



FEMA

FLOOD RISK DISCOVERY REPORT



LOWER NEW WATERSHED | WEST VIRGINIA

Fayette County, Summers County, Raleigh County, City of Oak Hill, City of Hinton, City of Mount Hope, City of Beckley, Town of Ansted, Town of Fayetteville, Town of Gauley Bridge, Town of Meadow Bridge, Town of Thurmond, Town of Mabscott, Town of Sophia,

MEETING: July 26, 2023

FINAL REPORT: January 2024

RiskMAP
Increasing Resilience Together

LOWER NEW WATERSHED | WEST VIRGINIA

TABLE OF CONTENTS

● EXECUTIVE SUMMARY.....	3
● PROJECT OVERVIEW	4
● DATA COLLECTION.....	6
● COMMUNITY CHARACTERISTICS	7
● DISCOVERY MEETING	13
● POTENTIAL FLOOD RISK PRODUCTS AND DATASETS.....	14
● SUMMARY AND NEXT STEPS.....	15
● FEDERAL AND STATE PARTNERS.....	16
● APPENDICES.....	17

LOWER NEW WATERSHED | WEST VIRGINIA

EXECUTIVE SUMMARY

The Federal Emergency Management Agency's (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) program provides communities with flood information to help them understand their current flood risk and make informed decisions on actions to become stronger and safer against future risk. Discovery is the first phase of the Risk MAP process and begins a dialogue among FEMA and community members about (1) the nature of flooding in the watershed and the actions that communities are taking to address their flood hazards and risk; and (2) the data and information that may be used for developing the regulatory products and Flood Risk Products (for more information, please see page 14).

This report summarizes the Discovery efforts in the Lower New Watershed, which includes three counties, four cities and seven towns. The Discovery phase includes gathering tabular and spatial data and information on past and current flood risk from local communities and regional, State, and Federal entities. See Appendix H for a complete list of the stakeholders involved in Discovery.

The goals of Discovery are to (1) determine what flood hazard information already exists; (2) learn what flood hazard information is still needed to make mitigation decisions; and (3) identify what areas, critical infrastructure, and other resources could potentially be affected during a flood event. This report discusses the risks and needs identified during the Lower New Watershed Discovery process.

Highlights of the Discovery effort are listed on the right.

DISCOVERY HIGHLIGHTS:

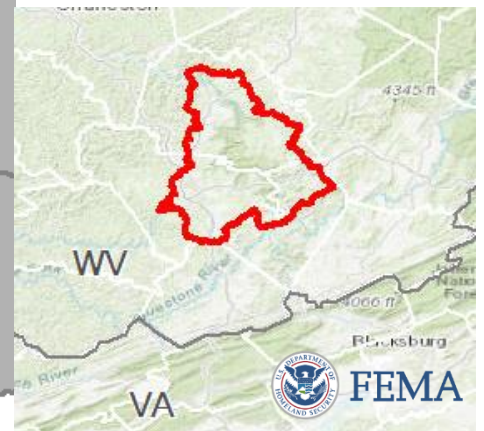
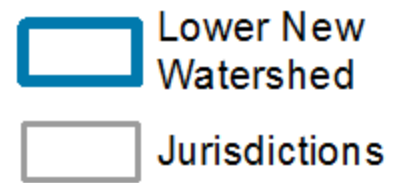
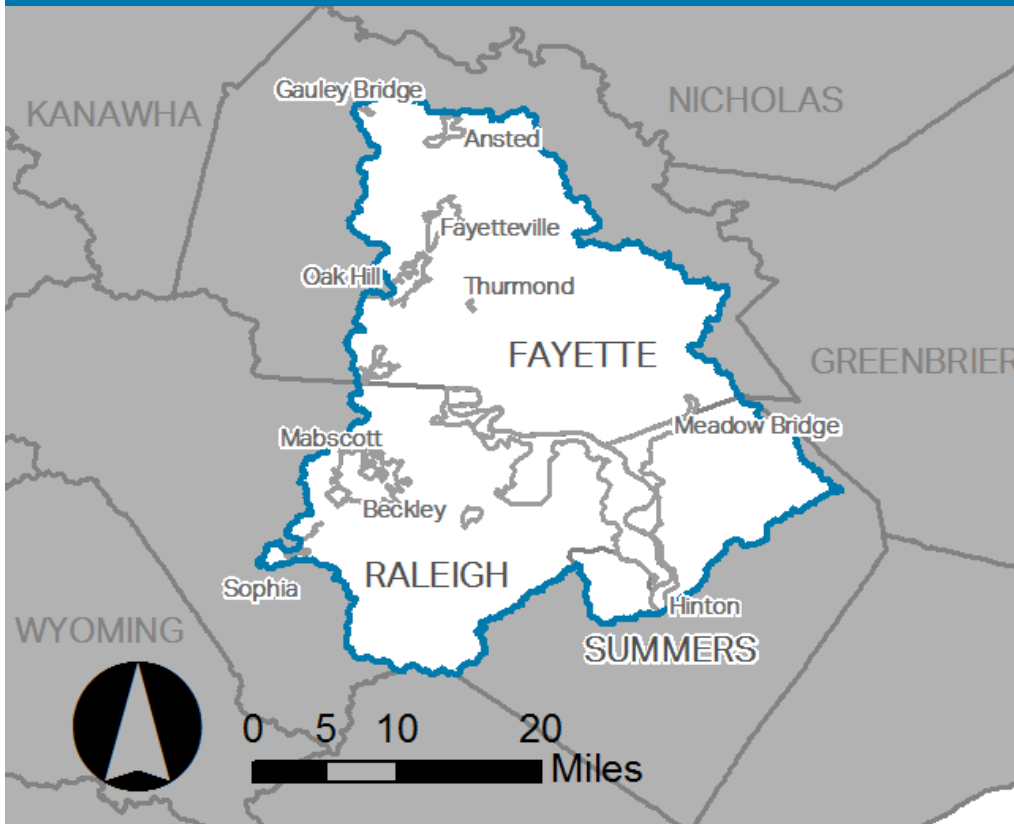
- New Light Detection and Ranging (LiDAR) data available for this watershed will allow for a dramatic increase in the accuracy of flood hazard mapping.
- All communities in the watershed participate in the National Flood Insurance Program (NFIP).
- The watershed is predominantly comprised of established, rural, and suburban communities.
- Specialized flood risk dashboards were distributed to each community within the four watersheds being studied. These dashboards provide communities with a snapshot of their flood risk as well as their financial risk.



LOWER NEW WATERSHED | WEST VIRGINIA

PROJECT OVERVIEW

The Lower New Watershed includes all the land that drains into the New River from Hinton to Gauley Bridge in Southern West Virginia. FEMA Region III identified the Lower New Watershed as a priority for the Risk MAP program because newly available data presented an opportunity to better define flood hazards in the area. This watershed encompasses approximately 691 square miles.



COMMUNITY	POPULATION ²	POPULATION IN WATERSHED ²
CITY OF BECKLEY	17,286	17,286
CITY OF HINTON	2,245	1,600
CITY OF MOUNT HOPE	1,125	1,125
CITY OF OAK HILL	8,179	6,000
FAYETTE COUNTY	40,488	19,700
RALEIGH COUNTY	74,591	27,600
SUMMERS COUNTY	11,959	3,600

COMMUNITY	POPULATION ¹	POPULATION IN WATERSHED ²
TOWN OF ANSTED	1,303	1,303
TOWN OF FAYETTEVILLE	2,887	2,887
TOWN OF GAULEY BRIDGE	553	80
TOWN OF MABSCOTT	1,341	1,341
TOWN OF MEADOW BRIDGE	324	324
TOWN OF SOPHIA	1,130	1,100
TOWN OF THURMOND	5	5

¹ All populations are derived from the 2020 Census.

² Population in Watershed estimates are based on the percentage of jurisdiction's area within the watershed.

LOWER NEW WATERSHED | WEST VIRGINIA

YOUR FLOOD RISK MAPPING TIMELINE



● Discovery Meeting
July 26, 2023

NEXT STEPS: REGULATORY STUDY SCOPE DETERMINATION

If the data and research collected and performed during the Discovery phase support the need for a flood map update, the following timeline shows the steps of that process.

	<p>Flood Risk Review</p>	<p>If a flood study is determined to be necessary as a result of the Discovery process, FEMA, State, and local officials will meet to review the draft floodplain mapping and methodologies used.</p>
	<p>Issue Preliminary Map</p>	<p>FEMA issues preliminary maps and Flood Insurance Study (FIS) reports to the community for review.</p>
	<p>Community Coordination and Outreach (CCO)</p>	<p>Preliminary maps are reviewed with community officials at the CCO Meeting. The comment and appeal process is also explained.</p>
	<p>Facilitate Public Comment and Appeal Period</p>	<p>Stakeholders have 90 days after the appeal start date to submit comments and/or appeals. Comments and/or appeals are reviewed, and flood maps may be updated appropriately.</p>
	<p>Issue Letter of Final Determination</p>	<p>Once a flood map is finalized, it is adopted by the community. A six-month adoption period begins to allow communities time to adopt adequate floodplain management ordinances based on the new flood map.</p>
	<p>Manage Your Floodplain</p>	<p>Community leaders monitor and track local development. Letters of Map Revision are required within six months of project completion for projects that change flood hazards in a specific area.</p>

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DATA COLLECTION

Discovery is a process of data mining, collection, and analysis through active collaboration with communities.

FEMA Region III gathered a significant amount of data before the Discovery Meeting to focus community engagement on identifying more localized information and sources of data. Additionally, the Region led the review of the Hazard Mitigation Plans (HMPs), FIS reports, and Comprehensive Plans for each of the jurisdictions prior to the Discovery Meeting.

The Region sent each community and stakeholder a Discovery Data Questionnaire prior to the meeting to collect additional local data such as current land use, zoning plans, risk assessment data, stormwater issues, latest orthophotography, and as-built information for manmade flood retention areas. FEMA also asked communities and stakeholders to identify areas of concern that could be addressed during the flood study through updated flood maps, revised ordinances, and desired mitigation projects.

The data collected were used to produce the Discovery Maps, Community Dashboards, and this Discovery Report. The table on the right provides an overview of the data collected. A complete list of data collected during the Discovery process is included in Appendix E.



BASE MAP DATA
(political boundaries,
streamlines,
transportation)



TOPOGRAPHIC DATA
(2012-2018 LiDAR)



ORTHOPHOTOS
(2022 pixel-based)



DECLARED
DISASTERS



LEVEES, DAMS,
STREAM GAGES



EFFECTIVE
FLOODPLAINS



NFIP & CRS
PARTICIPATION



INDIVIDUAL & PUBLIC
ASSISTANCE



STRUCTURES



POPULATION &
SOCIOECONOMIC
CHARACTERISTICS

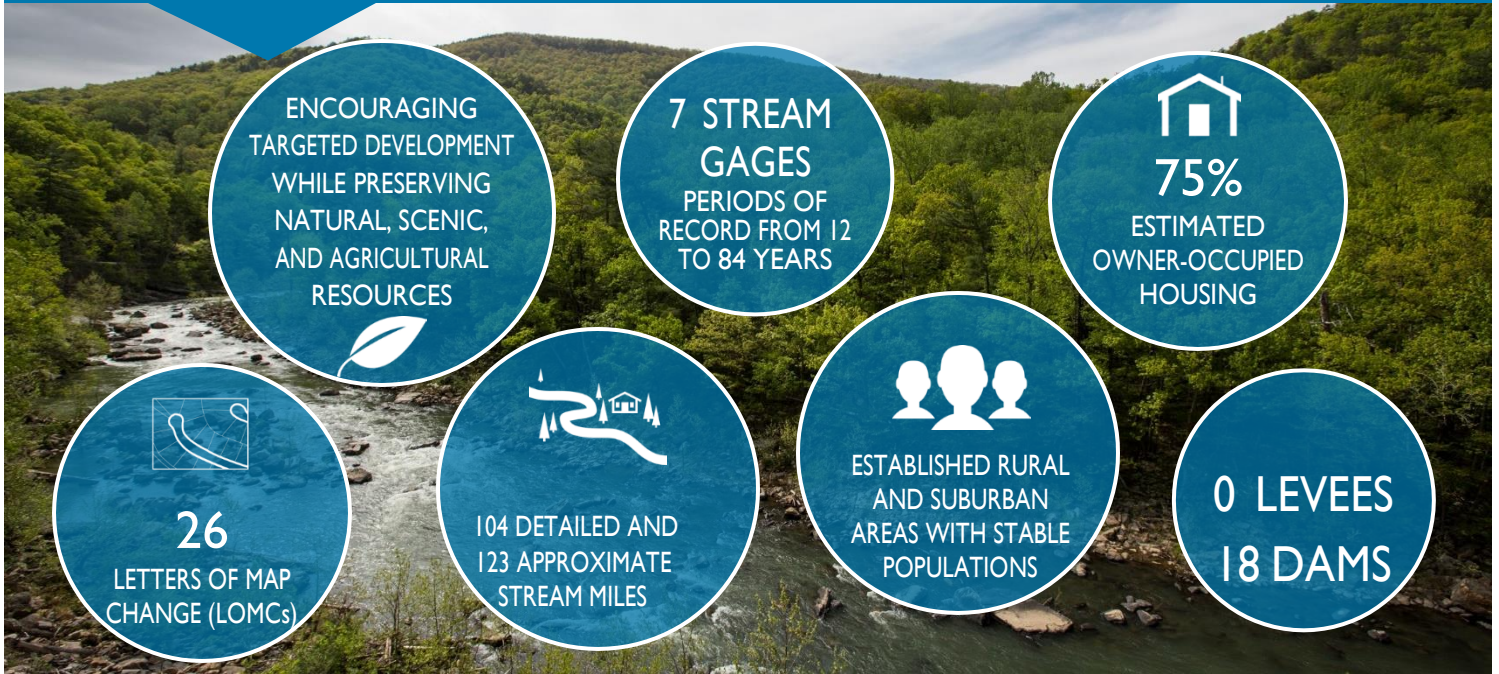


MITIGATION ACTIONS

LOWER NEW WATERSHED: CHARACTERISTICS

COMMUNITY CHARACTERISTICS

The Lower New Watershed community characteristics information was developed to inform the Discovery Meeting and, through the flood risk mapping update, will continue to be used to identify technical assistance and tools that could support the community in its needs. For additional information on community characteristics, please see the Community Dashboards in Appendix A.



LOWER NEW WATERSHED COMMUNITY CHARACTERISTICS

The Lower New Watershed includes all the land that drains into the New River from Hinton to Gauley Bridge in Southern West Virginia. The New River runs approximately 360 miles through West Virginia and Virginia before joining the Gauley River to form the Kanawha River at the Town of Gauley Bridge, West Virginia. The watershed encompasses approximately 691 square miles in Fayette, Raleigh, and Summers Counties.

All communities within the Lower New Watershed—except the Town of Thurmond—participate in the NFIP. Participating jurisdictions adopt and enforce floodplain management ordinances to implement development standards in flood hazard areas. NFIP regulations represent the minimum standard for floodplain management. Communities are encouraged to consider higher standards and the adoption of more comprehensive regulations, especially when planning for future conditions. These standards can include buffers or setbacks, additional freeboard, regulation of high-risk land uses, conservation and designation of open space areas, and lower thresholds for substantial damage. Higher standards further reduce flood risk and can take advantage of the additional information and knowledge of local conditions available to community officials.

Communities that exceed the minimum requirements of the NFIP may be eligible to participate in the Community Rating System (CRS) program. One jurisdiction in the Lower New Watershed—Fayette County—currently participates in the NFIP’s CRS program.

