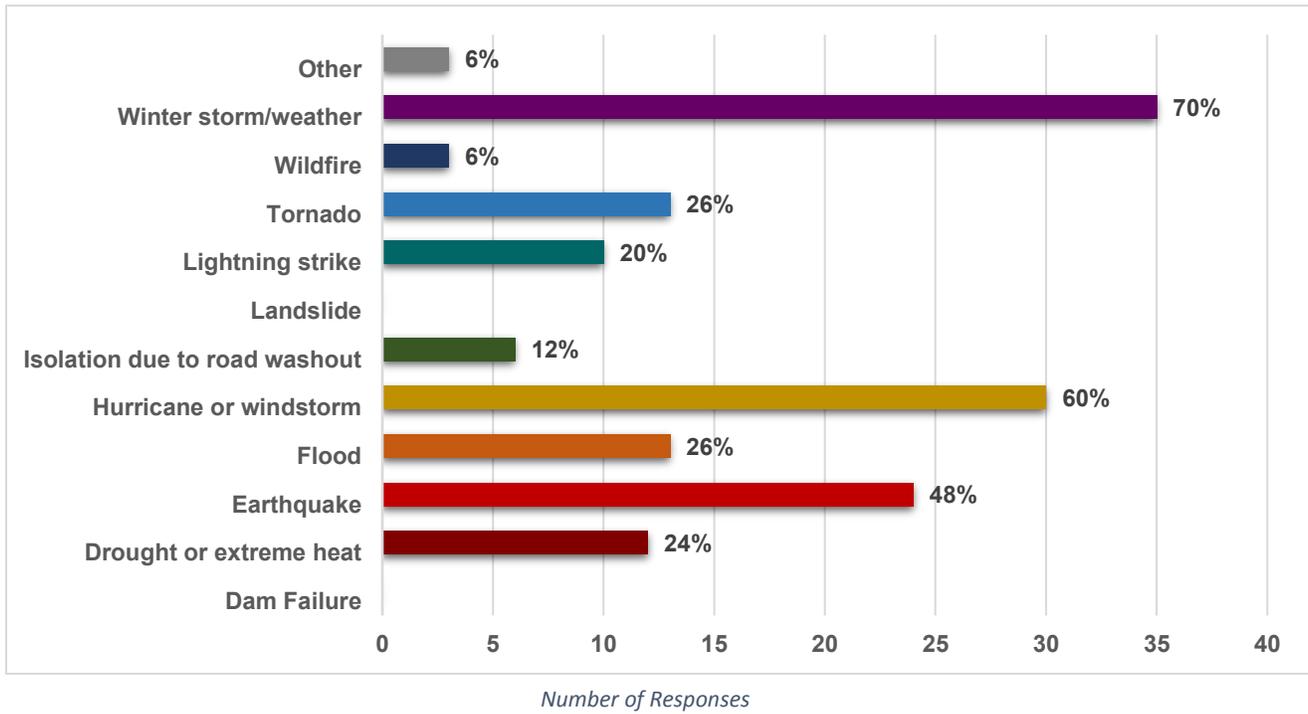
Number of Responses

3) Have you or someone in your household ever experienced or been impacted by a natural disaster at a PREVIOUS residence?

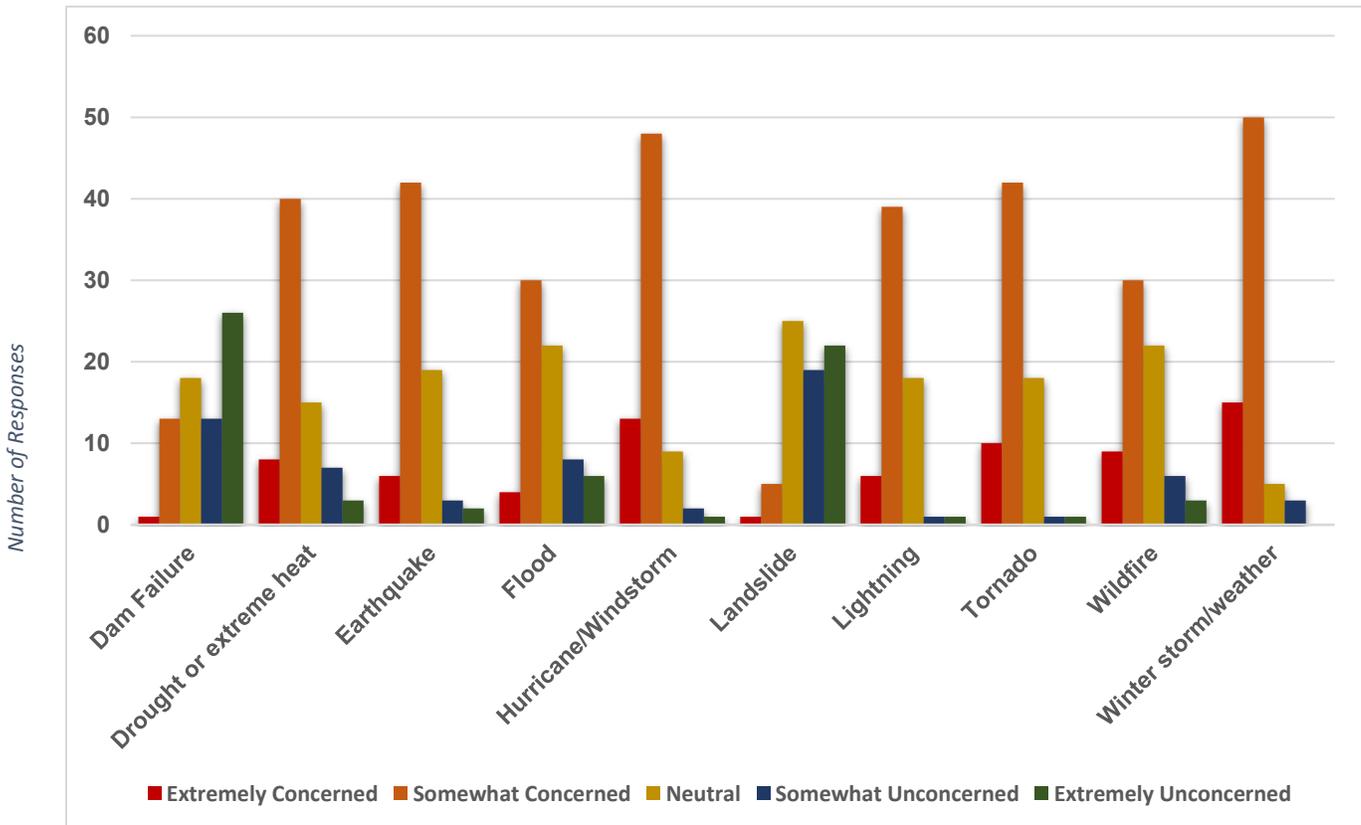


Number of Responses

4) If “Yes” to question 3, which of the following natural disaster did you or someone in your household experience? (Check all that apply)



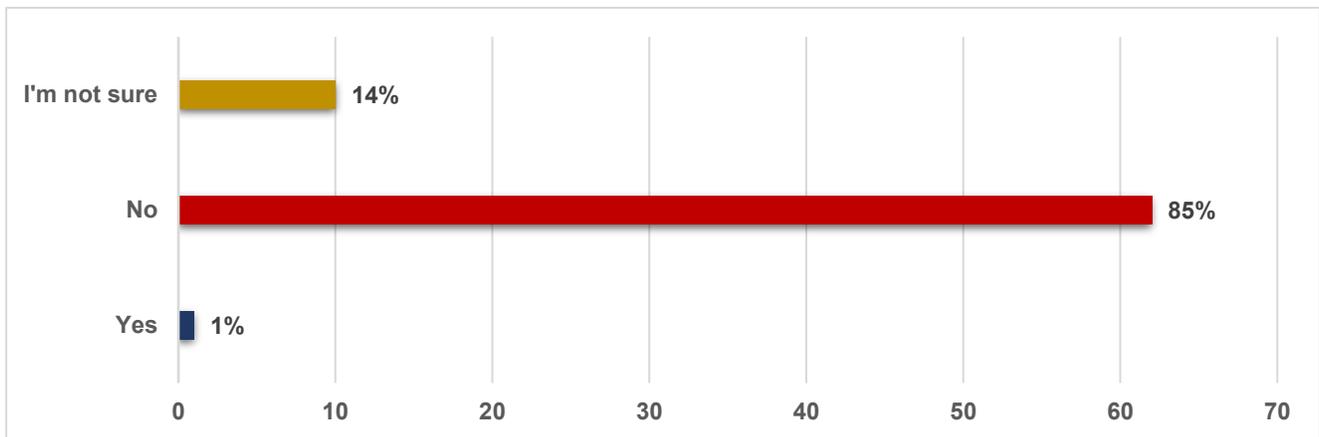
5) How concerned are you about the following natural hazards affecting your community?



6) List any additional natural hazards not listed above that you think could be a threat to your community.

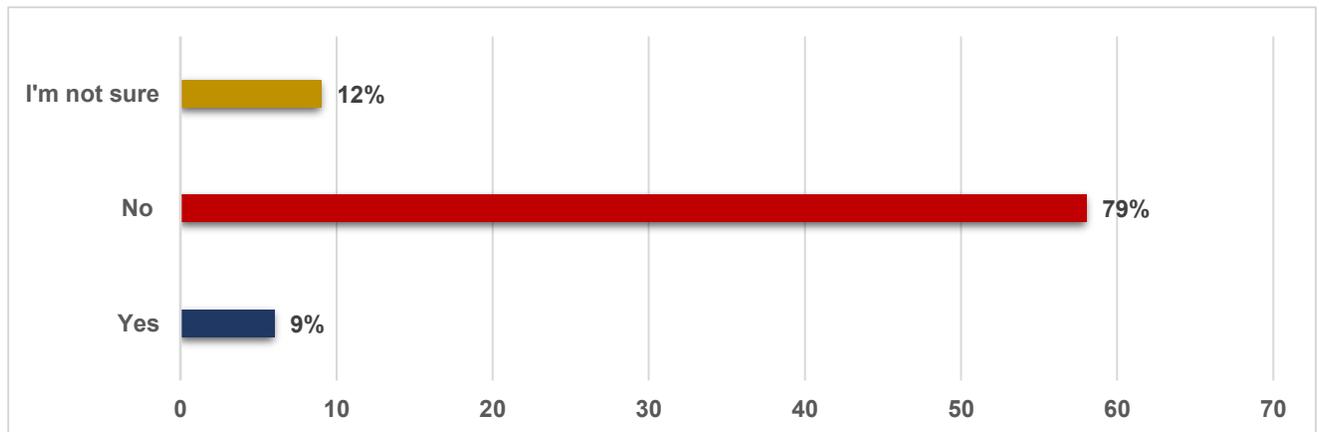
- Pesticide residue in water table from spraying agriculture like grapes and also the pollution in the Rivanna from the waste treatment facility
- Invasive pests e.g. emerald ash borer. Loss of habitat and threat to species e.g. bees. Climate change causing erratic, extreme weather
- Contaminated aquifer
- High winds would be the most likely disaster here on our mountain top
- Terrorist attack
- Nuclear meltdown
- Bear, Copperheads
- Pipeline explosion
- Biological infestation harming plants, animals, soil, water. High energy event (solar, etc.) impacting/harming biological bases of community and impacting technological infrastructures
- Loss of power and/or communication (for various reasons) and man-made hazards or threats
- Gas pipeline leak or explosion
- Climate change induced events

7) Is your home located in a floodplain?



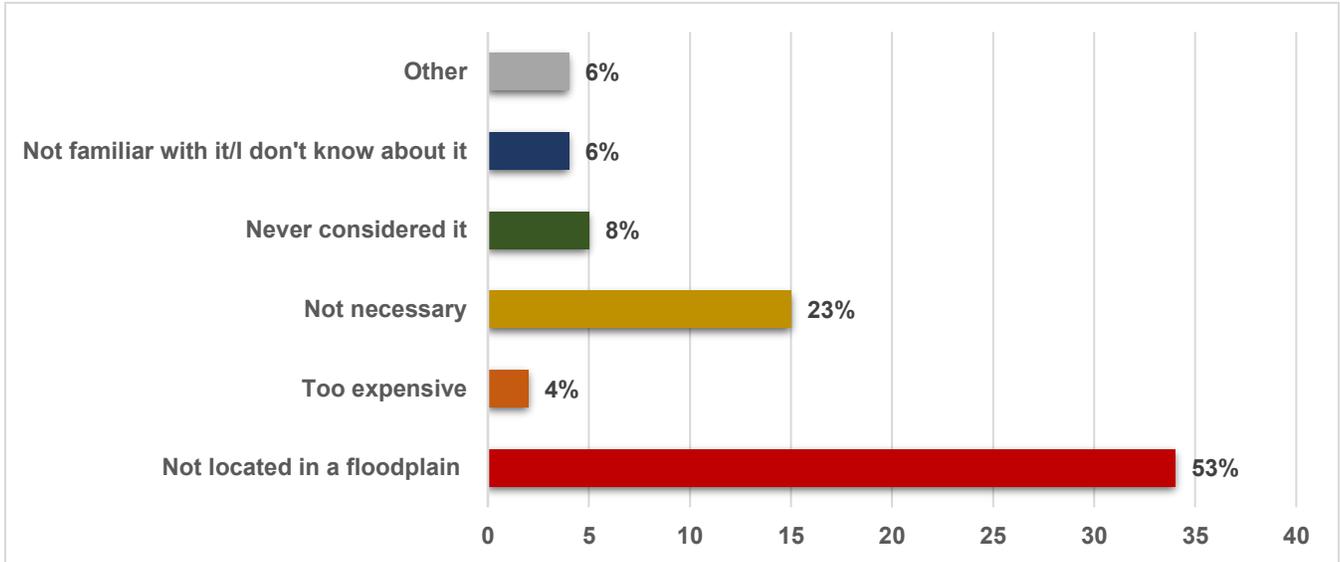
Number of Responses

8) Does your household have flood insurance through the National Flood Insurance Program?



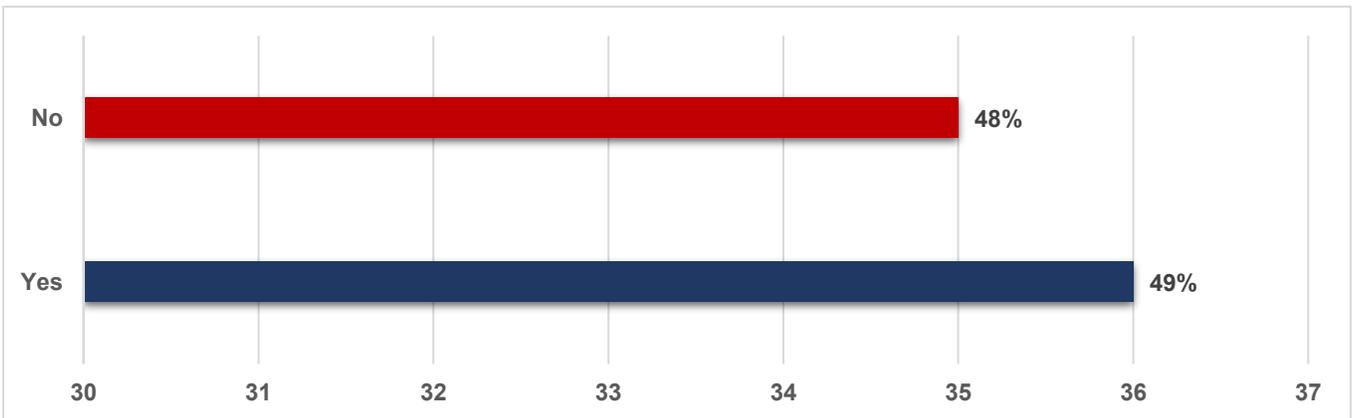
Number of Responses

9) If “No”, why not?