LOWER NEW WATERSHED: CHARACTERISTICS

COMMUNITY	TOTAL POLICIES	TOTAL CLAIMS	RL ¹ BUILDINGS	LEVEL OF NFIP REGS REQ'D	EFFECTIVE DATE OF FIRM/FIS	CAV ² / CAC ³ DATES	# OF LOMCS ⁴	TOTAL EXPOSURE IN THE FLOODPLAIN 2.1 ^{4,5}
ANSTED, TOWN OF	1	3	0	B	9/3/2010	01/31/1990 05/18/2201	0	\$174,633.14
BECKLEY, CITY OF	12	30	6	N/A	9/29/2006	08/19/2009 11/07/2018	1	\$6,209,087.55
FAYETTE COUNTY (UNINCORPORATED AREAS)	125	199	19	D	9/3/2010	05/18/2015 01/24/2018	4	\$34,399,166.82
FAYETTEVILLE, TOWN OF	6	1	0	N/A	9/3/2010	N/A 07/27/2017	0	\$0.00
GAULEY BRIDGE, TOWN OF	7	9	4	D	9/3/2010	02/01/1990 06/05/2019	0	\$422,565.88
HINTON, CITY OF	13	22	4	D	10/7/2021	04/22/1991 06/30/2017	1	\$13,821,014.16
MABSCOTT, TOWN OF	10	43	10	N/A	9/29/2006	08/20/2009 11/07/2018	0	\$10,650,060.50
MEADOW BRIDGE, TOWN OF	10	7	0	B	9/3/2010	01/31/1990 04/22/2015	0	\$1,998,003.57
MOUNT HOPE, CITY OF	6	42	10	B	9/3/2010	01/30/1990 10/24/2017	1	\$21,734,643.25
OAK HILL, CITY OF	7	7	0	B	9/3/2010	01/31/1990 05/19/2015	1	\$3,305,952.67
RALEIGH COUNTY (UNINCORPORATED AREAS)	148	343	36	D	6/16/2009	08/18/2009 08/19/2015	14	\$78,322,325.21
SOPHIA, TOWN OF	11	18	1	C	6/16/2009	08/20/2009 11/07/2018	2	\$3,617,225.12
SUMMERS COUNTY (UNINCORPORATED AREAS)	139	444	105	D	10/7/2021	03/01/2013 06/30/2017	2	\$4,345,096.05
THURMOND, TOWN OF	0	0	0	N/A	9/3/2010	N/A N/A	0	\$0.00

¹ RL=Repetitive Loss, ² CAV=Community Assistance Visits, ³ CAC=Community Assistance Contacts

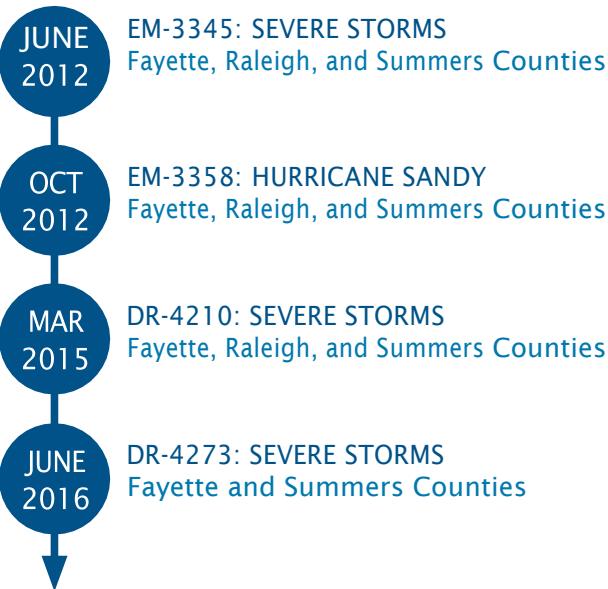
⁴ The number of LOMCs and Total Exposure in Floodplain (TEIF) values are only for areas of these jurisdictions that are located within the Lower New Watershed.

⁵ TEIF 2.1 (County Buildings) was created using local Building Footprint Features. Hazus building value data was subsequently dispersed proportionately to the footprints based on the area of the footprint. TEIF is intended to evaluate potential risk or economic loss in a dollar amount per community based on Hazus General Building Stock (Total Exposure) Values from FEMA's Hazus Version 2.2. VGIN building footprints for Quarter #1 of 2016 were utilized and building duplicates/overlapping buildings were removed prior to distribution of Hazus Building Value.

LOWER NEW WATERSHED: CHARACTERISTICS

RECENT FLOOD-RELATED PRESIDENTIAL DISASTER DECLARATIONS (2012-2016)

There are two forms of Presidential action that authorize Federal disaster assistance. Emergency Declarations (EMs) spur activities to protect property and strengthen public safety through Federal assistance, and Major Disaster Declarations (DRs) provide supplemental coordination and assistance beyond the ability of State and local governments.



HISTORY OF FLOOD-RELATED DISASTERS

The following is a list of past major flood events in the Lower New Watershed as reported in the effective FIS reports for each jurisdiction.

A dark blue box containing a list of major flood events. On the left side, there is a white icon of a storm and a white icon of a house with waves below it. The events are listed in white text.

- July 1932: Severe Storms
- March 1936: Severe Storms
- August 1940: Severe Storms
- August 1946: Severe Storms
- March 1963: Severe Storms
- April 1974: Severe Storms
- June 2016: Severe Storms

INDIVIDUAL ASSISTANCE & PUBLIC ASSISTANCE

FEMA grant-funded assistance programs for communities with disaster declarations.

Individual Assistance provides community services or individual or household assistance. Communities in the watershed received approximately \$25.5 million in Individual Assistance funds since 1998. Communities that are ineligible for Individual Assistance, or households and individuals ineligible to receive funds under this program, can work with FEMA Disaster Recovery Centers to identify additional programs for financial assistance.

Public Assistance is separated into seven project categories (A-G). Projects in categories C through G are permanent work projects and are only available for major disasters. Communities in the watershed received approximately \$9 million in total public assistance since 1998 (under \$3 million for categories A and B and more than \$6 million for categories C-G). Funding for these projects is summarized by county below. Project amounts for categories A (debris removal), B(emergency protective measures), and C-G since 1998 are also shown on the Community Dashboards in the Appendix.

COUNTY	C - ROADS & BRIDGES	D - WATER CONTROL FACILITIES	E - PUBLIC BUILDINGS	F - PUBLIC UTILITIES	G - RECREATIONAL OR OTHER
FAYETTE COUNTY	\$218K	\$0	\$236K	\$1.6M	\$1.1M
RALEIGH COUNTY	\$460K	\$0	\$84K	\$2.1M	\$33K
SUMMERS COUNTY	\$33K	\$0	\$122K	\$61K	\$159K

LOWER NEW WATERSHED: CHARACTERISTICS

PRINCIPAL FLOOD PROBLEMS BY COUNTY

<p>FAYETTE COUNTY</p>	<ul style="list-style-type: none"> • Floods caused by overflows of the Kanawha River have occurred periodically in the past in Fayette County. These floods have generally occurred as a result of heavy rains over the Kanawha River basin, sometimes combining with spring thaw and snowmelt conditions. Major floods in Fayette County occurred on the Kanawha River in September 1861, September 1878, February 1897, May 1901, and March 1918 (Kanawha River Basin Coordinating Committee, 1971). Recent floods of lesser magnitude have also been experienced. These floods also affected the lower portions of the New River and the Gauley River in Fayette County. In addition, major flooding on the Gauley River is known to have occurred in July 1932 and March 1936. • The greatest of the Kanawha River floods was that of September 1861, which reached a stage of approximately 54 feet at the site of the present gaging station at Charleston (Kanawha River Basin Coordinating Committee, 1971). At this site, the flood was approximately 1 foot below the current estimated 500-year flood elevation. Although no information is available on the specific damage effects of previous flooding in Fayette County, the COE estimated that a recurrence of the September 1861 flood would cause approximately \$250 million in damage along the entire Kanawha River (Kanawha River Basin Coordinating Committee, 1971). • The following gages were used in the hydrologic analyses in the original study: gage No. 03179800 on the New River at Hinton, West Virginia, with 50 years of record; gage No. 03193000 on the Kanawha River at Kanawha Falls with a record of 109 years; and gage No. 03192000 on the Gauley River at Belva, West Virginia, with a record of 58 years.
<p>RALEIGH COUNTY</p>	<ul style="list-style-type: none"> • Most floods occur during late or early spring and result from heavy rainfall on frozen or saturated soil. The steep hillsides and stream gradients quickly convey storm runoff to the developed floodplains, causing floods. Man-made restrictions, primarily at bridges and culverts, add to the flood problems. According to residents of the area, the largest flood occurred in March 1963. • Large floods on the New River are known to have occurred in 1878, 1885, 1940, and 1946. However, only the floods of 1940 and 1946 were recorded by the gage on the New River at Hinton. The largest of the recorded floods occurred in August 1940 and had a peak discharge of 246,000 cubic feet per second (cfs). The discharge of the 1946 flood was 124,000 cfs (USGS, annual publication).
<p>SUMMERS COUNTY</p>	<ul style="list-style-type: none"> • Floods caused by overflow of the Greenbrier and New Rivers have occurred periodically in Summers County. These floods generally occur in winter or early spring as a result of heavy rains and may be worsened if the rain is accompanied by melting snow. Large floods of the New River are known to have occurred in 1878, 1885, 1940, and 1946. However, only the floods of 1940 and 1946 were recorded by the New River gage at Hinton. The largest of the recorded floods occurred in August 1940 and had a peak discharge of 246,000 cubic feet per second (cfs). The discharge of the 1946 flood was 124,000 cfs (USGS, 1980). • The six largest floods on the Greenbrier River recorded at the gage at Alderson occurred in 1901, 1913, 1918, 1936, 1967 and 1974 (USGS, 1980). The largest of these floods by discharge was the flood of 1918 which had a peak discharge of 77,500 cfs. Records for the Greenbrier River gage at Alderson reveal that this flood had a peak discharge which was approximately 800 cfs greater than the 100-year flood and 5,400 cfs less than the 500-year flood, as analyzed in this study at the same gage. • The floods of June 23 and 24, 2016, devastated many communities across West Virginia, including Summers County. Repeated rounds of torrential thunderstorms dumped more than 9 inches of rain in the hardest hit areas of West Virginia, causing the third deadliest flood event in state history with millions of dollars in damage to infrastructure and economic resources. While this flood event seemed to West Virginia residents to be an extremely unusual event, research by the United States Geological Survey and the Federal Emergency Management Agency suggests otherwise. It is critical to understand the June 2016 event so that West Virginia communities can take action to be safer in the future. This revision was initiated as a result.

LOWER NEW WATERSHED: CHARACTERISTICS

HAZARD MITIGATION PLANS

FEMA provides communities with resources to help them integrate the flood risk assessment data into their ongoing planning processes, including hazard mitigation planning. Information about the status of HMPs in the Lower New Watershed is provided in the table below. For more information about mitigation actions identified by each community in these plans, please see the Community Dashboards included in the Appendix.

COMMUNITY	HAZARD MITIGATION PLAN	STATUS
FAYETTE COUNTY	Planning and Development Council Region IV Hazard Mitigation Plan	Expired 2/21/2022 Plan In Progress
TOWN OF ANSTED		
TOWN OF FAYETTEVILLE		
TOWN OF GAULEY BRIDGE		
TOWN OF MEADOW BRIDGE		
TOWN OF MOUNT HOPE		
CITY OF OAK HILL		
TOWN OF THURMOND		
RALEIGH COUNTY	Planning and Development Council Region I Hazard Mitigation Plan	Expired 1/31/2022 Plan In Progress
CITY OF BECKLEY		
TOWN OF MABSCOTT		
TOWN OF SOPHIA		
SUMMERS COUNTY		
CITY OF HINTON		

HAZARD MITIGATION ASSISTANCE

FEMA administers three **Hazard Mitigation Assistance (HMA)** programs to provide funding for projects that reduce the risk to individuals and property from natural hazards.

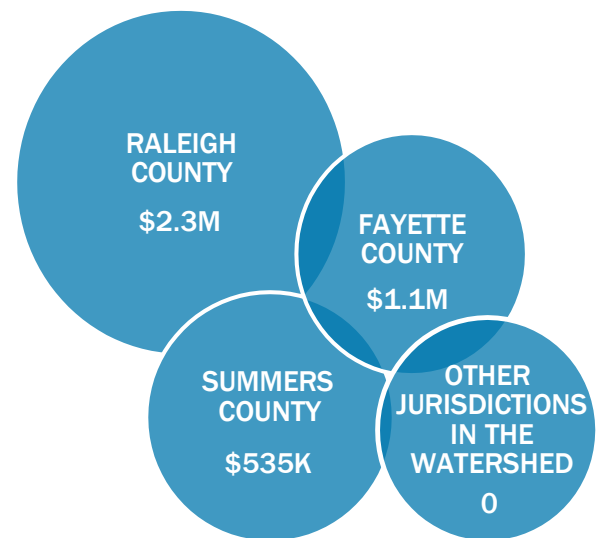
Hazard Mitigation Grant Program (HMGP): Funding to implement long-term hazard mitigation planning and projects after a Presidential Major Disaster Declaration.

Pre-Disaster Mitigation (PDM): Funding to implement hazard mitigation planning and projects that prevent future losses before disaster strikes.

Flood Mitigation Assistance (FMA): Funding to implement planning and projects that reduce or eliminate long-term risk of flood damage to structures insured under the NFIP.

A summary of HMA grants received by county is provided to the right.

HMA GRANTS RECEIVED

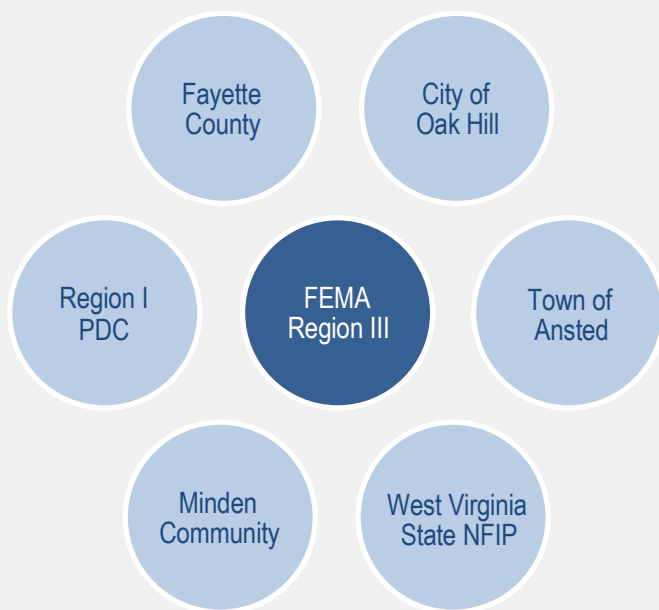


LOWER NEW WATERSHED | WEST VIRGINIA

DISCOVERY MEETING

The Discovery Meeting is an opportunity for FEMA to engage directly with the communities in the study watershed. The meeting serves both to introduce communities to the flood risk mapping process and to gather information on local concerns, resources, and needs.

A Discovery Meeting was conducted for Lower New Watershed on July 26, 2023. Representatives of the following communities and agencies attended the meeting:



During the meeting, attendees were asked to provide information on areas of local concern, past risk assessment and mitigation projects, and future risk assessment and mitigation needs. Meeting attendees discussed their priorities with the project team and participated in a mapping exercise to provide information on specific reaches, contributing areas, and structures. Meeting invitees also received questionnaires designed to gather information on local resources, flood hazards, and mapping and mitigation priorities.

Discovery Meeting outcomes based on the meeting, mapping exercise, and questionnaires are summarized on the right.

The Discovery Map comments and Discovery Meeting minutes are included in Appendices F and G, respectively.

MAP UPDATE REQUEST & FLOOD RISK CONCERN:




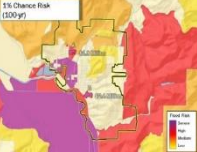


- The City of Oak Hill, WV shared that development, south of the Oak Hill, WV Shopping Center has occurred without sufficient flood hazard information except the Advisory Flood Height information on the West Virginia Flood Tool that was studied in 2013. Currently, no effective Special Flood Hazard Area or history of flooding exists in that area. The City of Oak Hill requests more detailed study methodologies northwest and southwest of the shopping center as well as the Wolf Creek Subdivision.

LOWER NEW WATERSHED | WEST VIRGINIA

POTENTIAL FLOOD RISK PRODUCTS AND DATASETS

Based on the findings of the Discovery process, FEMA Region III will consider a potential flood risk mapping project within the Lower New Watershed. FEMA Region III will explore the possibility of studying all riverine areas or a project studying limited stream reaches within the watershed.

A flood risk mapping project takes about three to five years to complete. When it is final, communities are provided with an updated Flood Insurance Rate Map (FIRM), FIS reports, and FIRM databases, also known as Flood Hazard Products. Additionally, communities may receive a set of non-regulatory tools that they can use to better understand and make informed decisions to reduce risk. The following non-regulatory products may be delivered to the communities at the end of a project.

FLOOD RISK PRODUCT	WHAT IS IT?	HOW IS IT USED?
 <p>FLOOD RISK MAP</p>	<p>Illustrates overall flood risk within the project area by including the outcomes of assessments completed during the flood risk mapping project.</p>	<p>Can be used by communities as outreach tools to communicate risk to residents more clearly.</p>
 <p>FLOOD RISK DATABASE</p>	<p>Provides communities with geospatial information collected during the risk assessment process and offers effective ways to visualize and communicate flood risk. Four datasets are included.</p>	
 <p>1. Changes Since Last FIRM</p>	<p>Highlights how the latest FIRM differs from the previous maps to help communities understand the changes and prepare for adoption of new maps.</p>	<p>Communities can use this to engage residents and businesses about their changing risk and the implications for flood insurance.</p>
 <p>2. Flood Risk Assessment</p>	<p>Focuses on damage that results from floods of various magnitudes. Identifies flood-prone areas and vulnerable populations and property and provides an estimate of potential losses.</p>	<p>Can help guide community mitigation efforts by highlighting areas where risk reduction actions may produce the most effective results.</p>
 <p>3. Flood Depth and Analysis Grid</p>	<p>Communicates detailed information about the depth and velocity of floodwaters, as well as the probability of an area being flooded over time.</p>	<p>Officials can use depth grids to show individuals the depth of flooding their home might experience at different flood frequencies.</p>
 <p>4. Areas of Mitigation Interest</p>	<p>Explains how various physical factors affect the severity of flooding.</p>	<p>Information can be tied to the local HMP, which can help projects gain traction and help officials secure funding for those projects.</p>

LOWER NEW WATERSHED | WEST VIRGINIA

SUMMARY AND NEXT STEPS

SUMMARY

As the first phase of a flood risk mapping project, Discovery helps commence a coordinated effort within the Lower New Watershed to ensure communities have information to improve their risk reduction efforts, including their hazard mitigation planning, mitigation action identification and implementation, and community outreach. The findings from the Lower New Watershed Discovery Report and Maps are based on an analysis of watershed-wide research, information provided by watershed communities and stakeholders, and input from meetings and engagement with the communities and stakeholders. This process and the resulting report and maps serve as the first step toward increasing communities' resilience to flooding within the Lower New Watershed. The coordination with communities in the watershed and the detailed study of flooding within those communities will continue at the outset of a flood risk mapping project in the Lower New Watershed.