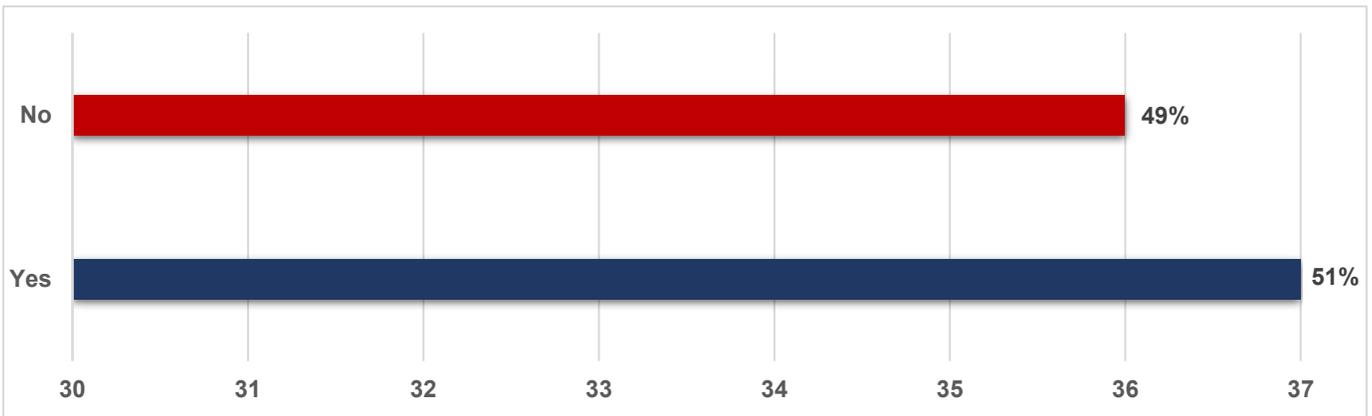
Number of Responses

10) Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?



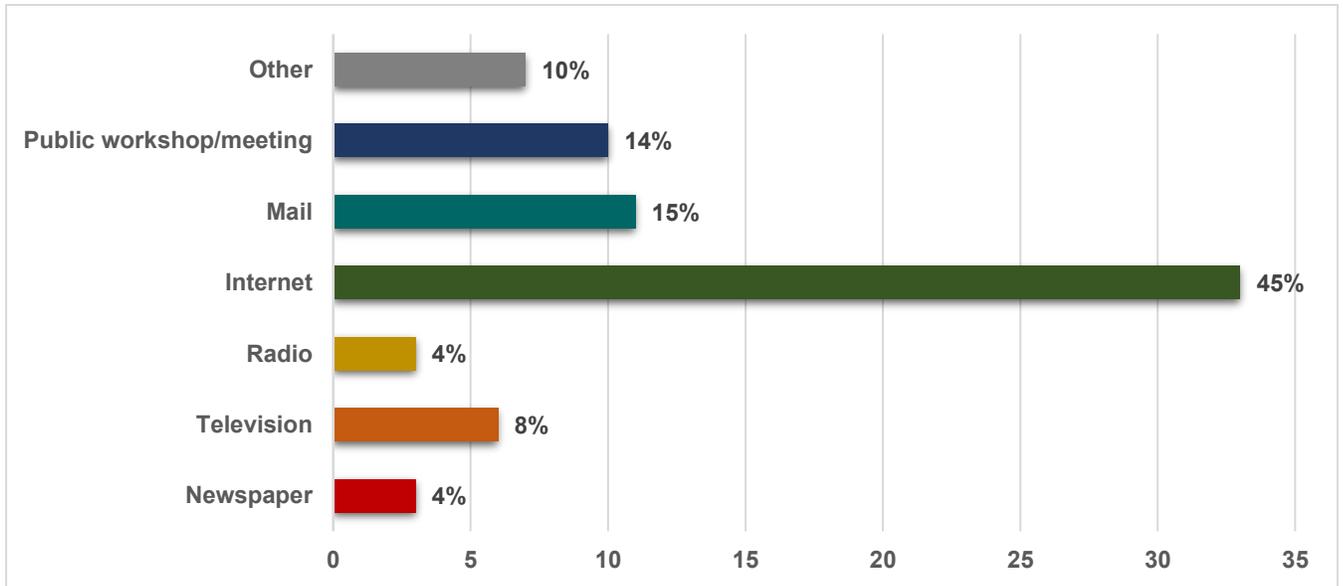
Number of Responses

11) Have you taken actions to make your home or neighborhood more resistant to hazards?



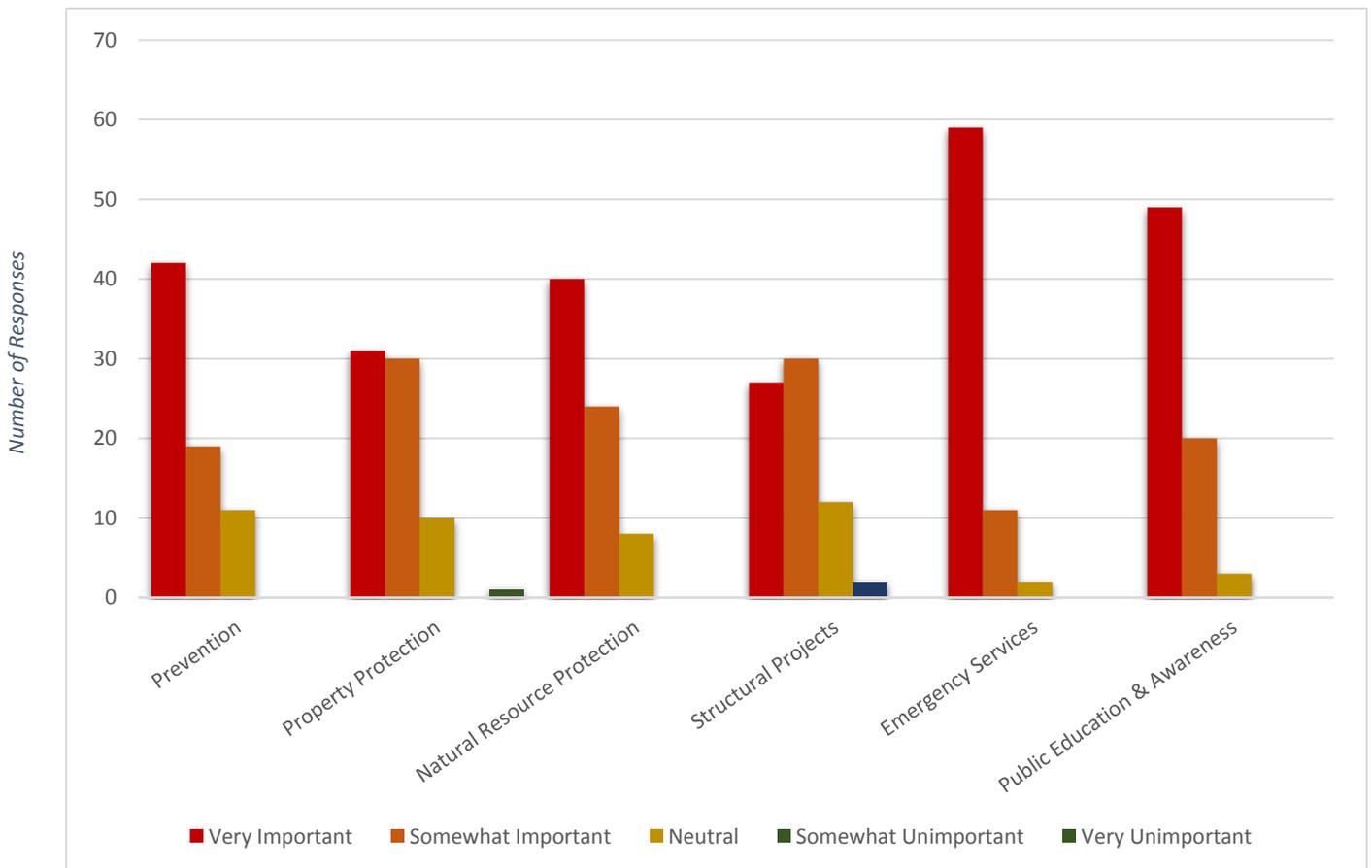
Number of Responses

12) What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?



Number of Responses

13) A number of community-wide activities can reduce your risk from hazards. Please answer how important you think each of the following are for local governments to consider pursuing.



14) In your opinion, what are some specific steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

- Ground fires do not seem to receive enough attention, for their prevention. A groundfire prevention/protection education program might be called for.
- Prevention/information programs
- Having assistance available for elderly and/or low income to make homes more ready for disasters.
- Ensure that all departments have the required ICS training required by HSPD-5 and are using it properly, without modification.
- Too many trees are being cut down. When there are too few trees, it allows wind and snow to cause more damage. Trees act as buffers. They also need to be in large clusters so that each tree protects the one next to it and thereby spreads the effect among all rather than a few taking the full force of the wind or snow.
- I have very little faith that the government can do much of anything. People no longer do things for themselves they wait on the Gov't to do everything. They could try and educate the public that they have the responsibility of preparing to taking care of themselves by preplanning for during and after an event. The cradle to grave mentality that the government pushes only exasperates the issue for first responders.
- Infrastructure assessment and improvement; back up emergency plans
- maintenance of storm sewer system & water delivery system.
- Raise awareness
- education
- combat global warming.
- Public education and awareness regarding the potential of hazards.
- I can't think of any just now.
- More widespread broadcasts on TV/Radio
- Try to get the general public interested in the safety of their neighborhood/neighbors
- Make residents aware of the most likely hazards. Route 29 is near here. Traffic wrecks are the most dangerous situation for residents of our neighborhood.
- Ensure power company keeps trees trimmed along major roadways with above ground power lines.
- Neighborhood assn meetings with emergency managers Recruit emergency responders from neighborhood for training
- Neighborhood CERT training and program
- Cert classes
- do public awareness events
- Proper operation of watershed levels and controls to keep main lake levels below flood stage
- better emergency communications: we do not have cellular service in Howardsville.
- More flood water drains.
- Local workshops
- Mail out guides for preparing for disaster
- Have a monthly or yearly newsletter giving info in one place from the different departments and their emergency plans for communities and individuals do when things happen.
- Stop building nuclear power plants directly over earthquake fault lines.
- Outside emergency/tornado sirens, better use of EBS, and more visible EM in the community.
- Multiple exits from subdivision, central emergency power for meds storage, identification of special needs residents.
- Bridge repair Training (cert)
- Provide additional education and grant funding for hazard mitigation; K-12 education regarding prevention and preparation
- Improve citizen preparedness through education campaigns
- Increase public awareness/education for proactive strategies/resources toward preparedness; and, perhaps, incentivize programs for implementation/compliance (ex: tax rebate, insurance discount, etc.).

- making public assets - e.g. public schools, public libraries, public parks - places for prevention and resilience education and skills building with new or update construction make these and other public assets integral to local prevention and local response to hazards
- public meeting areas to educate people
- assessment first, and then targeted outreach and education based on assessment results
- clear manmade debris from streambeds as it increases flood risk and potential for injury or damage from items washed downstream
- Potable water planning
- Warn us as soon as possible of the possibility
- In general, I don't think the government is the solution to any problem.
- Neighborhood-level risk assessments and remedial plans would be a good place to start.
- perhaps better warning systems...sirens
- Remove weak and overhanging trees or limbs from roadsides. Make sure storm drains are cleared of debris.
- Zoning to prevent building on sites prone to danger. Flood plain, Slopes and base of mountains for mud slides, water conservation.
- Remove more trees that are near power lines or underground all power lines.
- Infrastructure maintenance
- Street sweeping, esp. near storm drains at low relative elevations. Fallout shelter locations.
- Review of neighborhood and subdivision ordinances to include fire prevention (many subdivisions and homes are built in pine plantations) and then code enforcement

15) Are there any other issues aimed at reducing risk or loss in your community that you think are important?

- taxes are too low, making adequate protection/prevention services unaffordable. Revise rural land tax rates so all land can be taxed, however modestly.
- No burn zones
- Identifying the homes, or cluster subdivisions that are located among pine stands in the rural most areas of Fluvanna. These homes are the ones most at risk of wildfire and are target hazards for wild land/urban interface incidents.
- Regional Emergency Planning efforts
- maintain the electric grid; protect water sources
- Education and other efforts to promote power and water conservation; all efforts to slow development and lessen impact of population on our resources.
- Fixing roads properly.
- Informing neighbors of the hazards of distracted driving. Approximately 60 people die each day on our U.S. highways.
- Adequate funding of public safety and emergency communications organizations. Support CERT funding. Build new Emergency Operations Center.
- No
- Power Outages
- Sustained public education of consequences, likelihoods, mitigation options, and public assistance available for natural disasters.
- Global warming, water pollution.
- Better funding of police/fire/rescue and Emergency Management.
- Neighborhood CERT
- Information. Fire prevention.
- Increasing number of exit roads from the community in case of disaster
- Not that I can think of.

- many rural locales do not have stable, reliable, affordable Internet connectivity or other communications many rural locales do not have nearby public assets (distant from a school, or library, or a park) many localities are not working consistently to include everyone in planning
- Increase community CERT participation.
- The cost of arborist services, for example, is considerable, and home insurance only pays when there's an incident-- seems like it ought to help with preventive care.
- Promote neighbor-to-neighbor programs by providing information on how to start one (include best practices for preparedness, contacting and helping each other)
- Area most prone to bad drought. Enough water to match population or keep population from greatly exceeding water reserves.
- Community education on what homeowners can do to reduce risk and then to participate in mitigation projects as a county for high risk areas.

Comments on Individual Questions

Question 1:

- Orange
- Augusta
- Goochland
- Buckingham
- Buckingham

Question 2:

- We had a big scare with the earthquake- it knocked stuff off walls and tables
- We have experienced several storms that have caused extended power outages for up to 5 days
- Earthquake aftershocks; Derecho storm wind damage, from falling trees; water drought of 2002
- 2011 earthquake
- Earthquake damage to my home from the earthquake in Louisa County
- We were without electric power for 8 days several years ago, due to derecho
- Earthquake
- Charlottesville/Mineral- Earthquake 8/23/11. While our home wasn't heavily damaged (minor damages were incurred), psychologically and emotionally I was traumatized. The microburst in Charlottesville in 2010
- 2010 blizzard, 2011 snow, 2012 derecho, earthquake
- Earthquake effects and flooding
- Snow storm
- Derecho
- Power outages, snow/ice blocking roads in subdivision, wind downing trees, drought
- Derecho, blizzard, hurricane, heat wave, earthquake
- Unless you consider being without electricity for nearly 2 weeks during a squelching hot summer
- I have only lived in my current residence less than a month
- Loss of power during the derecho
- Microburst, winter storm
- Earthquake several years ago
- Felt the earthquake in Louisa 3 or so years ago, but didn't have any damage
- Freezing rain and heavy icing brought down a tree which partially landed on the roof causing minor damage. Also have had a few occasions where heavy snow knocked out power for several days

Question 3:

- Power outages from hurricane, wind storm, and blizzards
- The el derecho that came through in 2011? Lost power, some trees came down. Perhaps not enough to qualify as a disaster
- Charlottesville Snowmageddon Jan 2010. Tampa FL- Hurricane Andrew (1992?) and other less-traumatically impacting events like various large blizzards/snowstorms, and very heavy rains
- Hurricane Fran, ice storms
- Home roof, vehicles, and RV destroyed by hail
- Tornado in GA, flood in VA
- Hurricanes and tornados
- Blizzard, lightning storm, flood, drought, wildfire
- Same thing as above, but with downed trees everywhere
- Flood, hurricane
- Tornado took roof off our house in Texas
- Mostly loss of power due to heavy winds, snow and/or ice
- Earthquake centered around Mineral

Question 4:

- Water in basement of house
- Wind storm
- Tornado warnings (sightings nearby) have been emotionally impacting on me, although I've never been directly in a tornado

Question 7:

- Altitude of our house is 730 feet above sea level
- Right next to, but not in floodplain
- Lake Monticello
- Adjacent to floodplain
- The lender says yes; the insurance agent says no

Question 8:

- We have flood insurance, I am not sure where we get it.

Question 9:

- We are renting this place. I don't know if the homeowner has flood insurance.
- I am elevated and it's expensive
- That policy provides limited coverage
- As a renter, I do not have complete knowledge of the homeowner's insurance coverage. We carry tenants/renter's insurance, and I cannot remember if it covers any flood scenario (natural event or structure i.e. pipes failure)

Question 10:

- Above floodplain
- Thought about this when looking for a lot

Question 11:

- Purchased earthquake insurance
- Earthquake clips on large furniture, removed old, decaying trees from yard near house
- Keeping dry vegetation and leaves away from our home, taking down dead trees, removing dead limbs