ACTION ITEMS AND NEXT STEPS

- Communities will provide feedback to FEMA on training and technical assistance needs.
- FEMA will have follow-up discussions with communities to discuss next steps in the flood risk mapping process should the data and research collected and performed during Discovery support the need for an update.
- Communities should continue to explore ideas to increase their resilience to flooding, such as cost-efficient mitigation projects and integration with hazard mitigation planning.
- Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
- Communities should stay in contact with FEMA for any additional mapping and public assistance needs.

QUESTIONS

If you have any questions, please contact the FEMA Region 3 Project Manager, Andrew Jackson, at Andrew.Jackson4@fema.dhs.gov.

LOWER NEW WATERSHED | WEST VIRGINIA

FEDERAL AND STATE CONTACT INFORMATION

AGENCY	NAME	TITLE	EMAIL
YOUR PRIMARY FEMA CONTACT	ANDREW JACKSON	FEMA Region 3 Project Manager	Andrew.Jackson4@fema.dhs.gov
FEMA REGION 3	ELIZABETH RANSON	FEMA Region 3 Floodplain Management Specialist	Elizabeth.ranson@fema.dhs.gov
WEST VIRGINIA EMERGENCY MANAGEMENT	TIMOTHY W. KEATON	WV NFIP/CTP Coordinator	Tim.w.keaton@wv.gov
WEST VIRGINIA GIS TECHNICAL CENTER	KURT DONALDSON	Project Manager	Kurt.Donaldson@mail.wvu.edu

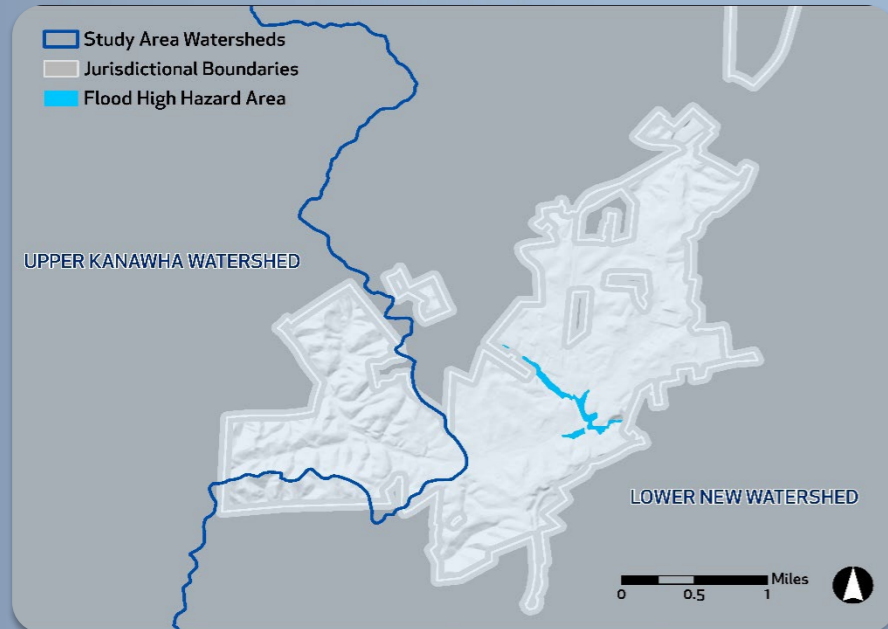

APPENDICES

- A. Community Dashboards
- B. Acronyms and Abbreviations
- C. References
- D. Glossary
- E. Additional Data
 - a. Data Collection for the Lower New Watershed
 - b. List of Topographic Data Sources by County
 - c. Results of CNMS Showing Flood Study Validity
 - d. Dams in the Watershed by County
 - e. Levees in the Watershed by County
 - f. Stream Gage Information
 - g. County Border Special Flood Hazard Area Floodplain Boundary Tie-In Issues
 - h. LOMCs Identified in the Watershed by Jurisdiction
- F. Discovery Maps
- G. Meeting Minutes
- H. Meeting Attendance Record
- I. Meeting Presentation

APPENDIX A | COMMUNITY DASHBOARDS

City of Oak Hill/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)

01/18/1980
Initial FIRM¹ date

09/03/2010
Effective FIRM date




\$91K
Total paid losses²

7
Total paid claims²




7
Flood insurance policies in force

2
Policies in the effective flood high hazard area



3545
Estimated structures in the community

25
Estimated structures in the flood high hazard area



1
Letters of Map Change



22
Flood-related countywide presidential disaster declarations



4
Paid claims outside of the effective flood high hazard area²




\$0
Repetitive Loss (RL) paid losses²

0
RL properties²



31%
of households spend 30% or more of their income on housing

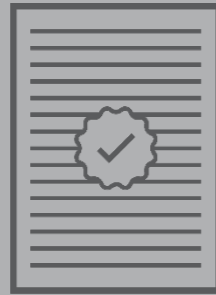


1%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



City of Oak Hill/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Identify undersized and inadequate culverts to correct the problem.
- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Suburban



01/31/1990
Date of Last CAV⁴

05/19/2015
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$668K

Category A: Debris
Removal

\$797K

Category B: Protective
Measures

\$3.2M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

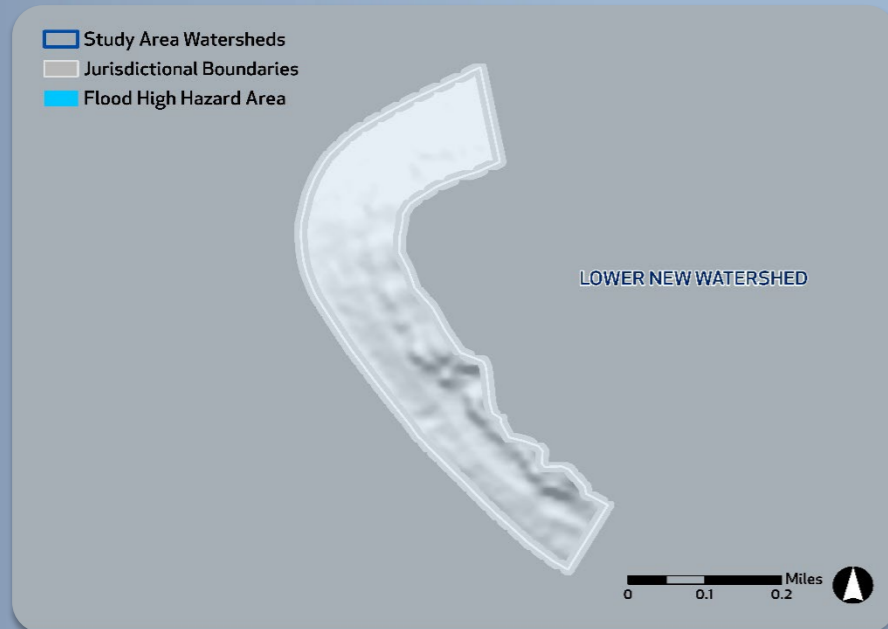
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Thurmond/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



03/04/1988
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$0
Total paid losses²

0
Total paid claims²

0
Flood insurance policies in force

0
Policies in the effective flood high hazard area

20
Estimated structures in the community

0
Estimated structures in the flood high hazard area

0
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

0
Paid claims outside of the effective flood high hazard area²

\$0
Repetitive Loss (RL) paid losses²

0
RL properties²

0%
of households spend 30% or more of their income on housing

0%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Thurmond/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf

Land Use Trend:
Small Town

N/A
Date of Last CAV⁴

N/A
Date of Last CAC⁴

NOT PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System

Countywide Public
Assistance received

\$668K
Category A: Debris
Removal

\$797K
Category B: Protective
Measures

\$3.2M
Categories C-G: Permanent
Work

Hazard Mitigation
Assistance Projects
Countywide

5
Hazard Mitigation Grant
Program

0
Pre-Disaster
Mitigation

0
Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

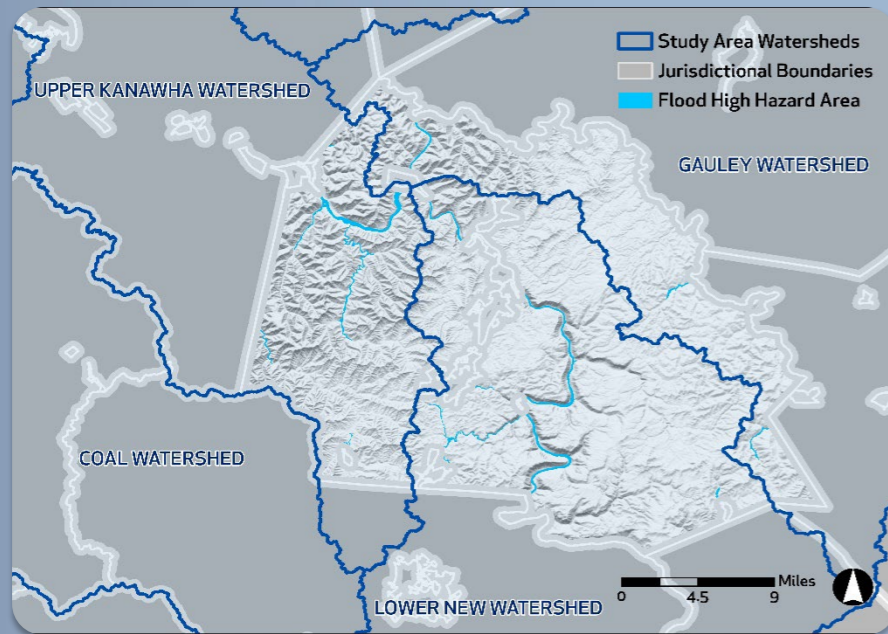

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Fayette County (Unincorporated Areas)/

Fayette County, WV **KNOW YOUR RISK** (The information presented below are estimates as of August 2022.)

03/04/1988
Initial FIRM¹ date

09/03/2010
Effective FIRM date




\$2.1M
Total paid losses²

201
Total paid claims²




108
Flood insurance policies in force

67
Policies in the effective flood high hazard area



17,030
Estimated structures in the community

1,155
Estimated structures in the flood high hazard area



41
Letters of Map Change



22
Flood-related countywide presidential disaster declarations



50
Paid claims outside of the effective flood high hazard area²




\$438K
Repetitive Loss (RL) paid losses²

19
RL properties²



19%
of households spend 30% or more of their income on housing

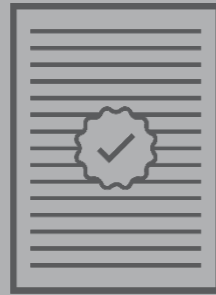


7%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Fayette County (Unincorporated Areas)/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Develop a countywide storm water/drainage plan.
- Enforce the floodplain ordinance for all new construction.
- Identify undersized and inadequate culverts to correct the problem.
- Study wastewater issues related to flooding, storm water, and public health.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.
- Work toward meeting the requirements for participation in the Community Rating System (CRS).
- Undertake buy out projects in Dunloup Watershed areas (i.e. the Dunloup Watershed Voluntary Buyout Program).

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf


Land Use Trend:
Rural


05/18/2015
Date of Last CAV⁴
01/24/2018
Date of Last CAC⁴


PARTICIPATING
in the National Flood
Insurance Program
PARTICIPATING
in the Community
Rating System


Countywide Public
Assistance received
\$668K
Category A: Debris
Removal

\$797K
Category B: Protective
Measures
\$3.2M
Categories C-G: Permanent
Work


Hazard Mitigation
Assistance Projects
Countywide
5
Hazard Mitigation Grant
Program
0
Pre-Disaster
Mitigation
0
Flood Mitigation Assistance

NEXT STEPS:

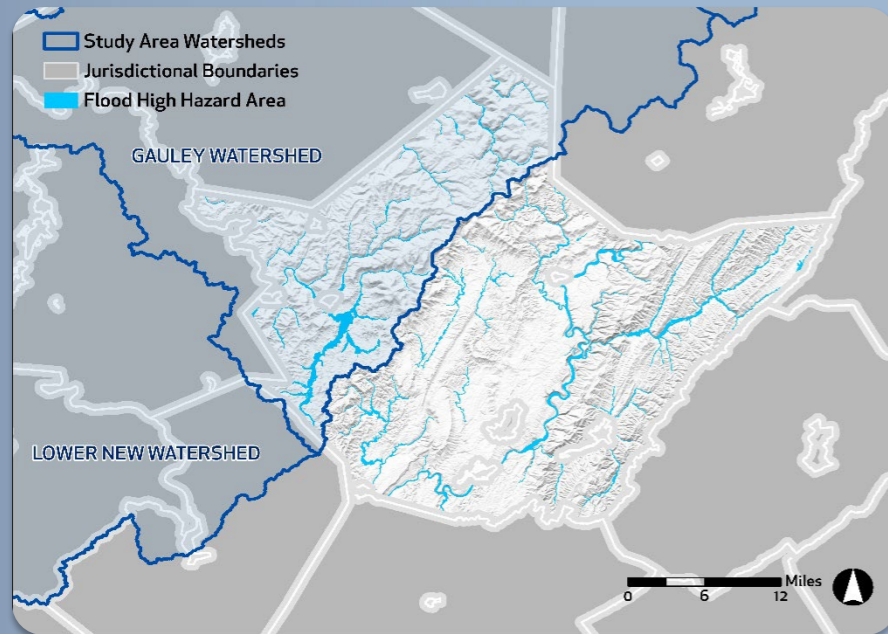
1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Greenbrier County (Unincorporated Areas)/ Greenbrier County, WV **KNOW YOUR RISK** (The information presented below are estimates as of August 2022.)



01/15/1988
Initial FIRM¹ date

10/16/2012
Effective FIRM date

\$10.6M
Total paid losses²

475
Total paid claims²

204
Flood insurance policies in force

111
Policies in the effective flood high hazard area

19540
Estimated structures in the community

1290
Estimated structures in the flood high hazard area

45
Letters of Map Change

25
Flood-related countywide presidential disaster declarations

56
Paid claims outside of the effective flood high hazard area²

\$2.0M
Repetitive Loss (RL) paid losses²

56
RL properties²

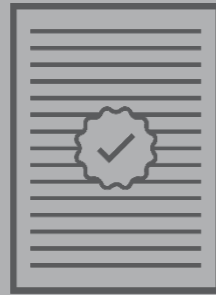
19%
of households spend 30% or more of their income on housing

6%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Greenbrier County (Unincorporated Areas)/Greenbrier, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Continue to work with the WVDODH to design road construction to be at the 100-year base flood elevation or higher.
- Maintain a database of all at risk structures in floodways and floodplains and distribute information to homeowners and businesses on the importance of purchasing flood insurance and flood proof techniques to protect their homes and businesses.
- Continue to make informational pamphlets available to Greenbrier County citizens that promote buying flood insurance.
- Continue to make permitting necessary (that is consistent with local floodplain ordinances) before any new construction is allowed.
- Determine feasibility of floodwalls or other structures to protect water treatment facilities from flooding.
- Provide opportunities for the leaders in Greenbrier County to participate in FEMA (and/or other agency) proactive programs.
- Install additional river or stream gauges in high-risk areas to gather critical flood data and provide rapid notification to residents, possibly by the installation of sirens or other alert methods.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf

Land Use Trend:
Rural

03/15/2015
 Date of Last CAV⁴

07/19/2018
 Date of Last CAC⁴

PARTICIPATING
 in the National Flood
 Insurance Program

PARTICIPATING
 in the Community
 Rating System

Countywide Public
 Assistance received

\$6.8M
 Category A: Debris
 Removal

\$1.6M
 Category B: Protective
 Measures

\$4.1M
 Categories C-G: Permanent
 Work

Hazard Mitigation
 Assistance Projects
 Countywide

34
 Hazard Mitigation Grant
 Program

0
 Pre-Disaster
 Mitigation

0
 Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

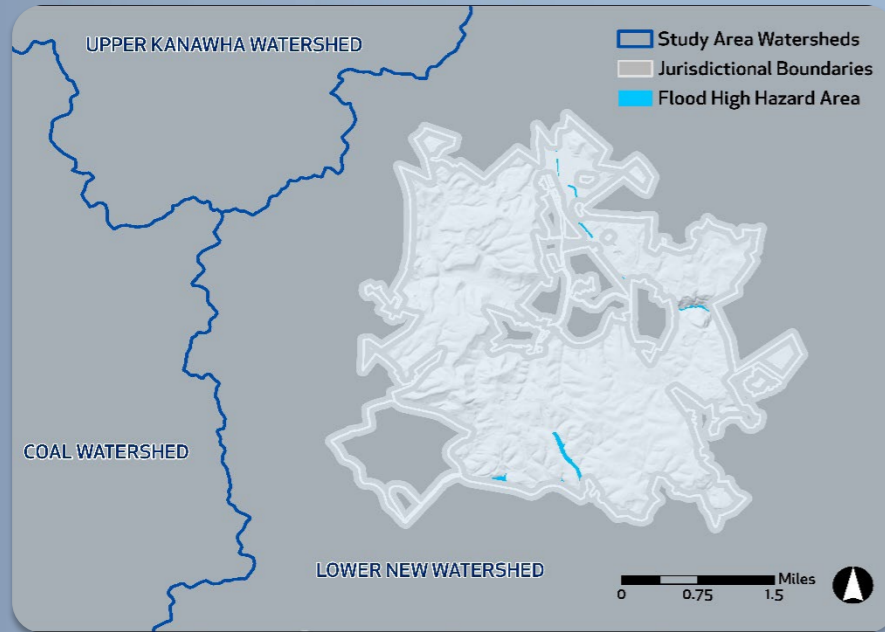
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