- I have spent several thousand dollars removing trees that could fall on my house during a storm. I have also removed combustibles to reduce fire hazards around my residence
- Removal of adjacent trees to buildings; generator installed; road improvements so won't wash out
- CERT training
- Joined CERT Volunteer with American Red Cross- Disaster Services
- I have taken CERT training; keep emergency supplies on hand and in vehicles; HOA maintains member directory online and has community safety group watch structure
- Cut down dead trees, laid preventative foundation work to further protect against heavy rains
- Trim trees and have lightning rods
- CERT training and preparations with neighbors
- Help people be better prepared
- Went through CERT training
- We mow a fire break, but it may not be enough
- Flood control pumps and ditching, remove weakened trees
- Just prepared by having extra food and water
- Purchased Geiger counter
- CERT volunteer, maintain supplies
- Offsite storage of emergency supplies
- Trimmed under growth to mitigate wild fire
- Additional POA fees to replace aging culvert pipe at primary road creek crossing; worked with Dept of Forestry to identify fire dangers
- Had community join Firewise Program of NFS
- We implement standard "common sense" protocols when potential hazards are forecasted (i.e. secure loose outside items, stock emergency supplies, etc.)
- Extra food, supplies
- Maintain big trees to avoid possible collapse onto house
- Improved drainage around the house, where was leaking in the basement after a heavy rain- no longer an issue
- I plan to do so
- Emergency generator, structural modifications (to windows and doors), shelter spaces
- Trees trimmed
- Had one tree removed that was too close to power lines, and planted several smaller trees to replace canopy in a safe manner
- Not structurally, but take preparedness action when severe weather is pending
- Routine storm drain clearing, drainage and home foundation improvements

Question 12:

- Social media
- Friends who are preppers
- Email, internet
- CERT
- Sheriff's office
- Email
- Mobile phone

Billie Campbell

Subject: FW: TJPDC News Brief - June 13, 2017

The Thomas Jefferson Planning District Commission serves the City of Charlottesville, and the Counties of Albemarle, Fluvanna, Greene, Louisa and Nelson.



TJPDC News Brief: June 13, 2017

[View content in your browser](#)

Comments Sought on DRAFT Regional Natural Hazard Mitigation Plan

The Thomas Jefferson Planning District Commission (TJPDC) invites all interested citizens to comment on the *Draft Regional Natural Hazard Mitigation Plan* (HMP). The HMP identifies goals, objectives and specific actions to help our communities prepare for natural disasters before they occur, in order to reduce loss of life and property damage. The draft plan is available on the [TJPDC Hazard Mitigation Page](#), or by contacting Billie Campbell at bcampbell@tjpd.org or (434) 422-4822. Comments are accepted until June 30, 2017. Submit your comments to bcampbell@tjpd.org.

Upcoming Events

MPO Technical Committee

July 18, 2017
10:00 a.m.

Rural Transportation Committee (RTAC)

July 18, 2017
1:00 p.m.

Citizens Committee (CTAC)

July 19, 2017
10:00 a.m.

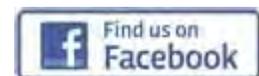
MPO Policy Board

July 26, 2017
4:00 p.m.

TJPD Commission Meeting

August 3, 2017
7:00 p.m.

Stay informed



Follow us on Facebook

2017 Elder Care Conference To Be Held September 7 & 8

Central Virginia Newspapers Review Order Confirmation for Ad #0000544399-01

Client	THOMAS JEFFERSON PLANNING DIST	Payor Customer	THOMAS JEFFERSON PLANNING DIST	Acct. Exec	hjones
Client Phone	434-979-7310	Payor Phone	434-979-7310		
Account#	3309593	Payor Account	3309593		
Address	PO BOX 1505, , CHARLOTTESVILLE VA 22902 USA	Payor Address	PO BOX 1505, , CHARLOTTESVILLE VA 22902	Ordered By	Billie Campbell
Fax	434-979-1597				
EMail	NMorrison@tjpd.org				

Total Amount	\$135.00	Status	<u>Materials</u>			
Payment Amt	\$0.00					
Amount Due	\$135.00	<u>Tear Sheets</u>	<u>Proofs</u>	<u>Affidavits</u>	<u>PO Number</u>	<u>Blind Box</u>
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Payment Method

Text:

Order Notes:

Ad Number	Ad Type	Color	Production Color
0000544399-01	CLS Legal Liner	<NONE>	

Pick Up Number	Ad Size	Production Method	Production Notes
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Product	Placement/Class	Position	# Inserts
Run Schedule Invoice Text			
Run Dates			
Tag Line			

CVL Daily Progress::	C-Legal Ads - Classified	Legal Notices-Legal-Class	1
NOTICE OF PUBLIC COMMENT PERIOD REGIONAL NATURAL HAZARD MITIGATION PLAN 30-DAY COMMENT PERIOD: May 31 - June 6/1/2017			
NOTICEOFPUBLICCOMMENTPERIODREGIONALNATURALHAZARDMITIGATIONPLAN30DAYCOMMENTPERIODMAY31JUNE302017TH			

CVL dailyprogress.com::	C-Legal Ads - Classified	Legal Notices-Legal-Class	7
NOTICE OF PUBLIC COMMENT PERIOD REGIONAL NATURAL HAZARD MITIGATION PLAN 30-DAY COMMENT PERIOD: May 31 - June 6/1/2017, 6/2/2017, 6/3/2017, 6/4/2017, 6/5/2017, 6/6/2017, 6/7/2017			
NOTICEOFPUBLICCOMMENTPERIODREGIONALNATURALHAZARDMITIGATIONPLAN30DAYCOMMENTPERIODMAY31JUNE302017TH			

Central Virginia Newspapers Review Order Confirmation for Ad #0000544399-01

Ad Content Proof Actual Size

**NOTICE OF PUBLIC COMMENT PERIOD
REGIONAL NATURAL HAZARD MITIGATION PLAN
30-DAY COMMENT PERIOD: May 31 - June 30, 2017**

The Thomas Jefferson Planning District Commission (TJPD) invites all interested citizens to comment on the Draft Regional Natural Hazard Mitigation Plan (HMP). The HMP identifies goals, objectives and specific actions to help our communities prepare for natural disasters before they occur, in order to reduce loss of life and property damage. The draft plan is available at <http://www.tjpd.org/environment/hazard.asp> or by contacting Billie Campbell at bcampbell@tjpd.org or 434-422-4822.

Capability Assessment Worksheet

Jurisdiction: Albemarle County

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes, 2015	The plan addresses water resource protection; floodplain management; flood control; the provision of drinking water supply/protection and sanitary sewer and stormwater collection and management; protection of steep slopes; mountain areas with debris flow risks; dam inundation recommendations; establishes service standards for public services including police, fire-rescue, and emergency management operations
Capital Improvements Plan	Yes/ adopted annually	Provides funding for public safety structures and equipment (fire-rescue, police, emergency operations
Economic Development Plan		
Local Emergency Operations Plan	Yes 2013	Yes, the plan addresses hazards. The Regional EOP references the hazard mitigation plan as the source for information on actions to implement related to mitigation.
Continuity of Operations Plan		
Transportation Plan	Yes 2015 Priority list updated annually	The transportation plan component of Comprehensive Plan and County Priority List of Transportation Improvements addresses network maintenance and improvements/upgrades to major roads which provide alternate routes of travel and emergency access
Stormwater Management Plan	Yes	Yes/yes/yes. It addresses flood, pollution/sediment control (and municipal stormwater permitting MS4 Permit)
Community Wildfire Protection Plan	No	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?		
Building Code	Yes	The County has established building regulations adopted as Chapter 5 of the County Code. The purpose and intent of this chapter is to promote and to protect the public health, safety and welfare by making the Virginia Uniform Statewide Building Code applicable to all matters affecting or relating to structures, including the construction, alteration, repair, addition, demolition and removal of all structures, and to the equipment in such structures. They are adequately enforced.
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	The survey performed in 2013 resulted in a score of 4 for residential and 3 for all other construction
Fire department ISO rating		County Fire-Rescue received an ISO rating of 3 in 2015
Site plan review requirements	Yes	All new development requiring parking/additional parking or new public road access requires a site plan or amendments to an existing site plan
Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?		
Zoning ordinance	Yes	Requires safe and convenient access, protects floodplains, critical slopes, requires sound engineering standards be applied to grading and development activity. The ordinance is an effective measure in reducing hazard impacts, and it is adequately administered and enforced.
Subdivision ordinance	Yes	Yes/yes
Floodplain ordinance	Yes	Floodplain Overlay District and maps adopted as part of Zoning Ordinance
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Yes	Water Protection Ordinance adopted as part of the County Code; Steep Slope Overlay District and Critical Slope provisions are adopted as part of the
Flood insurance rate maps	Yes	Floodplain Overlay District and maps adopted as part of Zoning Ordinance
Acquisition of land for open space and public recreation uses	Yes	Acquisition of Conservation Easement Program and Public Recreation Facilities Authority purchase and hold conservation easement. County purchases owns and management open space and public recreational uses.
Other		
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Staffed the Dept. of Community Development, with a total staff of 70+ employees. Primary staff the Planning Division of 17 professional planners and technical support staff.
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	The Virginia Dept. of Transportation public roads in the County; electric utility companies serving the County maintain/tree trim electric power line right of ways
Mutual aid agreements	Yes	Mutual aid agreements with the city of Charlottesville Fire Dept.
Staff	Yes/No FT/PT ₁	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes/FT	Yes/yes/yes
Floodplain Administrator	Yes/FT	Yes/yes/yes
Emergency Manager	Yes/2FT	Yes/yes/yes. 2 FT emergency management staff. Additional staff would allow for more effective program implementation and management. Staff regularly participate in training, which includes learning about hazards and mitigation. The emergency management office is regional, so coordination is critical, challenging and relatively effective.
Community Planner	Yes/FT	Yes/yes/yes
Civil Engineer	Yes/FT	Yes/yes/yes
GIS Coordinator	Yes/FT	Yes/yes/yes
Other		