City of Beckley/Raleigh County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



11/01/1984
Initial FIRM¹ date

09/29/2006
Effective FIRM date

\$336K
Total paid losses²

30
Total paid claims²

11
Flood insurance policies in force

1
Policies in the effective flood high hazard area

8,055
Estimated structures in the community

45
Estimated structures in the flood high hazard area

2
Letters of Map Change

27
Flood-related countywide presidential disaster declarations

20
Paid claims outside of the effective flood high hazard area²

\$193K
Repetitive Loss (RL) paid losses²

6
RL properties²

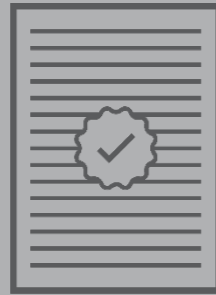
28%
of households spend 30% or more of their income on housing

0%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



City of Beckley/Raleigh, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Repair and maintain stormwater drain (and/or replace culvert as appropriate) along Market Street. Note that this part stretches outside the city limits and hence, coordination with the County would be necessary.
- Actively seek funding for and encourage the acquisition, elevation, relocation, and mitigation reconstruction of properties susceptible to hazards including but not limited to flooding.
- Work with current floodplain property owners to acquire their structures. This mitigation action would include seeking funds from FEMA under the HMGP. Emphasis would be given to previously un-funded HMGP applications.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Suburban



08/19/2009

Date of Last CAV⁴

11/07/2018

Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$121K

Category A: Debris
Removal

\$671K

Category B: Protective
Measures

\$2.6M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

6

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

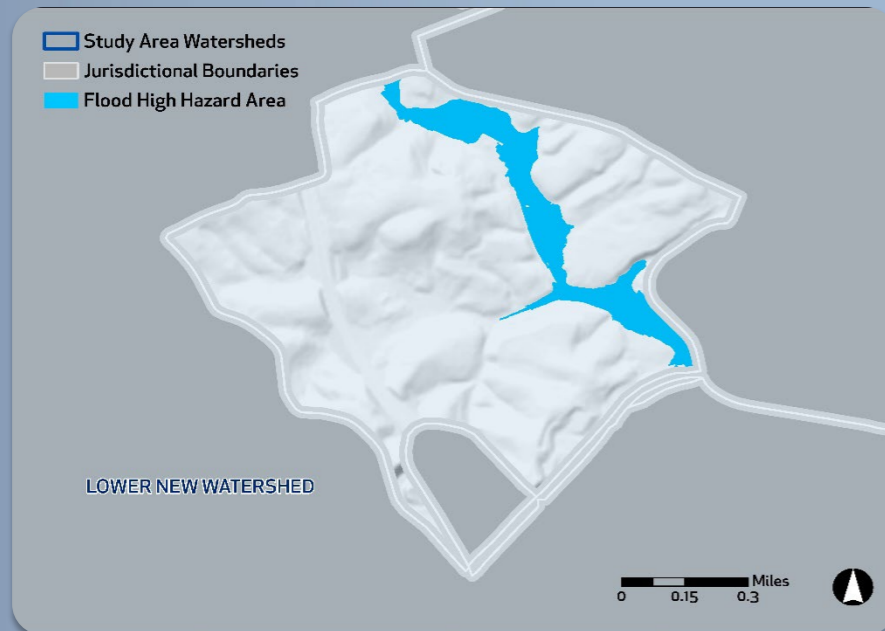
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Mabscott/Raleigh County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



03/04/1985
Initial FIRM¹ date

09/29/2006
Effective FIRM date

\$1.2M
Total paid losses²

43
Total paid claims²

7
Flood insurance policies in force

6
Policies in the effective flood high hazard area

690
Estimated structures in the community

70
Estimated structures in the flood high hazard area

0
Letters of Map Change

27
Flood-related countywide presidential disaster declarations

4
Paid claims outside of the effective flood high hazard area²

\$873K
Repetitive Loss (RL) paid losses²

10
RL properties²

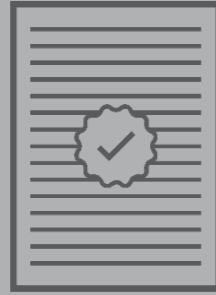
24%
of households spend 30% or more of their income on housing

4%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Mabscott/Raleigh, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Undertake "Stream Maintenance" along White Stick Creek.
- Actively seek funding for and encourage the acquisition, elevation, relocation, and mitigation reconstruction of properties susceptible to hazards including but not limited to flooding.
- Work with current floodplain property owners to acquire their structures. This mitigation action would include seeking funds from FEMA under the HMGP. Emphasis would be given to previously un-funded HMGP applications.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Suburban



08/20/2009
Date of Last CAV⁴

11/07/2018
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$121K

Category A: Debris
Removal

\$671K

Category B: Protective
Measures

\$2.6M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

6

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

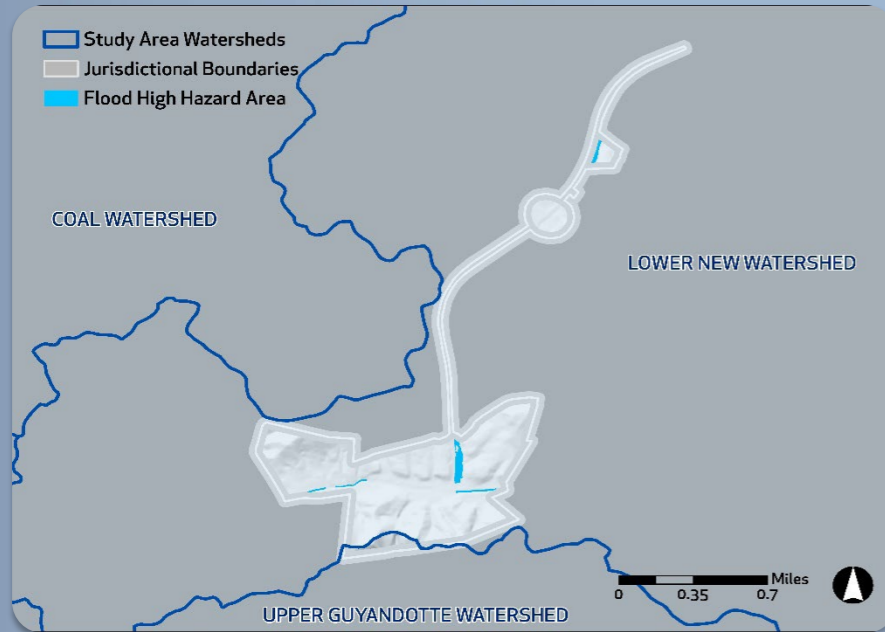
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Sophia/Raleigh County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



04/16/1991
Initial FIRM¹ date

06/16/2009
Effective FIRM date

\$53K
Total paid losses²

18
Total paid claims²

7
Flood insurance policies in force

4
Policies in the effective flood high hazard area

665
Estimated structures in the community

15
Estimated structures in the flood high hazard area

2
Letters of Map Change

27
Flood-related countywide presidential disaster declarations

1
Paid claims outside of the effective flood high hazard area²

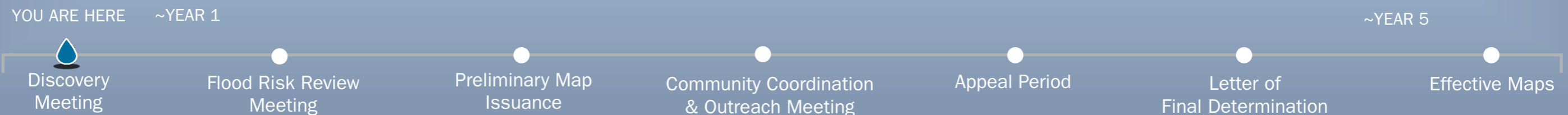
\$29K
Repetitive Loss (RL) paid losses²

1
RL properties²

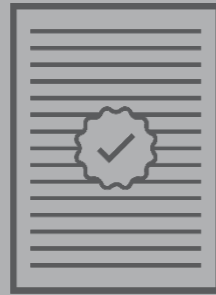
31%
of households spend 30% or more of their income on housing

2%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Sophia/Raleigh, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Seek funding for acquisition of the residential properties along Riffe and Main Streets. These properties are located in the 100-year floodplain.
- Repair and maintain stormwater drain (and/or replace culvert as appropriate) along Valley Road beyond Virginia Street.
- Actively seek funding for and encourage the acquisition, elevation, relocation, and mitigation reconstruction of properties susceptible to hazards including but not limited to flooding.
- Work with current floodplain property owners to acquire their structures. This mitigation action would include seeking funds from FEMA under the HMGP. Emphasis would be given to previously un-funded HMGP applications.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



08/20/2009
Date of Last CAV⁴

11/07/2018
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$121K

Category A: Debris
Removal

\$671K

Category B: Protective
Measures

\$2.6M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

6

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

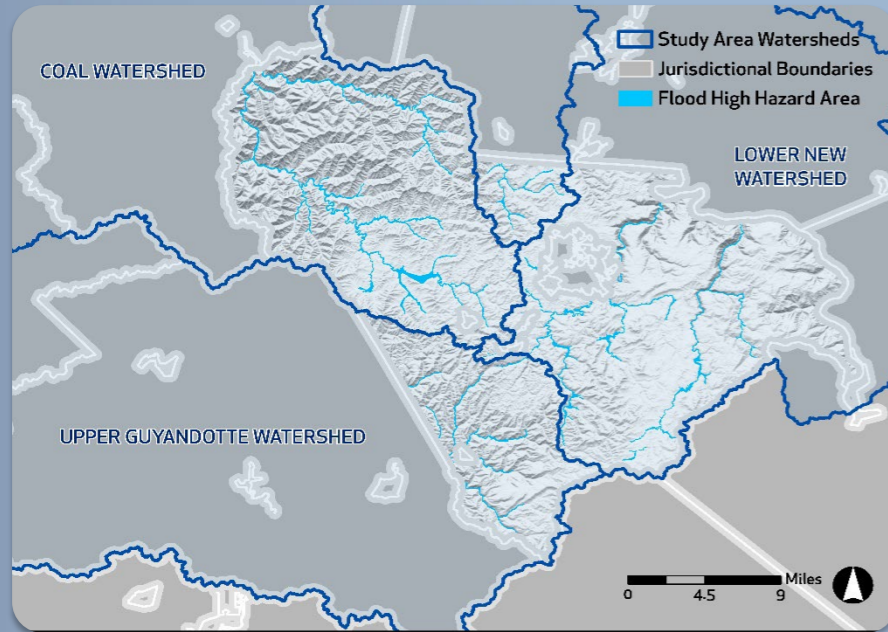
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Raleigh County (Unincorporated Areas)/

Raleigh County, WV **KNOW YOUR RISK** (The information presented below are estimates as of August 2022.)



12/18/1984
Initial FIRM¹ date

06/16/2009
Effective FIRM date

\$2.4M
Total paid losses²

343
Total paid claims²

120
Flood insurance policies in force

86
Policies in the effective flood high hazard area

32,390
Estimated structures in the community

2,455
Estimated structures in the flood high hazard area

53
Letters of Map Change

27
Flood-related countywide presidential disaster declarations

62
Paid claims outside of the effective flood high hazard area²

\$757K
Repetitive Loss (RL) paid losses²

36
RL properties²

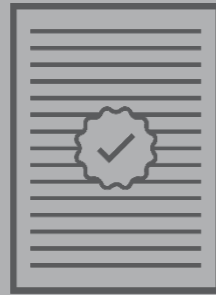
20%
of households spend 30% or more of their income on housing

7%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Raleigh County (Unincorporated Areas)/Raleigh, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Actively seek funding for and encourage the acquisition, elevation, relocation, and mitigation reconstruction of properties susceptible to hazards including but not limited to flooding.
- Minimize flood damage in the special flood hazard area, especially along the Clear Fork, Marsh Fork, Tommy, and White Stick Creeks.
- Work with current floodplain property owners to acquire their structures. This mitigation action would include seeking funds from FEMA under the HMGP. Emphasis would be given to previously un-funded HMGP applications.
- Flood-protecting treatment plants located in the floodplain.
- Develop and distribute public awareness materials about flood risks and preparedness.
- Undertake "Stream Maintenance" along Clear Fork, Marsh Fork, and Tommy Creeks, as well as near Fairdale.
- Secure roadsides against snowslips and landslides along Rock and Slab Fork Creeks. Also, secure parts of State Route 99 and State Route 3. Problem area at Berry Branch near Helen. Heavy flooding has often resulted in landslides caused by an abandoned mine slate dump.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf


Land Use Trend:
Rural


08/18/2009
 Date of Last CAV⁴
08/19/2015
 Date of Last CAC⁴


PARTICIPATING
 in the National Flood
 Insurance Program
NOT PARTICIPATING
 in the Community
 Rating System


 Countywide Public
 Assistance received
\$121K
 Category A: Debris
 Removal

\$671K
 Category B: Protective
 Measures
\$2.6M
 Categories C-G: Permanent
 Work


 Hazard Mitigation
 Assistance Projects
 Countywide
6
 Hazard Mitigation Grant
 Program
0
 Pre-Disaster
 Mitigation
0
 Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

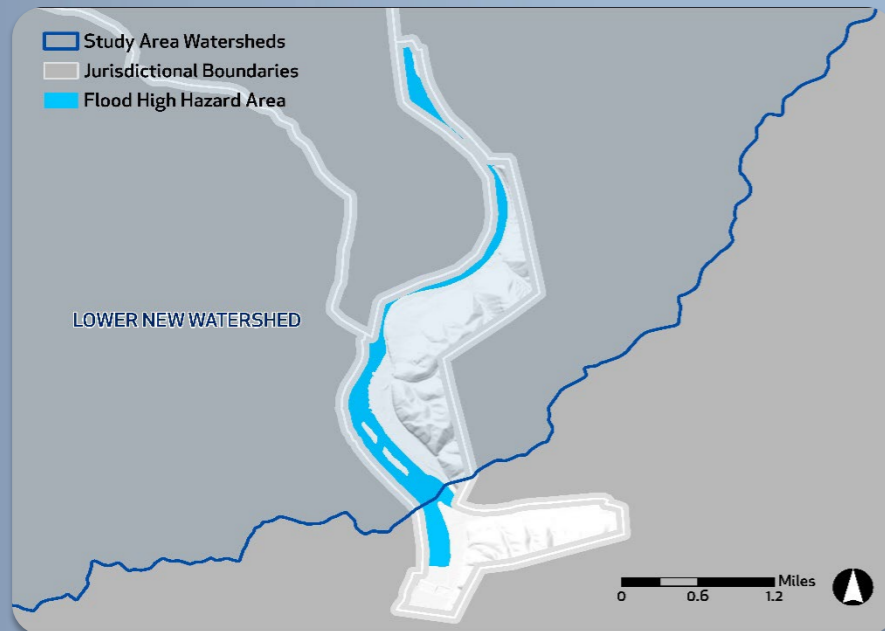

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

City of Hinton/Summers County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)

08/01/1979
Initial FIRM¹ date

10/07/2021
Effective FIRM date




\$299K
Total paid losses²

22
Total paid claims²




11
Flood insurance policies in force

3
Policies in the effective flood high hazard area



1,360
Estimated structures in the community

45
Estimated structures in the flood high hazard area



1
Letters of Map Change



22
Flood-related countywide presidential disaster declarations



8
Paid claims outside of the effective flood high hazard area²




\$267K
Repetitive Loss (RL) paid losses²

4
RL properties²



31%
of households spend 30% or more of their income on housing

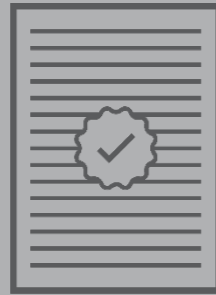


1%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



City of Hinton/Summers, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Increase community education, street fairs disaster kits, and community involvement.
- Participate in HMGP projects.
- Increase participation in Hazard Mitigation Grant Programs.
- Apply for grant funding to acquire, elevate, or relocate structures in hazard-prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



04/22/1991
Date of Last CAV⁴

06/30/2017
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$168K

Category A: Debris
Removal

\$68K

Category B: Protective
Measures

\$375K

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

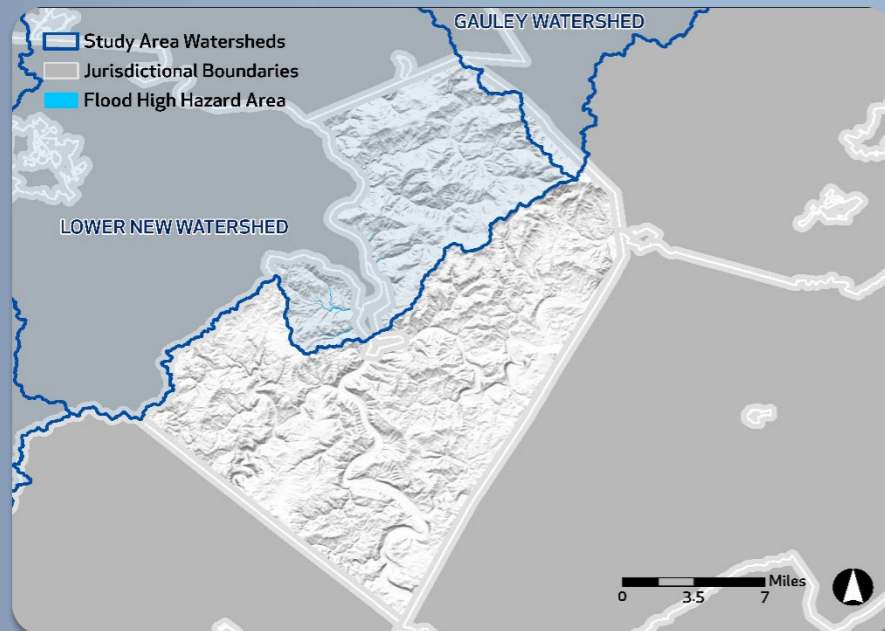
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Summers County (Unincorporated Areas)/

Summers County, WV **KNOW YOUR RISK** (The information presented below are estimates as of August 2022.)