Worksheet 4.1

Capability Assessment Worksheet

Technical Yes/No Describe capability Has capability been used to assess/mitigate risk in the past?		
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRED Community emergency notification system.
Hazard data and information	Yes	TJPDC
Grant writing	Yes	Yes. In house grant writing and management capabilities available in-house and through TJPDC
Hazus analysis	Yes	TJPDC
Other		
How can these capabilities be expanded and improved to reduce risk?		

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities?
		Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Yes/yes	Fire-rescue, police; other public safety structures and strategic equipment; emergency dispatch/operation systems; road and bridge improvements; emergency communications system; stormwater and flood control improvements; water supply protection measures; other relevant improvements.
Authority to levy taxes for specific purposes	Yes/yes	For stormwater management; authority to establish <i>service taxing districts</i> .
Fees for water, sewer, gas or electric services	Yes/yes	Fees for water and sewer service
Storm water utility fee	Yes/yes	Construction and maintenance of regional stormwater facilities and for management related plans and studies
Incur debt through general obligation bonds and/or special tax bonds	Yes/yes	Public school improvements
Community Development Block Grant	Yes/yes	Housing rehabilitation; low-mod housing development; public water and sewer improvements to address failing systems
Other federal funding programs	Yes/yes	Federal and state transportation funds
State funding programs	Yes/yes	Federal and state transportation funds
Other		
How can these capabilities be expanded and improved to reduce risk?		

Capability Assessment Worksheet

Jurisdiction: City of Charlottesville

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Y, 2013	The plan mentions flooding and property damage, and prioritizes fixing or preventing these hazards.
Capital Improvements Plan	Y, 2017	Contains a drainage component that works to minimize flooding hazards.
Economic Development Plan	N	
Local Emergency Operations Plan	Yes, 2012	Yes
Continuity of Operations Plan	Yes, 2012	Contained in the Local Emergency Operations Plan
Transportation Plan	Y, 2013	No
Stormwater Management Plan	N	
Community Wildfire Protection Plan	N	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Y	Water Resources Master Plan

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?

Building Code	Y	Version/Year: 2012 Virginia Code
Building Code Effectiveness Grading Schedule (BCEGS) Score	Y	Score: 3 for 1 and 2 family residential property 2 for commercial and industrial property
Fire department ISO rating	Y	Rating: Class 1
Site plan review requirements	Y	Yes

Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?

Zoning ordinance	Y	The ordinance is actively administered and enforced.
Subdivision ordinance	Y	The ordinance is actively administered and enforced.
Floodplain ordinance	Y	The ordinance is actively administered and enforced, and is an effective measure for reducing hazard impacts.
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Y	The critical slope ordinance is actively administered and enforced, and is an effective measure for reducing hazard impacts.
Flood insurance rate maps	Y	The City makes active use of flood insurance rate maps.
Acquisition of land for open space and public recreation uses	Y	Trail acquisition is frequently in areas that are prone to flooding/undesirable for building.
Other		

How can these capabilities be expanded and improved to reduce risk?

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Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Y	The Commission does not typically address hazards and mitigation.
Mitigation Planning Committee	Y	Coordinated between the County, City, and University.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	Reactive tree trimming program to address hazards. Drain clearing under taken by City staff periodically.
Mutual aid agreements	Y	Coordination through the local emergency management office
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y FT	Yes
Floodplain Administrator	Y PT	Yes
Emergency Manager	Y FT	Regional position.
Community Planner	Y FT	Staff is not trained on hazards and mitigation.
Civil Engineer	Y FT	Staffing is inadequate to enforce regulations to their fullest extent.
GIS Coordinator	Y FT	Yes
Other		

¹Full-time (FT) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical Yes/No Describe capability Has capability been used to assess/mitigate risk in the past?

Warning systems/services (Reverse 911, outdoor warning signals)	Yes	The City has a reverse 911 system.
Hazard data and information	Yes	The City updates flood map information in the City GIS system.
Grant writing	Yes	The City has grant-writing capability
Hazus analysis	Yes	The City has the technical capability to run HAZUS, but does not current use it.
Other		

How can these capabilities be expanded and improved to reduce risk?

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Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities?
		Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Yes	Funding has been used in the past for capital projects. Road projects funded in CIP could include flood mitigation features.
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas or electric services	Yes	The City charges fees for water, sewer and gas service.
Storm water utility fee	Yes	The City charges a fee for storm water service, and uses the proceeds for storm water mitigation.
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes	Road projects funded in CDBG could include flood mitigation features.
Other federal funding programs	Yes	
State funding programs	Yes	The City has obtained state funding for road improvements that could include flood mitigation.
Other		
How can these capabilities be expanded and improved to reduce risk?		

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization Yes/No Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?

Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.

Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)

Natural disaster or safety related school programs

StormReady certification

Firewise Communities certification

Public-private partnership initiatives addressing disaster-related issues

Other

How can these capabilities be expanded and improved to reduce risk?

Capability Assessment Worksheet

Jurisdiction: Fluvanna

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes 2015	Flood Protection Ordinance (p 19+); LEPC's focus includes handling of all hazards (p145); mentions participation in TJPDC's regional hazard mitigation plans (p145)
Capital Improvements Plan	Yes annually	Annually a CIP plan is attached with the budget process to address fleet management, renovations/major repairs to buildings and infrastructure.
Economic Development Plan	Yes 2011	In process of being revised; is inadequate for hazard planning
Local Emergency Operations Plan	Yes 2017	Fluvanna's EOP was updated and adopted in February 2017. Entire plan is based on County's vulnerabilities and plans mitigation, preparedness, response and recovery. However, the plan focuses primarily on response to emergency incidents.
Continuity of Operations Plan	No	
Transportation Plan	No	Work with VDOT regarding our roads.
Stormwater Management Plan	No	In draft form; in general for ordinance for site planning; doesn't address hazard planning
Community Wildfire Protection Plan	No	

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?

Building Code	Yes	Version/Year: 2012 USBC
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	Score: n/a
Fire department ISO rating	Yes	Palmyra Fire Department – ISO #8B Fork Union Fire Department – ISO #7-9 Lake Monticello Fire Department – ISO #5 inside, 8A outside Kent’s Store (not rated)
Site plan review requirements	Yes	Fire lanes, hydrant locations, etc.

Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?

Zoning ordinance	Yes	
Subdivision ordinance	Yes	In process of being revised
Floodplain ordinance	Yes	Updated in 2015 to meet current DCR guidelines
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	Yes	
Acquisition of land for open space and public recreation uses	No	Not done by ordinance
Other		

How can these capabilities be expanded and improved to reduce risk?

Within the current USBC there is a maintenance code that would assist us in monitoring/enforcing which doesn't need to be additionally adopted. Our capabilities would be enhanced if we develop protocols to take advantage of this code.

A stormwater ordinance is needed, especially with the new development in the Zions Crossroads area. We would administer in house to improve DEQ storm water maintenance procedures.

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Could address specific issues and make recommendations to the Board of Supervisors.
Mitigation Planning Committee	No	We do have active LEPC who could address issues and instigate planning/action.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	Public Works oversees maintenance on county property; FUSD on their systems
Mutual aid agreements	No	Have MAAs for response in place, but not mitigation planning
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes FT	
Floodplain Administrator	Yes FY	We have POC, not certified person.
Emergency Manager	Yes FT	
Community Planner	Yes FT	
Civil Engineer	Yes FT	
GIS Coordinator	Yes FT	Part of the planner's job
Other		

¹Full-time (FT) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical Yes/No Describe capability Has capability been used to assess/mitigate risk in the past?