11/05/1980
Initial FIRM¹ date

10/07/2021
Effective FIRM date

\$7.7M
Total paid losses²

444
Total paid claims²

130
Flood insurance policies in force

103
Policies in the effective flood high hazard area

10,240
Estimated structures in the community

35
Estimated structures in the flood high hazard area

14
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

54
Paid claims outside of the effective flood high hazard area²

\$3.1M
Repetitive Loss (RL) paid losses²

105
RL properties²

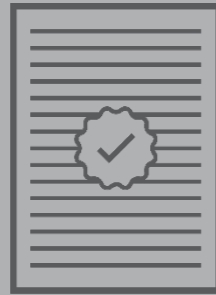
19%
of households spend 30% or more of their income on housing

0%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Summers County (Unincorporated Areas)/Summers, WV



Your Hazard Mitigation Plan expired on **January 31, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Minimize the loss of life, damage to property, and disruption in commerce and governmental services posed by flooding.
- Review existing floodplain management practices, and revise as necessary.
- Increase public awareness of natural hazards and methods available to reduce the possible losses.
- Increase public education efforts: Establish a speaker's bureau available to any interested group, Seasonal public service announcements, conduct public meetings to educate the public regarding natural hazards, Distribute natural hazard literature at public locations such as schools, churches, post offices, etc.
- Take practice measures to remove homes from hazard areas.
- Increase enforcement of floodplain ordinances; implement stricter regulations for floodplain development.
- Increase participation in Hazard Mitigation Grant Programs.
- Apply for grant funding to acquire, elevate, or relocate structures in hazard-prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf


Land Use Trend:
Rural


03/01/2013
Date of Last CAV⁴
06/30/2017
Date of Last CAC⁴


PARTICIPATING
in the National Flood
Insurance Program
NOT PARTICIPATING
in the Community
Rating System


Countywide Public
Assistance received
\$168K
Category A: Debris
Removal

\$68K
Category B: Protective
Measures
\$375K
Categories C-G: Permanent
Work


Hazard Mitigation
Assistance Projects
Countywide
5
Hazard Mitigation Grant
Program
0
Pre-Disaster
Mitigation
0
Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Ansted/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



10/30/1981
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$1.5K
Total paid losses²

3
Total paid claims²

1
Flood insurance policies in force

0
Policies in the effective flood high hazard area

595
Estimated structures in the community

0
Estimated structures in the flood high hazard area

0
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

3
Paid claims outside of the effective flood high hazard area²

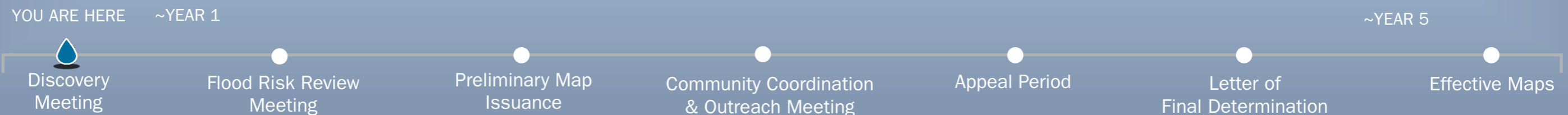
\$0
Repetitive Loss (RL) paid losses²

0
RL properties²

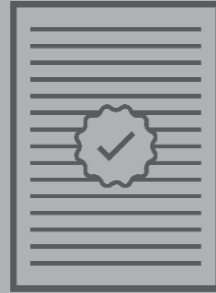
28%
of households spend 30% or more of their income on housing

0%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Ansted/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Identify undersized and inadequate culverts to correct the problem.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



01/31/1990
Date of Last CAV⁴

05/18/2015
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$668K

Category A: Debris
Removal

\$797K

Category B: Protective
Measures

\$3.2M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

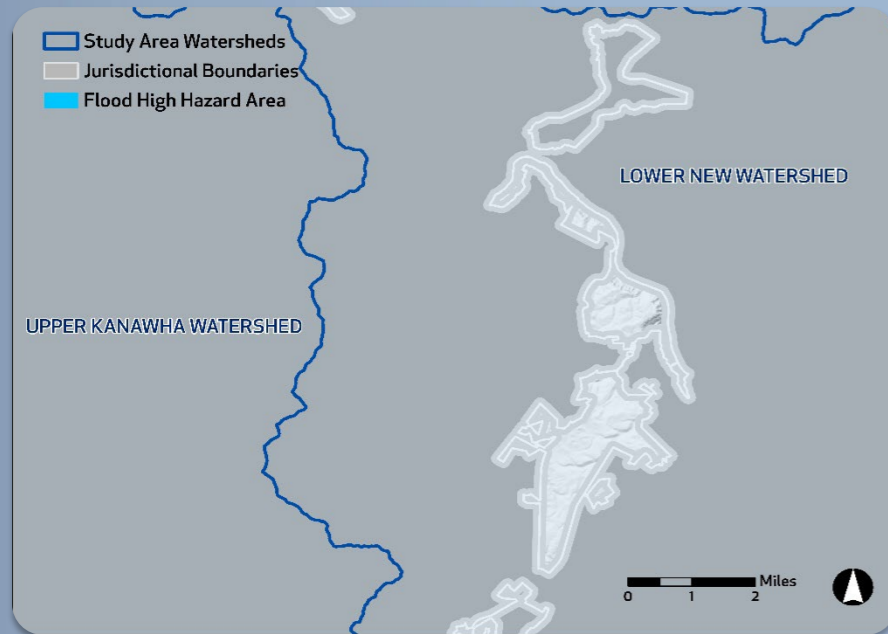
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Fayetteville/ Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



03/04/1988
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$0
Total paid losses²

1
Total paid claims²

5
Flood insurance policies in force

0
Policies in the effective flood high hazard area

1,325
Estimated structures in the community

0
Estimated structures in the flood high hazard area

0
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

1
Paid claims outside of the effective flood high hazard area²

\$0
Repetitive Loss (RL) paid losses²

0
RL properties²

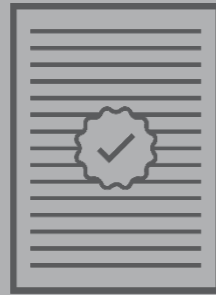
22%
of households spend 30% or more of their income on housing

0%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Fayetteville/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Identify undersized and inadequate culverts to correct the problem.
- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf

Land Use Trend:
Small Town

N/A
Date of Last CAV⁴
07/27/2017
Date of Last CAC⁴

PARTICIPATING
in the National Flood
Insurance Program
NOT PARTICIPATING
in the Community
Rating System

Countywide Public
Assistance received
\$668K
Category A: Debris
Removal
\$797K
Category B: Protective
Measures
\$3.2M
Categories C-G: Permanent
Work

Hazard Mitigation
Assistance Projects
Countywide
5
Hazard Mitigation Grant
Program
0
Pre-Disaster
Mitigation
0
Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

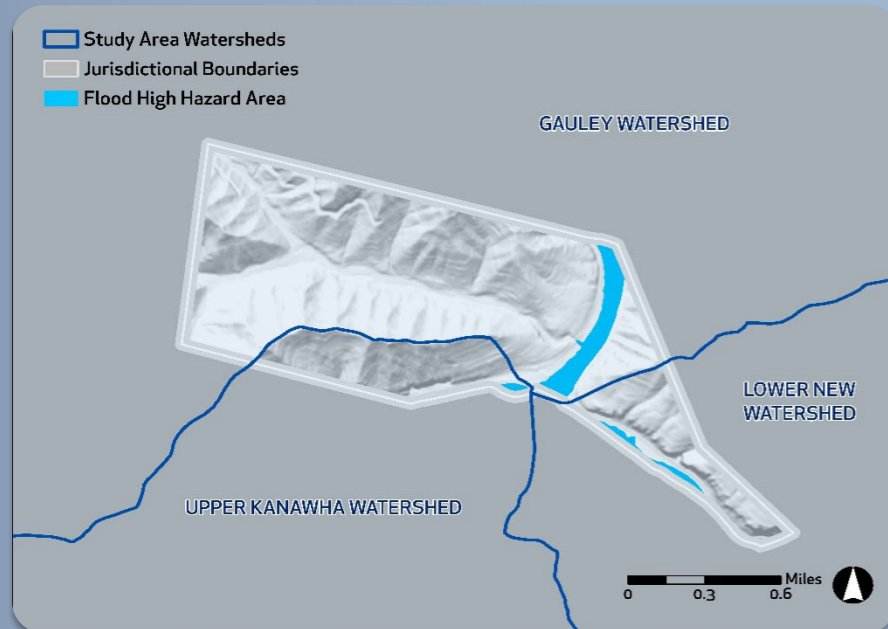
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Gauley Bridge/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



09/18/1991
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$88K
Total paid losses²

9
Total paid claims²

7
Flood insurance policies in force

2
Policies in the effective flood high hazard area

220
Estimated structures in the community

20
Estimated structures in the flood high hazard area

0
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

2
Paid claims outside of the effective flood high hazard area²

\$74K
Repetitive Loss (RL) paid losses²

4
RL properties²

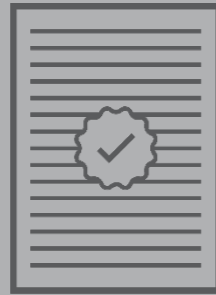
26%
of households spend 30% or more of their income on housing

2%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Gauley Bridge/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



02/01/1990
Date of Last CAV⁴

06/05/2019
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program
NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$668K

Category A: Debris
Removal

\$797K

Category B: Protective
Measures

\$3.2M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

Town of Meadow Bridge/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



01/02/1991
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$7K
Total paid losses²

7
Total paid claims²

10
Flood insurance policies in force

0
Policies in the effective flood high hazard area

245
Estimated structures in the community

30
Estimated structures in the flood high hazard area

0
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

4
Paid claims outside of the effective flood high hazard area²

\$0
Repetitive Loss (RL) paid losses²

0
RL properties²

25%
of households spend 30% or more of their income on housing

11%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



Town of Meadow Bridge/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



01/31/1990
Date of Last CAV⁴

04/22/2015
Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$668K

Category A: Debris
Removal

\$797K

Category B: Protective
Measures

\$3.2M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

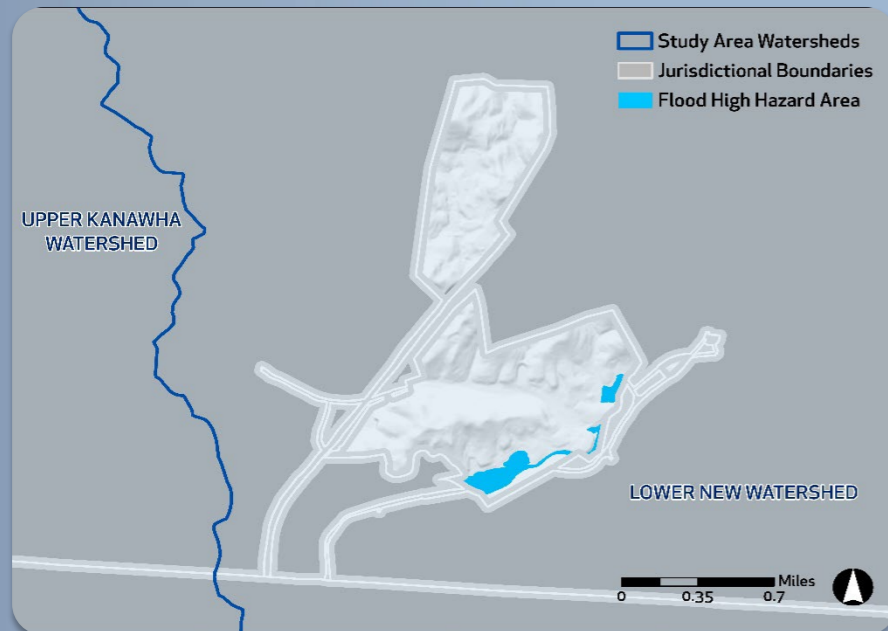
¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

City of Mount Hope/Fayette County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



08/10/1979
Initial FIRM¹ date

09/03/2010
Effective FIRM date

\$290K
Total paid losses²

42
Total paid claims²

6
Flood insurance policies in force

1
Policies in the effective flood high hazard area

645
Estimated structures in the community

130
Estimated structures in the flood high hazard area

1
Letters of Map Change

22
Flood-related countywide presidential disaster declarations

27
Paid claims outside of the effective flood high hazard area²

\$171K
Repetitive Loss (RL) paid losses²

10
RL properties²

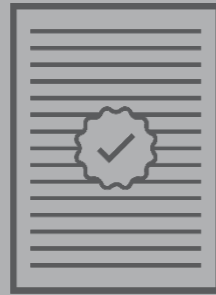
33%
of households spend 30% or more of their income on housing

15%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline



City of Mount Hope/Fayette, WV



Your Hazard Mitigation Plan expired on **February 21, 2022**, and now is the time to update it. Some projects you identified to reduce flood risk in this previous plan include the following:

- Identify undersized and inadequate culverts to correct the problem.
- Develop more in-depth municipal asset list to better understand the value of structures within the town.
- Enforce the floodplain ordinance for all new construction.
- Continue to buy both repetitive and non-repetitive loss properties in flood prone areas.

Find ideas to mitigate flood risk on [fema.gov](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf):
https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



Land Use Trend:
Small Town



01/30/1990

Date of Last CAV⁴

10/24/2017

Date of Last CAC⁴



PARTICIPATING
in the National Flood
Insurance Program

NOT PARTICIPATING
in the Community
Rating System



Countywide Public
Assistance received

\$668K

Category A: Debris
Removal

\$797K

Category B: Protective
Measures

\$3.2M

Categories C-G: Permanent
Work



Hazard Mitigation
Assistance Projects
Countywide

5

Hazard Mitigation Grant
Program

0

Pre-Disaster
Mitigation

0

Flood Mitigation Assistance

NEXT STEPS:

1. Communities should review their Floodplain Management Ordinance and Building Code to ensure alignment with flood risks discussed and identified during Discovery.
2. Stay in contact with FEMA for community mapping and Public Assistance needs.
3. **Long-term Horizon: Possible Flood Risk Review Meeting**

¹ Flood Insurance Rate Map (FIRM)

² Since 1978

³ Community Assistance Visit (CAV) / Community Assistance Contact (CAC)

APPENDIX B | ACRONYMS AND ABBREVIATIONS

ACRONYM	DEFINITION
CAC	Community Assistance Contact
CAV	Community Assistance Visit
CCO	Consultation Coordination Officer
CHHA	Coastal High Hazard Area
CIS	Community Information System
CNMS	Coordinated Needs Management Strategy
CRS	Community Rating System
DR	Presidential Major Disaster Declaration
EM	Presidential Emergency Declaration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance
GIS	Geographic Information System
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
IHP	Individual and Households Program
LiDAR	Light Detection and Ranging
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision
MIP	Mapping Information Platform
MLI	Mid-Term Levee Inventory
MSC	Map Service Center
NFHL	National Flood Hazard Layer
NFIP	National Flood Insurance Program
NRCS	Natural Resources Conservation Service
PDM	Pre-Disaster Mitigation
Risk MAP	Risk Mapping, Assessment, and Planning
SFHA	Special Flood Hazard Area
STN	Short-Term Network
TEIF	Total Exposure in Floodplain
TGA	Targeted Growth Area
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
VDEM	Virginia Department of Emergency Management
WSEL	Water-Surface Elevation

APPENDIX C | REFERENCES

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APPENDIX C | REFERENCES

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APPENDIX D | GLOSSARY

0.2-Percent-Annual-Chance Flood – The flood elevation that has a 0.2-percent chance of being equaled or exceeded each year. Sometimes referred to as the 500-year flood.