Warning systems/services (Reverse 911, outdoor warning signals)	Yes	Use CodeRED and Sheriff's Office FB accounts for alerts; need to update antiquated citizen alert system
Hazard data and information	Yes	We plan generally for hazards identified by regional plan
Grant writing	Yes	Columbia purchase of properties in Flood plain
Hazus analysis		??
Other		

How can these capabilities be expanded and improved to reduce risk?

We need to update our citizen notification system. Currently can only reach those who have inputted their phone numbers into our system. In process of procuring new system for FY18.

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities?
		Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Yes	For county owned property, CIP is scheduled for regular and emergency maintenance. We may be able to use this funding as match to do larger projects.
Authority to levy taxes for specific purposes	Yes	We have not utilized in recent memory.
Fees for water, sewer, gas or electric services	Yes	Currently have for FUSD system; will incorporate with new Zions Crossroads water system
Storm water utility fee	No	As we develop our Zions Crossroads water system, we will consider utilizing these fees to offset costs of stormwater maintenance program.
Incur debt through general obligation bonds and/or special tax bonds	Yes	We have not utilized in recent memory.
Community Development Block Grant	Yes	We have used for town of Columbia, purchase of derelict properties in flood zone. Current project.
Other federal funding programs	No	We have not utilized in recent memory.
State funding programs	Maybe	We have not utilized in recent memory.
Other		
How can these capabilities be expanded and improved to reduce risk?		

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization Yes/No Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Fluvanna Partnership for Aging LEPC Lake Monticello Owners Association (LMOA)
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Emergency Management Parks & Rec programming FCPS afterschool programs and Pillowcase Project
Natural disaster or safety related school programs	Yes	We coordinate school crisis plans and EM plans. We've presented the Pillowcase Project in 3 rd & 4 th grades in 2015.
StormReady certification	No	Don't currently have, but want to.
Firewise Communities certification	No	Don't currently have, but want to.
Public-private partnership initiatives addressing disaster-related issues	Yes	Could build on relationships with Dominion and CVEC.
Other		

How can these capabilities be expanded and improved to reduce risk?

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Capability Assessment Worksheet

Jurisdiction: Greene County

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	Law Enforcement and Emergency Service Chapter (Goals/Implementation Strategies located on page 96)
Capital Improvements Plan	Yes	Water Impoundment; EMS/Fire upgrades and equipment; Infrastructure improvements
Economic Development Plan		
Local Emergency Operations Plan	Yes 2014	The plan addresses hazards; does not identify projects in the mitigation strategy; plan could potentially be utilized for mitigation actions (i.e. how to prepare, respond, or cover)
Continuity of Operations Plan	N/A	Continuity of Operations Plan does not currently exist for Greene County; plan is in the initial stages of develop at this time.
Transportation Plan	Yes	Multi Modal Study and Smart Scale to address Safety /Congestion upgrades
Stormwater Management Plan	Yes	Stormwater Ordinance
Community Wildfire Protection Plan	Yes 2013	Plan includes: assessments; address hazards, at risk communities, topo information, fire history, etc. Plan does include wildland fire mitigation projects and could certainly be utilized for mitigation actions.
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		Greene County Hazardous Materials Plan, Public Schools All-Hazards Plan, Dam Plans, Storm Ready Plan, & Animal Preparedness Plan (APP in progress)

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?		
Building Code	Yes	Version/Year: 2012 USBC
Building Code Effectiveness Grading Schedule (BCEGS) Score	YES	Score: 4 for Commercial 4 for Residential
Fire department ISO rating	Yes	Rating: Ruckersville Area 7 Stanardsville Area 7 Dyke Area 8
Site plan review requirements	Yes	
Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?		
Zoning ordinance	Yes	
Subdivision ordinance	Yes	
Floodplain ordinance	Yes	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Yes	E & S and Stormwater Ordinance
Flood insurance rate maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other		
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Reviews ordinances changes , CIP and Comprehensive Plan
Mitigation Planning Committee		
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	Rappahannock Electric and Rapidan Service Authority / effective.
Mutual aid agreements	Yes	MAA in place regarding law enforcement, fire and EMS between Greene County and all surrounding jurisdictions. Greene also participates in the Statewide MAA program / effective.
Staff	Yes/No FT/PT:	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes *1 FT	Yes / Yes / Yes
Floodplain Administrator	Yes *1 FT	Duties are fulfilled by the Planning Director
Emergency Manager	Yes *1 FT	Yes / Yes / Yes
Community Planner	Yes *1 FT	Yes / Yes / Yes
Civil Engineer	No	
GIS Coordinator		Same as Community Planner / employee is responsible for coordinating planning and GIS efforts between County and service provider
Other		

*1Full-time (FT) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical Yes/No Describe capability Has capability been used to assess/mitigate risk in the past?

Warning systems/services (Reverse 911, outdoor warning signals)	Yes	Code RED Community Emergency Notification System; yes
Hazard data and information	Yes	Information maintained & utilized by Emergency Services and Planning Offices regarding assessments and hazard mitigation efforts; yes
Grant writing	Yes	Emergency Manager trained in grant writing; yes
Hazus analysis	Yes	Not utilized to capacity at this time
Other		

How can these capabilities be expanded and improved to reduce risk?

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Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	YES	INFRASTRUCTURE / CAPITAL PROJECTS YES
Authority to levy taxes for specific purposes	YES	HAVE <u>NOT</u> UTILIZED
Fees for water, sewer, gas, or electric services	YES	WATER/SEWER, ONLY FOR WATER AND SEWER PROJECTS
Impact fees for new development	No	
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	YES	
Incur debt through private activities	No	
Community Development Block Grant	YES	TOWN OF STANARDSVILLE
Other federal funding programs		
State funding programs		
Other		

How can these capabilities be expanded and improved to reduce risk?

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization Yes/No Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Local volunteer fire/rescue departments; Emergency Services Board; CERT, GRACE Alliance; Public Safety Foundation of Greene; Yes
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Fire safety, emergency preparedness (citizen, residential, business); Yes
Natural disaster or safety related school programs	Yes	School safety programs that address what to do in an emergency; this also includes certified day cares within the County; Yes
Storm Ready certification	Yes	National Weather Service / Improves local hazardous weather operations and knowledge; Yes
Firewise Communities certification	Yes	Virginia Department of Forestry / Multiple communities within Greene that are susceptible to wildland fire; Yes
Public-private partnership initiatives addressing disaster-related issues	No	
Other		

How can these capabilities be expanded and improved to reduce risk?

All of the above listed agencies, certifications, etc. relate to disaster resilience and mitigation. The local citizen groups and/or non-profits participate in these activities by providing preparedness (including educational endeavors) and response efforts.

Greene County is susceptible to many disaster events (natural or man-made). We strive to provide our citizens and our public safety community with the necessary knowledge and tools to protect themselves as well as their neighbor.

Regardless of our current efforts, there is always room for improvement and/or change. All of these programs and agencies could assist with future mitigation activities.

Capability Assessment Worksheet

Jurisdiction: County of Louisa

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes/ 2012	The Comprehensive Plan contains a section on emergency services which includes identification of emergency plans and training.
Capital Improvements Plan	Yes / 2017	The CIP includes improvements to emergency infrastructure, broadband access, and related projects. The County is upgrading its emergency communications system as well.
Economic Development Plan	No	
Local Emergency Operations Plan	Yes/ 2014	The EOP addresses natural and manmade disaster response and mitigation, dam inundation plans, radiological emergencies, evacuation and sheltering.
Continuity of Operations Plan	No	Not a centralized plan
Transportation Plan	Yes	The County works annually with VDOT to create the Secondary Six Year Plan and apply for state projects through Smartscale. The County also exercises evacuation plans in conjunction with Dominion exercises.
Stormwater Management Plan	Yes	The County uses the state's regulations
Community Wildfire Protection Plan	No	

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?

Building Code	Yes	Code enforcement staff work with the Building Official to address concerns related to the application of building code.
Building Code Effectiveness Grading Schedule (BCEGS) Score		
Fire department ISO rating	Yes/ 2011	The Department of Fire and EMS participated in ISO evaluations in 2011. With improvements to staffing levels and response the ISO rating was improved to 6b/8a from a previous 9/10 rating.
Site plan review requirements	Yes	Set forth in County Code section 86; Division 2. Emergency Services reviews and approves site plans.

Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?