1-Percent-Annual-Chance Flood – The flood elevation that has a 1-percent chance of being equaled or exceeded each year. Sometimes referred to as the 100-year flood.

Approximate Stream Miles – Refers to areas mapped with approximate study methods. Approximate study methods show the approximate outline of the base floodplain, but generally do not produce a base flood elevation. These studies are performed in areas with little or no development or expectation of development.

Base Flood Elevation (BFE) – Elevation of the 1-percent-annual-chance flood. This elevation is the basis of the insurance and floodplain management requirements of the NFIP.

Cfs – Cubic feet per second, the unit by which discharges are measured (a cubic foot of water is about 7.5 gallons).

Community Assistance Contact (CAC) – The CAC is a telephone call or brief visit to an NFIP community for the purpose of establishing or re-establishing contact to determine if any program-related problems exist and to offer assistance.

Community Assistance Visit (CAV) – A CAV is a scheduled visit to an NFIP community for the purpose of conducting a comprehensive assessment of the community's floodplain management program. A CAV typically involves a tour of the floodplain, a meeting with local floodplain management officials, a review of the community's floodplain management ordinances, an examination of the community's floodplain development permit and variance files, and a meeting with the community to discuss any identified deficiencies, offer technical assistance, help address any deficiencies, and identify good floodplain management practices.

Comprehensive Plans – Local comprehensive plans, also referred to as master plans or general plans, provide a framework for the physical design and development of a community over a long-term planning horizon.

Critical Facilities – Facilities that, if damaged, would present an immediate threat to life, public health, and safety. Critical facilities may include hospitals, emergency operations centers, police stations, fire stations, and schools.

Dam – An artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material, for the purpose of storage or control of water.

Detailed Stream Miles – Refers to areas mapped with detailed study methods. Detailed studies use hydrologic and hydraulic methods that produce BFEs, floodways, and other pertinent flood data. These studies are performed in developed areas and in areas experiencing rapid growth.

Flood – A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters or (2) the unusual and rapid accumulation or runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM) – An official map of a community, on which FEMA has delineated both the SFHAs and the risk premium zones applicable to the community.

APPENDIX D | GLOSSARY

Flood Insurance Study (FIS) Report – Contains an examination, evaluation, and determination of the flood hazards of a community and, if appropriate, the corresponding water-surface elevations.

Flood Risk – Probability multiplied by consequence; the degree of probability that a loss or injury may occur as a result of flooding. This is sometimes referred to as flood vulnerability.

Floodplain – The land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding.

Floodplain Boundary Tie-Ins – Refers to the contiguity of floodplain boundaries along the edges of the Risk MAP project study area. Areas where a significant mismatch, gap, or overlap is identified must be addressed to create a seamless transition.

Freeboard – A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. “Freeboard” tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

Hazard Mitigation Plan (HMP) – A community’s HMP documents the findings of its risk assessment and the long-term strategies it will pursue to reduce the effects of disasters on people, property, and the environment.

HEC-RAS – A computer modeling software used to conduct a hydraulic study, which produces flood elevations, velocities, and floodplain widths.

Letter of Map Amendment (LOMA) – One type of LOMC. Typically, a LOMA is issued when the scale of the FIRM does not allow for small areas of natural high ground to be shown outside the SFHA.

Letter of Map Change (LOMC) – A letter that reflects an official revision and/or an amendment to an effective FIRM, which has various uses. If a property owner thinks their property has been inadvertently mapped in an SFHA, property owners or their representatives may submit a request to FEMA for a LOMC. In another use, FEMA issues LOMCs in place of physically revising an effective FIRM.

Letter of Map Revision (LOMR) – One type of LOMC. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective BFEs, or the SFHA. The LOMR officially revises the FIRM.

Levee – A human-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to reduce risk from temporary flooding.

Light Detection and Ranging (LiDAR) – A remote sensing technology that produces highly accurate and dense elevation data. FEMA uses LiDAR data to create digital elevation models for hydraulic modeling of floodplains, digital terrain maps, and other NFIP products.

National Flood Insurance Program (NFIP) – The program of flood insurance coverage and floodplain management administered under the National Flood Insurance Act of 1968 and any amendments to it, and

APPENDIX D | GLOSSARY

applicable Federal regulations promulgated in Title 44 of the Code of Federal Regulations, Subchapter B.

Orthophotography – Orthophotography data typically are high-resolution aerial images that combine the visual attributes of an aerial photograph with the spatial accuracy and reliability of a planimetric map.

Redelineated Stream Miles – Refers to areas that are remapped using more detailed topographic data than that used to prepare the effective FIRM. Redelineation is a useful technique for updating flood hazard information when effective discharges and BFEs appear accurate, but the SFHA seems inaccurate.

Repetitive Loss (RL) Building – Any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period, since 1978. An RL property may or may not be currently insured by the NFIP.

Risk Mapping, Assessment, and Planning (Risk MAP) – A FEMA strategy to work collaboratively with State, local, and Tribal entities to deliver quality flood data that increases public awareness and leads to action that reduces risk to life and property.

Riverine – Of, or produced by, a river. Riverine floodplains have readily identifiable channels.

Special Flood Hazard Area (SFHA) – Portion of the floodplain subject to inundation by the 1-percent-annual-chance or base flood.

Stafford Act – Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288. This Act constitutes the statutory authority for most Federal disaster response activities, especially as they pertain to FEMA and FEMA programs.

Substantial Damage – Damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Total Exposure in Floodplain (TEIF) – An analysis of the total potential economic losses (exposure) in the SFHA.

Watershed – An area that drains into a lake, stream, or other body of water.

Zone A – Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Zone AE – Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Zone AO – Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements

APPENDIX D | GLOSSARY

and floodplain management standards apply. Some Zone AO have been designated in areas with high flood velocities such as alluvial fans and washes. Communities are encouraged to adopt more restrictive requirements for these areas.

Zone AH – Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. BFEs derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

APPENDIX E | ADDITIONAL DATA

a. Data Collection for the Lower New Watershed

Data Types	Deliverable/Product	Source
Average Annual Loss	Discovery Map Geodatabase	FEMA's Hazus Average Annualized Loss Viewer
Boundaries: Community	Discovery Map Geodatabase	Flood Insurance Rate Map (FIRM) Databases
Boundaries: County and State	Discovery Map Geodatabase	U.S. Census
Boundaries: Watershed	Discovery Map Geodatabase	U.S. Geological Survey (USGS)
Census Blocks	Discovery Map Geodatabase	U.S. Census
Comprehensive Plan Summary	Discovery Report, Community Dashboards	City, County, and Town Planning Commissions
CRS Participation	Discovery Report, Community Dashboards	FEMA Community Information System (CIS)
Dams	Discovery Map Geodatabase, Discovery Report, Community Dashboard	U.S. Army Corps of Engineers (USACE) National Dam Inventory
Declared Disasters	Discovery Report, Community Dashboards	Disaster Declaration Database
Effective Floodplains: Special Flood Hazard Areas (SFHAs)	Discovery Map Geodatabase	FEMA's National Flood Hazard Layer (NFHL) from the Flood Map Service Center (MSC)
Hazard Mitigation Assistance Grants	Discovery Report, Community Dashboards	FEMA Region III's Database
Identified Mitigation Actions	Discovery Map Geodatabase, Discovery Report, Community Dashboard	Planning District Commission Hazard Mitigation Plans
Individual Assistance	Discovery Report	FEMA Individuals and Households Program Database
Letters of Map Change	Discovery Map Geodatabase, Discovery Report, Community Dashboard	FEMA's Mapping Information Platform (MIP)
Levee Inventory	Discovery Map Geodatabase, Discovery Report, Community Dashboard	FEMA's National Levee Inventory Map
Mitigation Plan Status and Summary	Discovery Report, Community Dashboard	Planning District Commissions
National Hydrography Stream Data	Discovery Map Geodatabase	FEMA's NFHL
NFIP Participation	Discovery Report, Community Dashboard	CIS
Population and Socioeconomic Characteristics	Discovery Report, Community Dashboard	U.S. Census Bureau
Public Assistance	Discovery Report	FEMA Public Assistance Database
Stream Gages	Discovery Map Geodatabase, Discovery Report, Community Dashboard	USGS
Structures	Discovery Map Geodatabase, Community Dashboard	FEMA's NFHL
Study Needs: FEMA	Discovery Map Geodatabase, Discovery Report	CNMS
Topography	Discovery Map Geodatabase	See Table b.
Total Exposure in Floodplain (TEIF)	Discovery Map Geodatabase, Discovery Report	Region III TEIF Database
Transportation: Roads and Railroads	Discovery Map Geodatabase	U.S. Census

APPENDIX E | ADDITIONAL DATA

b. List of Topographic Data Sources by County

County or City	Source	Date	Website
Fayette County	2018 FEMA Region III Southcentral (Central Lot) QL2 LiDAR	2018	Pending
Fayette County	2016 FEMA Region III 3DEP WV East	2016	http://data.wvgis.wvu.edu/elevation/
Greenbrier County	2016 FEMA Region III 3DEP WV East	2016	http://data.wvgis.wvu.edu/elevation/
Mercer County	2012 FEMA VA LiDAR Eastern Panhandle	2012	http://data.wvgis.wvu.edu/elevation/
Mercer County	2016 FEMA Region III 3DEP WV East	2016	Pending
Raleigh County	2016 FEMA Region 3DEP WV East QL 2 LiDAR	2016	http://data.wvgis.wvu.edu/elevation/
Raleigh County	2018 FEMA South Central WV (Central Lot) QL2 LiDAR	2018	Pending
Summers County	2016 FEMA Region III 3DEP WV Northeast	2016	http://data.wvgis.wvu.edu/elevation/

c. Results of CNMS Showing Flood Study Validity

County or City	Detailed Study Stream Mileage			Approximate Study Stream Mileage			Redelineated Study Stream Mileage		
	Unverified	Unknown	Valid	Unverified	Unknown	Valid	Unverified	Unknown	Valid
Fayette County	2.99	0	0	55.57	0	0	0	0	2.96
Greenbrier County ¹	0	0	0	0	0	0	0	0	0
Raleigh County	14.42	0	8.38	64.81	0	0	26.41	0	26.69
Summers County	11.03	0	11.26	0	0	2.35	0	0	0
Total	28.44	0	19.64	120.38	0	2.35	26.41	0	29.66

¹County has no streams within the watershed

Valid: Study is accurate per known data
 Unknown: Validity needs to be assessed
 Unverified: Study needs to be updated

APPENDIX E | ADDITIONAL DATA

d. Dams in the Watershed by County

County	Total
Fayette County	8
Raleigh County	10
Summers County	0
Total	18

e. Levees in the Watershed by County

County	Total
Fayette County	0
Raleigh County	0
Summers County	0
Total	0

f. Stream Gage Information

Gage ID	Gage Location	County	Years of Record
01559790	Raystown Branch Juniata River at Wolfsburg, PA	Bedford	0
03184500	New River At Hinton, WV	Summers	84
03185000	Piney Creek At Raleigh, WV	Raleigh	49
03185400	New River At Thurmond, WV	Fayette	40
03185020	L. Beaver C. Trib Nr Shady Springs, WV	Summers	12
03185500	New River At Caperton	Fayette	30
03186000	New River At Fayette	Fayette	36
380649081083301	New River Below Hawks Nest Dam, WV	Fayette	15*

* Only gage height data available

APPENDIX E | ADDITIONAL DATA

g. County Border Special Flood Hazard Area Floodplain Boundary Tie-In Issues

County Border	Issue/Problem	Stream Reach	Latitude	Longitude
Fayette-Raleigh	Flood Zones Mismatched	Mill Creek	37° 52' 51.357" N	81° 9' 11.398" W
Fayette-Raleigh	Flood Zones Misaligned	New River	37° 52' 33.140" N	81° 4' 26.172" W
Fayette-Raleigh	Flood Zones Mismatched	New River	37° 49' 5.657" N	80° 56' 40.677" W
Raleigh-Summers	Flood Zones / BFEs Misaligned	New River	37° 42' 48.856" N	80° 53' 51.571" W
Raleigh-Summers	Flood Zones / BFEs Misaligned	New River	37° 46' 52.934" N	80° 54' 45.127" W
Fayette-Summers	Flood Zones Mismatched	Meadow Creek	37° 50' 59.586" N	80° 51' 33.765" W
Raleigh-Mercer	Pol_Ar Gaps/Overlaps	McKinney Branch	37° 35' 26.684" N	81° 6' 38.735" W

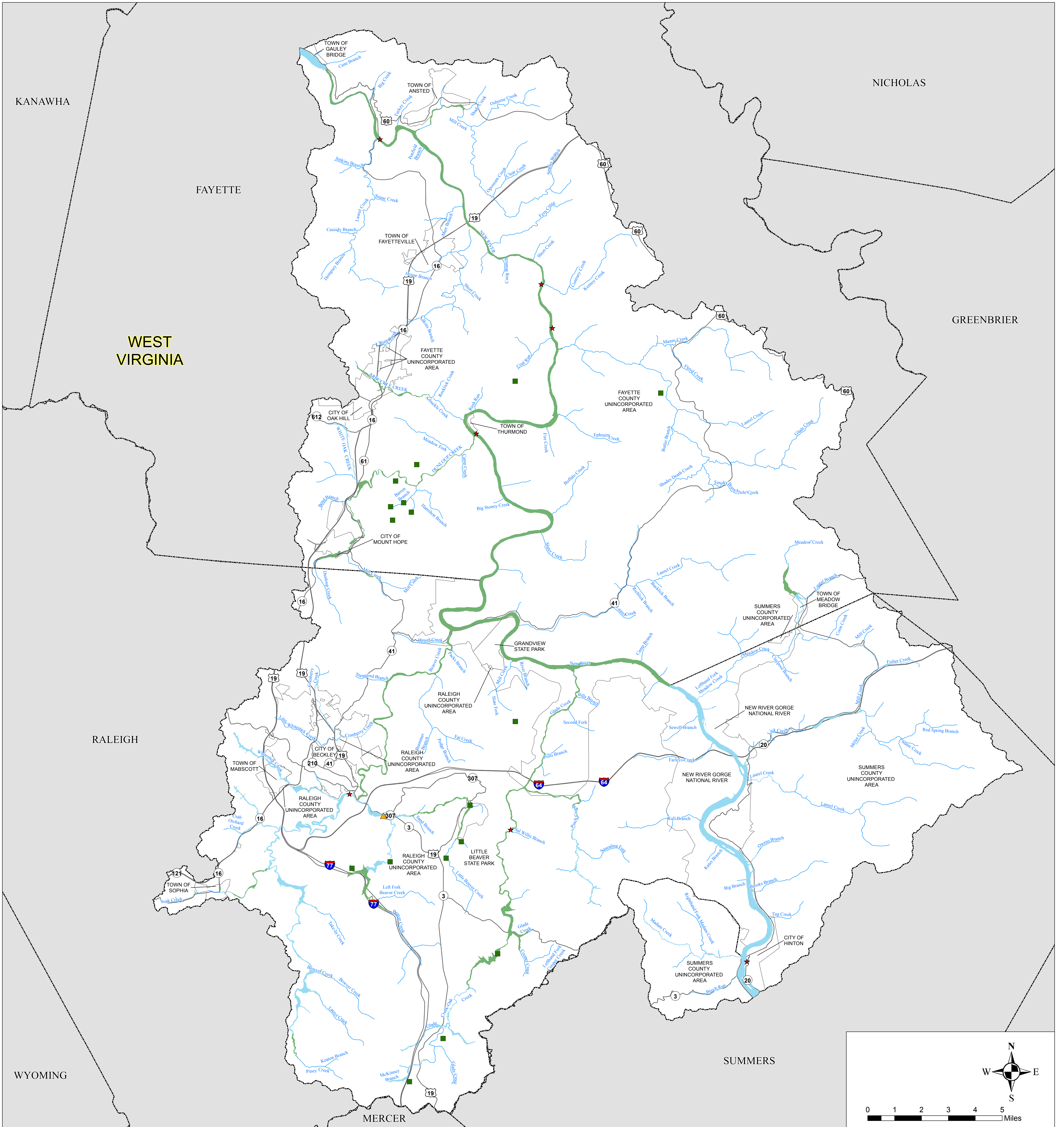
APPENDIX E | ADDITIONAL DATA

h. LOMCs Identified in the Watershed by Jurisdiction

Jurisdiction	Number of Letters of Map Amendment	Number of Letters of Map Revision	Number of Letters of Map Change
Fayette County	4	0	4
Town of Ansted	0	0	0
Town of Fayetteville	0	0	0
Town of Gauley Bridge	0	0	0
Town of Meadow Bridge	0	0	0
City of Mount Hope	1	0	1
City of Oak Hill	1	0	1
Town of Thurmond	0	0	0
Raleigh County	13	1	14
City of Beckley	1	0	1
Town of Mabscott	0	0	0
Town of Sophia	2	0	2
Summers County	2	0	2
City of Hinton	1	0	1
Total	25	1	26

APPENDIX F | DISCOVERY MAPS

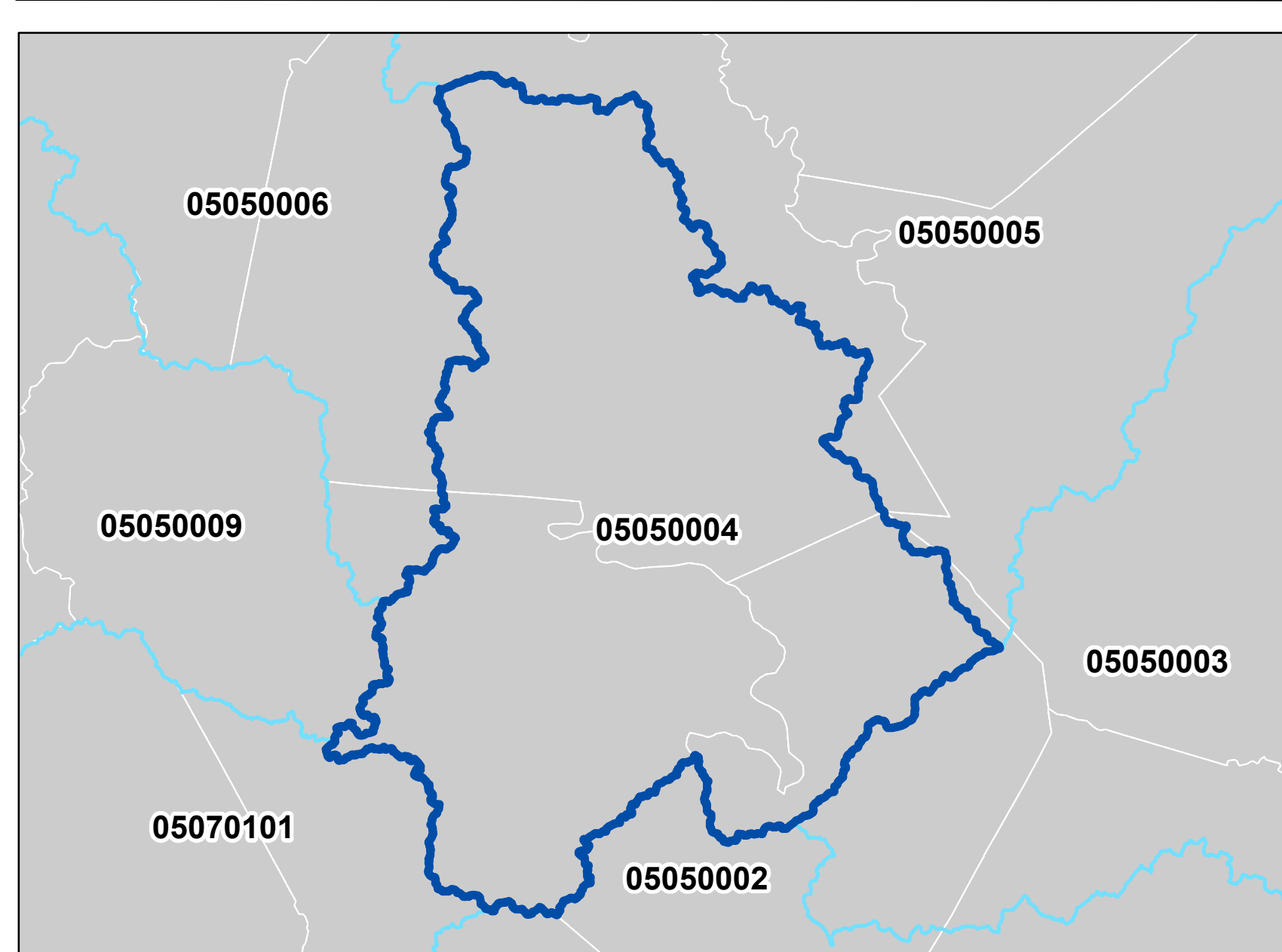
Flood Risk: Lower New Watershed



MAP SYMBOLOGY

- | | |
|---|----------------------------------|
| Zone A (Approximate 1% Annual Chance) | Watershed Boundary |
| Zone AE (Detailed 1% Annual Chance) | State Boundary |
| Dam (National Inventory of Dams) | Municipal Boundary |
| LOMC (Letter of Map Change) Clusters (4+) | County Boundary |
| USGS Stream Gage | Stream Line |
| | Major Road and Highway |
| | Levee (National Levee Inventory) |

WATERSHED LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD RISK DISCOVERY MAP

LOWER NEW WATERSHED

Study Area:
 FAYETTE COUNTY, WV
 SUMMERS COUNTY, WV
 RALEIGH COUNTY, WV



FEMA

HUC-8 Code
 05050004
 RELEASE DATE
 JANUARY 2024

Potential Loss: Lower New Watershed



MAP SYMBOLOGY

- Watershed Boundary
 - State Boundary
 - Municipal Boundary
 - County Boundary
 - Stream Line
 - Major Roads and Highways
- Total Exposure in Floodplain (TEIF) Loss (per census block):**
- Very Low
 - Low
 - Medium
 - High
 - Very High

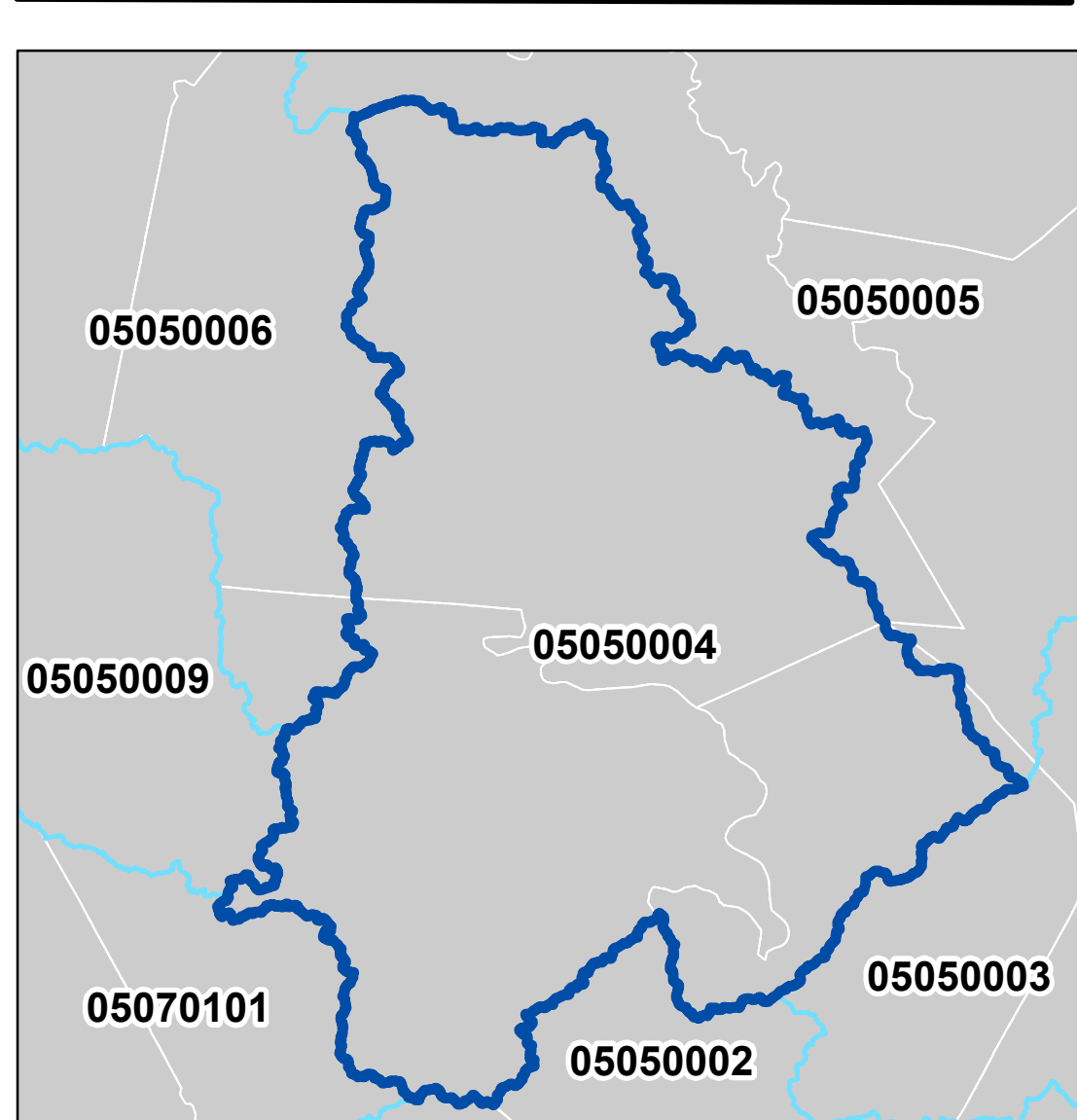
NUMBER OF REPETITIVE LOSSES

Fayette County		
Raleigh County		
Summers County		
Ansted, Town Of		
Beckley, City Of		
Fayetteville, Town Of		
Gauley Bridge, Town Of		
Hinton, City Of		
Oak Hill, City Of		
Mabscott, Town Of		
Meadow Bridge, Town Of		
Mount Hope, City Of		
Sophia, Town Of		
Thurmond, Town Of		

NUMBER OF FLOOD INSURANCE POLICIES

Fayette County		
Raleigh County		
Summers County		
Ansted, Town Of		
Beckley, City Of		
Fayetteville, Town Of		
Gauley Bridge, Town Of		
Hinton, City Of		
Oak Hill, City Of		
Mabscott, Town Of		
Meadow Bridge, Town Of		
Mount Hope, City Of		
Sophia, Town Of		
Thurmond, Town Of		

WATERSHED LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

POTENTIAL LOSS DISCOVERY MAP

LOWER NEW WATERSHED

Study Area:
 FAYETTE COUNTY, WV
 SUMMERS COUNTY, WV
 RALEIGH COUNTY, WV

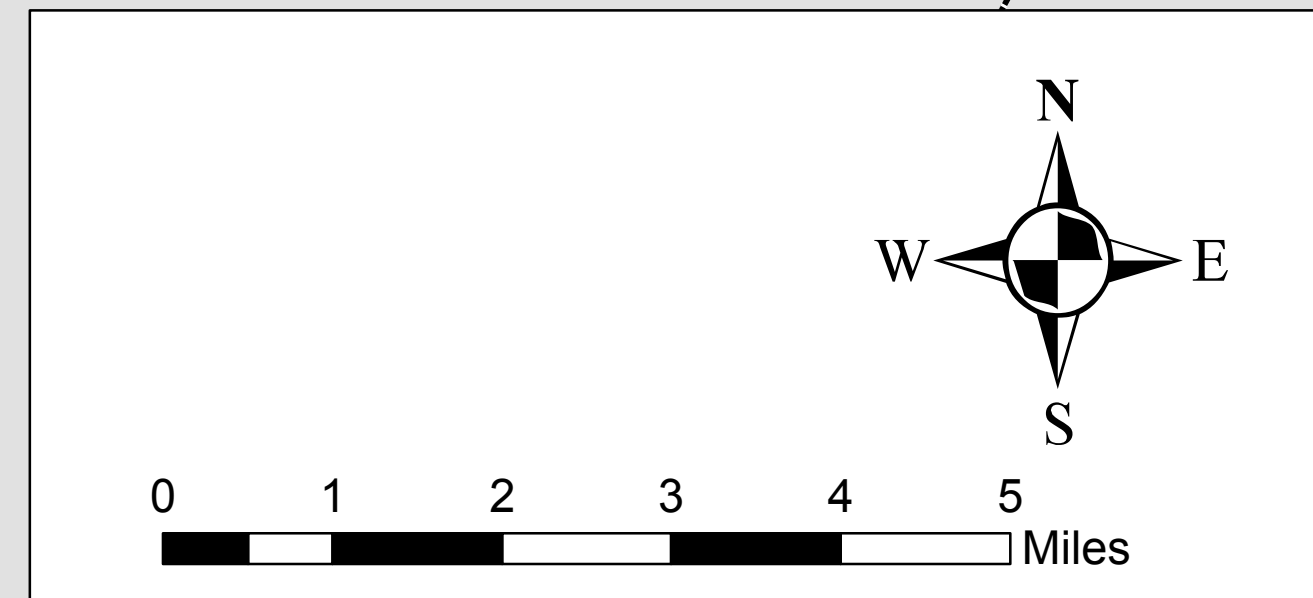
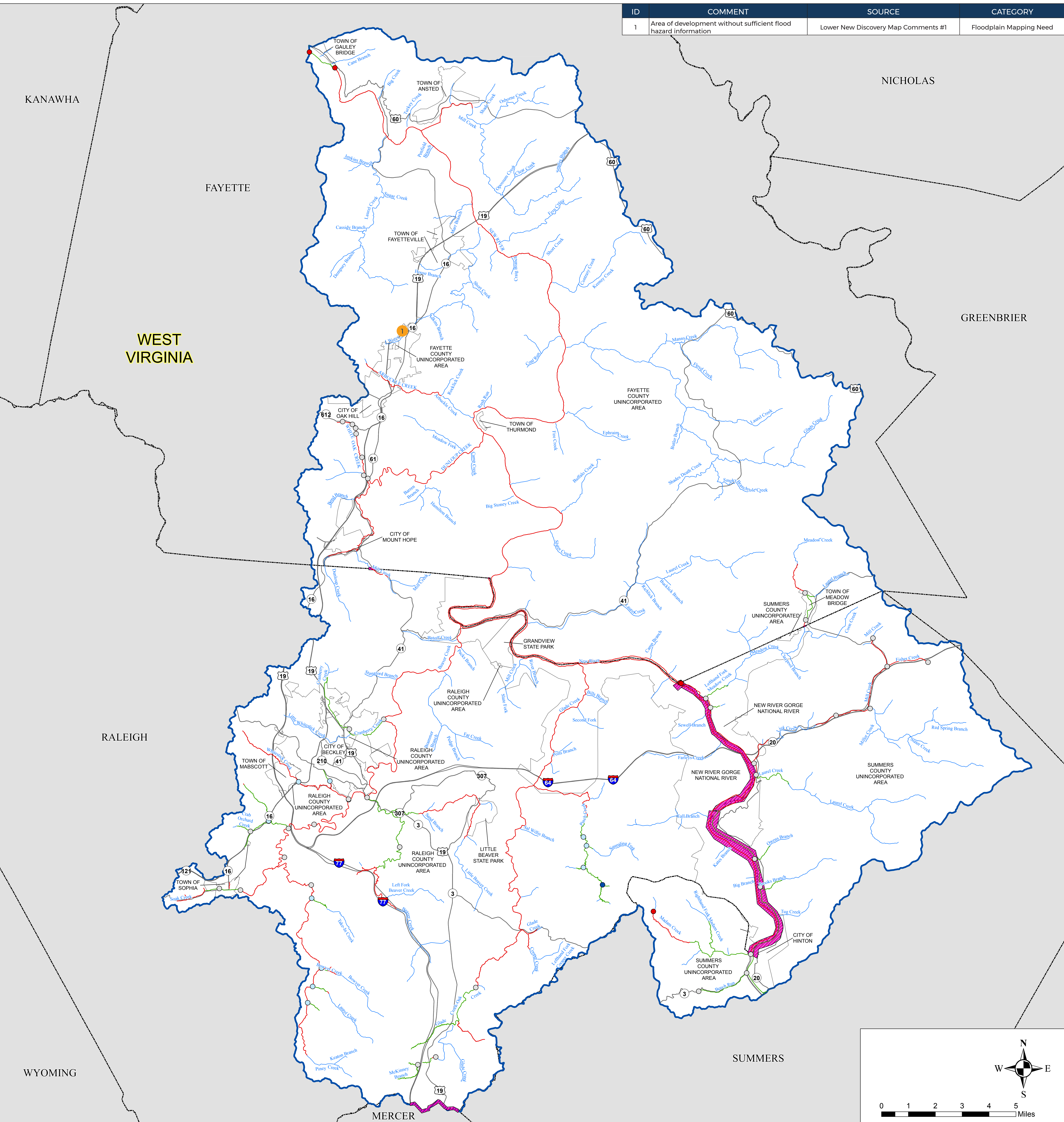


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 05050004
 RELEASE DATE
 JANUARY 2024

Mapping Needs: Lower New Watershed

ID	COMMENT	SOURCE	CATEGORY
1	Area of development without sufficient flood hazard information	Lower New Discovery Map Comments #1	Floodplain Mapping Need