Zoning ordinance	Yes	The hazards are generally natural in nature, but the zoning ordinance does ensure items like effective site plan reviews, number of people at events, ingress/egress etc., which have an impact on mitigation
Subdivision ordinance	Yes	Prevents subdivisions on unstable land, ensures adequate access, infrastructure, etc.
Floodplain ordinance	Yes	Set forth in Section 86-196. Requires all development to be in compliance.
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Yes	The County uses the state's stormwater regulations, which ensure controlling runoff and flooding.
Flood insurance rate maps	Yes	FEMA's flood insurance rate maps are utilized to evaluate structure locations inside/outside of the floodplain.
Acquisition of land for open space and public recreation uses	No	No ordinance governing such.
Other	No	

How can these capabilities be expanded and improved to reduce risk?

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Ensures that that transportation systems be carefully planned, that new community centers be developed with adequate highway, utility, health, educational, and recreational facilities, that the needs of agriculture, industry and business be recognized in future growth, that residential areas be provided with healthy surroundings for family life, that agricultural and forestal land be preserved, and that the growth of the community be consonant with the efficient and economical use of public funds.
Mitigation Planning Committee	No	The Department of Fire and EMS, LEPC and Emergency management work to ensure mitigation strategies are effective.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	The department of General Services develops and maintains schedules of maintenance for buildings, vehicles, and related facilities.
Mutual aid agreements	Yes	The County has mutual aid agreements with all neighboring localities which ensure capable assistance in times of need. Orange County participates in automatic aid for emergency response on the western end of the County. Louisa and Fluvanna are working together on joint radio system upgrade.
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	Yes; Yes; Yes.
Floodplain Administrator	Yes	Yes; Yes; Yes
Emergency Manager	Yes	N/A, Yes, Yes
Community Planner	Yes	Yes; Yes; Yes

¹Full-time (FT) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical Yes/No Describe capability Has capability been used to assess/mitigate risk in the past?

Warning systems/services (Reverse 911, outdoor warning signals)	Yes	Louisa maintains a number of comprehensive warning systems, including Everbridge, which can be used to communicate with citizens on a County wide basis in emergency situations.
Hazard data and information	Yes	The Department of fire and EMS and Emergency Management frequently conduct hazard response and mitigation and the resources have been utilized during storms and the 2011 earthquake.
Grant writing	Yes	The County writes and receives grants in numerous departments, including those providing public safety services.
Hazus analysis	No	
Other		

How can these capabilities be expanded and improved to reduce risk?

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Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities?
		Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Yes	The CIP is annually funded and has included numerous hazard mitigation projects over the years.
Authority to levy taxes for specific purposes	Yes	We levy an annual meals tax which specifically funds public safety and education. Revenue recovery charges also specifically fund public safety. Purchases have included new ambulances and emergency equipment.
Fees for water, sewer, gas or electric services	No	The County's Authority operates these services.
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	Yes	Yes, these have been used for infrastructure such as water systems and facilities.
Community Development Block Grant	Yes	Yes, these have been and continue to be used.
Other federal funding programs	Yes/ 2010	The County received an AFG grant to replace 100% of all SCBA within the County for Career and Volunteer fire personnel.
State funding programs	YES	LEMPG, OEMS 4-for-life, VDFP Aid to Localities, RSAF to enhance Fire and EMS response capabilities./Yes.
Other		

How can these capabilities be expanded and improved to reduce risk?

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization Yes/No Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?

Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Louisa County continues an active CERT who assist with sheltering, evacuation and public education. In addition to an active CART who assists with public education and pet sheltering during disasters. The CART is recognized by the state and is deployable on a national level.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	The Department of Fire and EMS conduct regular monthly public education activities in addition to ongoing preparedness information available to the public via the department website.
Natural disaster or safety related school programs	Yes	
StormReady certification	No	
Firewise Communities certification	No	
Public-private partnership initiatives addressing disaster-related issues	Yes	The Department of Fire and EMS and Emergency management routinely participate in full scale exercises with Dominion Power, NRC, FEMA, VDEM and surrounding localities.
Other		

How can these capabilities be expanded and improved to reduce risk?

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Capability Assessment Worksheet

Jurisdiction: Nelson County

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Y	No. Hazards and mitigation strategy to be developed over next planning period with Emergency Services.
Capital Improvements Plan	Y	No. Hazards and mitigation strategy to be developed over next planning period with Emergency Services.
Economic Development Plan	Y	No. Hazards and mitigation strategy to be developed over next planning period with Emergency Services.
Local Emergency Operations Plan	Y/2017	Plan does not currently include hazards though it can be used to identify hazards. Because it provides a framework for emer. Mgmt. it is part of mitigation plan.
Continuity of Operations Plan	N	COOP plan will be an appendix to the EOP that is still undergoing revision.
Transportation Plan	Y	As with EOP, this plan can be used for mitigation purposes, though at this time there are no specific projects planned.
Stormwater Management Plan	Y	Unknown what specifics of this plan are. In the event of a significant storm water event occurs or is forecasted , EOP will be implemented and portions of that plan related to storm water will be used for mitigation where possible.
Community Wildfire Protection Plan	N	

Worksheet 4.1

Capability Assessment Worksheet

Building Code, Permitting, and Inspections Yes/No Are codes adequately enforced?		
Building Code	Y	Nelson County uses state building codes for permitting. Inspections are consistent and adequate.
Building Code Effectiveness Grading Schedule (BCEGS) Score	Unk	
Fire department ISO rating	Unk	
Site plan review requirements	Y	
Land Use Planning and Ordinances Yes/No Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?		
Zoning ordinance	Y	These plans do perform some measure of hazard mitigation, however, they currently do not work well to measure that impact.
Subdivision ordinance	Y	These plans do perform some measure of hazard mitigation, however, they currently do not work well to measure that impact.
Floodplain ordinance	Y	These plans do perform some measure of hazard mitigation, however, they currently do not work well to measure that impact.
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	N	
Flood insurance rate maps	Y	These plans do perform some measure of hazard mitigation, however, they currently do not work well to measure that impact.
Acquisition of land for open space and public recreation uses	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
<p>Emergency Services Coordinator can incorporate portions of the existing plans into the Emergency Operations Plan or as addendums to the EOP.</p> <p>Outreach to program managers and directors could increase the efficacy of these plans in measuring the impact they have on hazard mitigation.</p>		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Y	
Mitigation Planning Committee	N	Nelson County is developing a true LEPC which will include multiple public safety disciplines as well as private industry partners and community representatives.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	N	
Mutual aid agreements	Y	There are mutual aid agreements in place. Some need to be strengthened or renewed and others will need to be developed.
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	PT	Anticipate filling position full time. Position was left vacant unexpectedly. Staffing adequate. Not trained in hazards and mitigation outside of building hazards. Coordination an ongoing effort of County Administrator's office.
Floodplain Administrator	Y / FT	Adequately trained to enforce regulations. Knowledgeable of hazards related to floodplain/water events.
Emergency Manager	Y / FT	No regulatory enforcement responsibilities. Pursuing training options for hazard mitigation. Coordination through County Administrator's cross-departmental coordination meetings.
Community Planner	FT	
Civil Engineer	N	
GIS Coordinator	Y	Because GIS works so frequently with public safety systems (CAD, land-mobile radio etc) he has higher familiarity with some h
Other		

¹Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities?
		Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	Unk if used in the past, could be used in the future.
Authority to levy taxes for specific purposes		
Fees for water, sewer, gas or electric services	Y	Fees collected. Mitigation action would have to be specifically related to hazards created by those services.
Storm water utility fee	Y	
Incur debt through general obligation bonds and/or special tax bonds	Y	P
Community Development Block Grant	Unk	Would have be part of Economic development plan
Other federal funding programs	Y	Various FEMA and DHS programs. Possibly some Dept. of Transportation grants.
State funding programs	Y	Unk how used other than previously mentioned EMS/Vol. Fire programs
Other		

How can these capabilities be expanded and improved to reduce risk?

Worksheet 4.1

Capability Assessment Worksheet

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization Yes/No Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?		
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Vol. Fire and EMS crews in the county in addition to Search and Rescue groups, Some agencies related to functional needs groups
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Via the vol. fire and ems units.
Natural disaster or safety related school programs	N	
StormReady certification	N	
Firewise Communities certification	N	
Public-private partnership initiatives addressing disaster-related issues	N	Though organization of an LEPC with public/private partnerships will aid in this objective
Other		
How can these capabilities be expanded and improved to reduce risk?		
Ongoing use of the capabilities assessment and further coordination with other program areas in the county will provide information and awareness of possible mitigation activities.		