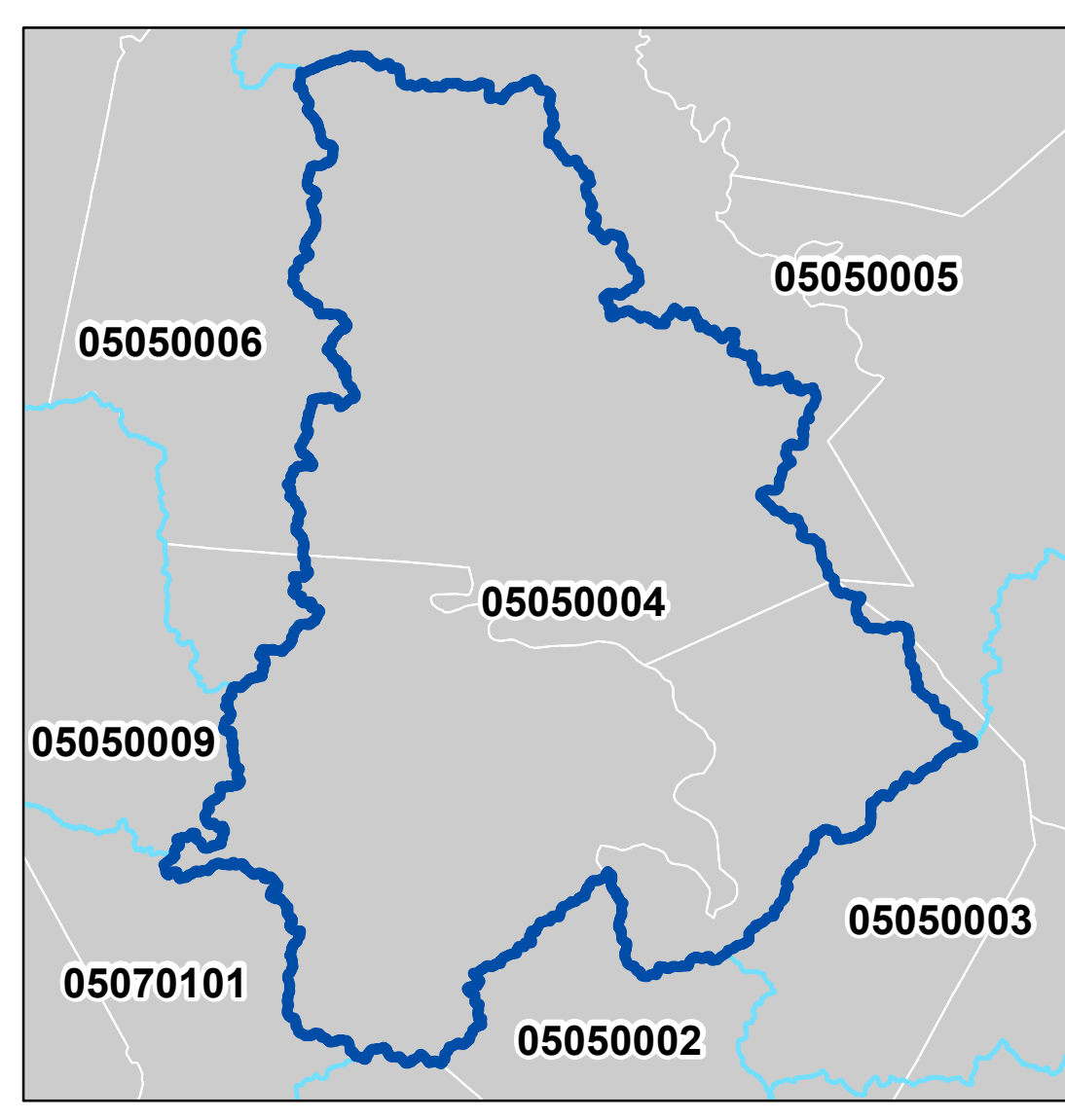
MAP SYMBOLOGY

- Coordinated Needs Management Strategy (CNMS) Validation Status
 - NVUE COMPLIANT (Green line)
 - TO BE STUDIED (Red line)
- Other
 - Watershed Boundary (Blue outline)
 - State Boundary (Yellow outline)
 - Municipal Boundary (Grey outline)
 - County Boundary (Black outline)
 - Stream Line (Blue line)
 - Major Road and Highway (Black line)
 - Special Flood Hazard Area (Pink shaded area)
 - Matching Issues (Dashed lines)
- FIS Discharge Standard Deviation from Regression Equation
 - 2 (Red circle)
 - 1 (Pink circle)
 - 0 (White circle)
 - 1 (Green circle)
 - 2 (Blue circle)

ELEVATION DATA AVAILABLE FOR LOWER NEW WATERSHED

- USGS acquired FEMA South Central WV Lidar for Fayette County and Raleigh County in 2018.
- USGS acquired FEMA Region III East Lidar for Fayette, Greenbrier County and Summers County in 2016.
- USGS acquired FEMA VA LiDAR Eastern Panhandle Lidar for Mercer County County in 2012.
- USGS acquired 3DEP WV East QL 2 Lidar for Raleigh County County in 2016
- USGS acquired 3DEP WV Northeast Lidar for Summers County County in 2016

WATERSHED LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

MAPPING NEEDS DISCOVERY MAP

LOWER NEW WATERSHED

Study Area:
 FAYETTE COUNTY, WV
 SUMMERS COUNTY, WV
 RALEIGH COUNTY, WV



FEMA

HUC-8 Code
05050004
 RELEASE DATE
JANUARY 2024

APPENDIX G | MEETING MINUTES

MEETING SYNOPSIS:

GAULEY & LOWER NEW WATERSHEDS FLOOD RISK DISCOVERY MEETING

Meeting Details

Date	07/26/2023		Time	10:00 a.m. - 12:00 p.m.
Watershed	Lower New		Location	New River Convention Center, 497 Mall Road, Oak Hill, WV 25901
Total Community Sign-Ins	5		Communities Represented	Fayette County, City of Oak Hill, Town of Ansted, Minden Community
Total Non-Community Sign-Ins <i>(e.g., Federal, State, Regional organizations or NGOs)</i>	7		Entities Represented	Federal: FEMA Region III State: WV State NFIP Regional: Region I PDC
Format	The meeting opened with a formal presentation/slide-show followed by a Discovery Map review and comment exercise.		Materials Shared	<ul style="list-style-type: none"> • Agenda • PowerPoint Presentation: Agenda, Introductions, the NFIP and Flood Risk Data, Project Area Overview, Risk MAP Program and Discovery Overview, Reducing Risk in Communities, Next Steps, Watershed Discovery Maps, Risk and Action Identification Exercise • Discovery Maps: Flood Risk, Mapping Needs, Potential Loss • Community Dashboards



FEMA

Gauley and Lower New Watersheds Flood Risk Discovery Meeting Minutes

Wednesday, July 26, 2023
10:00 a.m. – 12:00 p.m.

497 Mall Road, Oak Hill, WV 25901

Welcome and Introductions

- Introductions were made for the presenters of the meeting:
 - Crystal Smith, Program Specialist
 - Andrew Jackson, Civil Engineer, FAC-COR Level III
 - Tim W. Keaton, State NFIP/CTP Coordinator
- Agenda Overview
 - Welcome and Overview
 - The National Flood Insurance Program and Flood Risk Data
 - Flood Risk Study Project and Discovery Overview
 - Reducing Flood Risk in Communities
 - Next Steps
 - Risk and Action Identification Exercise

Presentation

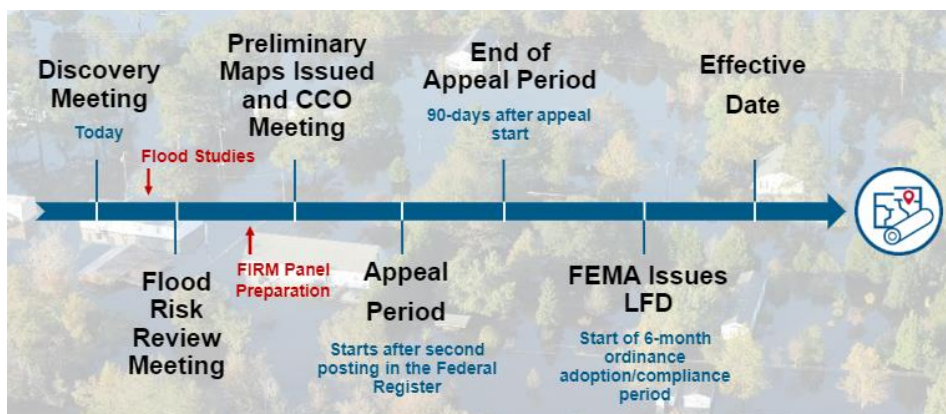
See the presentation for the slides that align with the notes throughout this section.

The National Flood Insurance Program and Flood Risk Data

- An overview was provided of the National Flood Insurance Program (NFIP), which allows property owners to purchase flood insurance at a reduced rate when communities adopt and enforce floodplain management ordinances based on current flood maps.
- Over 22,616 communities participate in the NFIP, with over 5 million policies.
- Over 5 million policies in the NFIP nationwide, >14,700 in WV
- Flood Risk Data for West Virginia can be accessed by the following platforms:
 - The West Virginia Flood Tool at www.mapwv.gov/flood
 - FEMA's Flood Map Service Center (MSC) at <https://msc.fema.gov/portal/home>
 - National Flood Hazard Layer (NFHL) at <https://www.fema.gov/flood-maps/national-flood-hazard-layer>

Flood Risk Study Project and Discovery Overview

- The goal of the Risk MAP program is to deliver quality flood hazard data that helps communities increase public awareness and leads to action that reduces risk to life and property.
- FEMA has decided to update the existing maps due to factors such as the recent availability of high-resolution elevation data (Light Detection and Ranging [LiDAR]), the advanced age of effective flood studies for non-coastal areas, new hydrologic calculations, affordable model-backed Zone A flood studies, and ability to provide new flood risk products.
- Many different types of data are collected and analyzed before the Discovery meeting, including:
 - Watershed and Jurisdiction Boundaries
 - Dams and Levees
 - Stream Data
 - Declared Disasters
 - Effective Floodplains: Special Flood Hazard Areas
- The typical Risk MAP project takes an average of 3-5 years to complete.



- The goal of the Discovery phase is to share information to communities and learn about flood risk and mitigation activities and capabilities.
- Outcomes of the Discovery process include a Discovery report, Discovery maps, and identification of potential study areas.

Reducing Flood Risk in Communities

- Specialized flood risk dashboards are available and will be distributed to each community within the four watersheds being studied. These dashboards provide communities with a snapshot of their flood risk as well as their financial risk.
- Ways a community can improve their resilience to flooding were shared, including:
 - Improving and implementing Hazard Mitigation Plans
 - Influencing decisions about development, ordinances, and flood mitigation projects
 - Communicating with citizens about flood risk

- Implementing hazard mitigation actions can save communities money in the long run. By implementing higher standards in a floodplain management ordinance, communities can experience a benefit-cost ratio of \$5: \$1. Additionally, for every \$1 spent on federally funded actions that reduce riverine flood risk, \$7 is saved.

Next Steps

- Information provided by communities is crucial to the Risk MAP process. Requested information includes:
 - Completed Discovery data questionnaire, with GIS contact
 - Areas of Concern
 - Areas of historical flooding and other flood risks
 - Mitigation projects addressing flood risks
 - Ideas about ways to increase resilience

Closing

Project contacts were provided to meeting attendees, and meeting concluded with a Discovery Map review and comment exercise.

Action Items

1. Participants will:
 - a. Complete and submit Discovery data questionnaires to FEMA, with GIS contact information
 - b. Provide areas of concern, including areas of recent or planned development and areas of high growth or other significant land changes
 - c. Provide information about areas of historical flooding and other flood risks
 - d. Provide information about mitigation projects that address flood risks
 - e. Provide ideas to increase their community's resilience to flooding, such as training, cost-efficient mitigation, and integration with hazard mitigation planning
2. FEMA and Partners will:
 - a. Have follow-up discussions with communities regarding areas to be updated
 - b. Provide a copy of the final Discovery report and meeting materials to all meeting participants and communities

Contacts

FEMA Region III

Andrew Jackson
Civil Engineer
Andrew.Jackson4@fema.dhs.gov
202-718-2755

Elizabeth Ranson
Mitigation Planning
Elizabeth.Ranson@fema.dhs.gov
215-347-0686

State Partners

Timothy W. Keaton
State NFIP/CTP Coordinator
Tim.W.Keaton@wv.gov
304-414-7659

Kurt Donaldson
WVGISTC Manager
Kurt.Donaldson@mail.wvu.edu
304-293-9467

Mapping Partners

Crystal Smith
Stakeholder Engagement Specialist
Crystal.Smith@wsp.com

Madison Matera
Stakeholder Engagement Specialist
Madison.Matera@wsp.com

Questions/Comments

Question: WV has advisory flood heights, are they incorporated?

Answer: YES, the tool is one of the best in the nation!

Question: Are Elevation Certificates something that should be sent to FEMA/State and will they be beneficial

Answer: They are beneficial, we are looking for more areas where new development or projects will impact flood elevations as well as any areas that look different from what you have experienced

Question: Should we do LOMAs right now, since they may no longer be valid with new data?

Answer: You can still move forward with LOMAs

Question: There are areas in Oak Hill that are A, can they be converted to AE?

Answer: Yes possibly, show us the areas on the maps and we will make note of this request

Question: What about Mitigation Plans?

Answer: Mitigation plans can be amended, but they need to be readopted if amended

Question: Can we get CRS points for building something acceptable on the buyout list of properties and what is the process?

Answer: You would need to create a site plan and also get FEMA's advance approval

APPENDIX H | MEETING ATTENDANCE RECORD



FEMA

Discovery Meeting – Gauley and Lower New Watersheds

Date / Time: July 26 – 10am

Location: New River Convention Center - 497 Mall Road, Oak Hill, WV 25901

First Name	Last Name	Affiliation	Email	Sign-In
Justin	Watkins	Region I PDC	Justin@regiononepdc.org	
Robert	Wilson	Town of Ansted	Rtwilson55@gmail.com	
Allen	Ballard	Fayette County	Allenballard14@gmail.com	
Ben	Love	City of Oak Hill	blove@oakhillwv.gov	
Damita	Johnson	City of Oak Hill	djohnson@oakhillwv.gov	
Steve	Hayslette	Minden Community	daddymuff@aol.com	
Tim	Keaton	State NFIP	Tim.w.keaton@wv.com	
Ruthie	Maniscalchi	State NFIP	Ruthie.a.maniscalchi@wv.gov	
Julie	Sears	State NFIP	Julia.r.sears@wv.gov	
Andrew	Jackson	FEMA	Andrew.Jackson4@fema.dhs.gov	

Crystal	Smith	ARC PTS	Crystal.Smith@fema.dhs.gov
Madison	Matera	ARC PTS	Madison.Matera@fema.dhs.gov

** For a complete list of all invited stakeholders, please refer to the Community Contact List – CERC.xlsx that is delivered to FEMA’s Mapping Information Platform (MIP) in conjunction with this report under case number 19-03-0005S (within the Lower New Discovery Preparation subfolder).

APPENDIX I | MEETING PRESENTATION



Gauley and Lower New Watershed Flood Risk Discovery Meeting

FEMA REGION 3
July 25 - 26, 2023



FEMA

Why Are We Here?

- **Discuss flood risk changes**
- **Gather local information**
- **Collaborate on planning, taking action, and communicating risk**



FEMA

RiskMAP
Increasing Resilience Together

Agenda

- **Welcome and Overview**
- **The National Flood Insurance Program and Flood Risk Data**
- **Flood Risk Study Project and Discovery Overview**
- **Reducing Flood Risk in Communities**
- **Next Steps**
- **Risk and Action Identification Exercise**



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Introductions

- **Name**
- **Municipality or organization**
- **Role in floodplain management**



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The National Flood Insurance Program and Flood Risk Data



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National Flood Insurance Program (NFIP)

- Allows property owners to purchase flood insurance at reduced rates
- State and local governments agree to adopt and enforce floodplain management ordinances
- Over **22,616 communities** participate in the NFIP*
- Over **5 million policies in the NFIP nationwide**, >14,700 in WV*

*Data current as of April 2023: FEMA Community Status Book.



Flood Insurance Rate Maps and Studies

Key Terms:

- Flood Insurance Rate Map (**FIRM**)
- Flood Insurance Study (**FIS**) Report
- Special Flood Hazard Area (**SFHA**)
- Flood Zone
- Base Flood Elevation (**BFE**)
- Regulatory Floodway
- Cross Section

FLOOD INSURANCE STUDY

GREENBRIER COUNTY, WEST VIRGINIA AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
CORPORATION OF FALLING SPRINGS (TOWN OF SENICK)	540243
GREENBRIER COUNTY (UNINCORPORATED AREAS)	540040
LEWISBURG, CITY OF	540281
QUINWOOD, TOWN OF	540244
RAHELLE, TOWN OF	540228
RONCEVERTE, CITY OF	540043
RUPERT, TOWN OF	540044
WHITE SULPHUR SPRINGS, CITY OF	540045

*No Special Flood Hazard Areas Identified

FIRM FLOOD INSURANCE RATE MAP

GREENBRIER COUNTY, WEST VIRGINIA AND INCORPORATED AREAS

PANEL 75 OF 800
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GREENBRIER COUNTY	540040	075	E

MAP NUMBER 54025CV0075E
EFFECTIVE DATE OCTOBER 16, 2012
Federal Emergency Management Agency

EFFECTIVE DATE: OCTOBER 16, 2012
Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER 54025CV000A



Typical FIRM Panel and Flood Zones

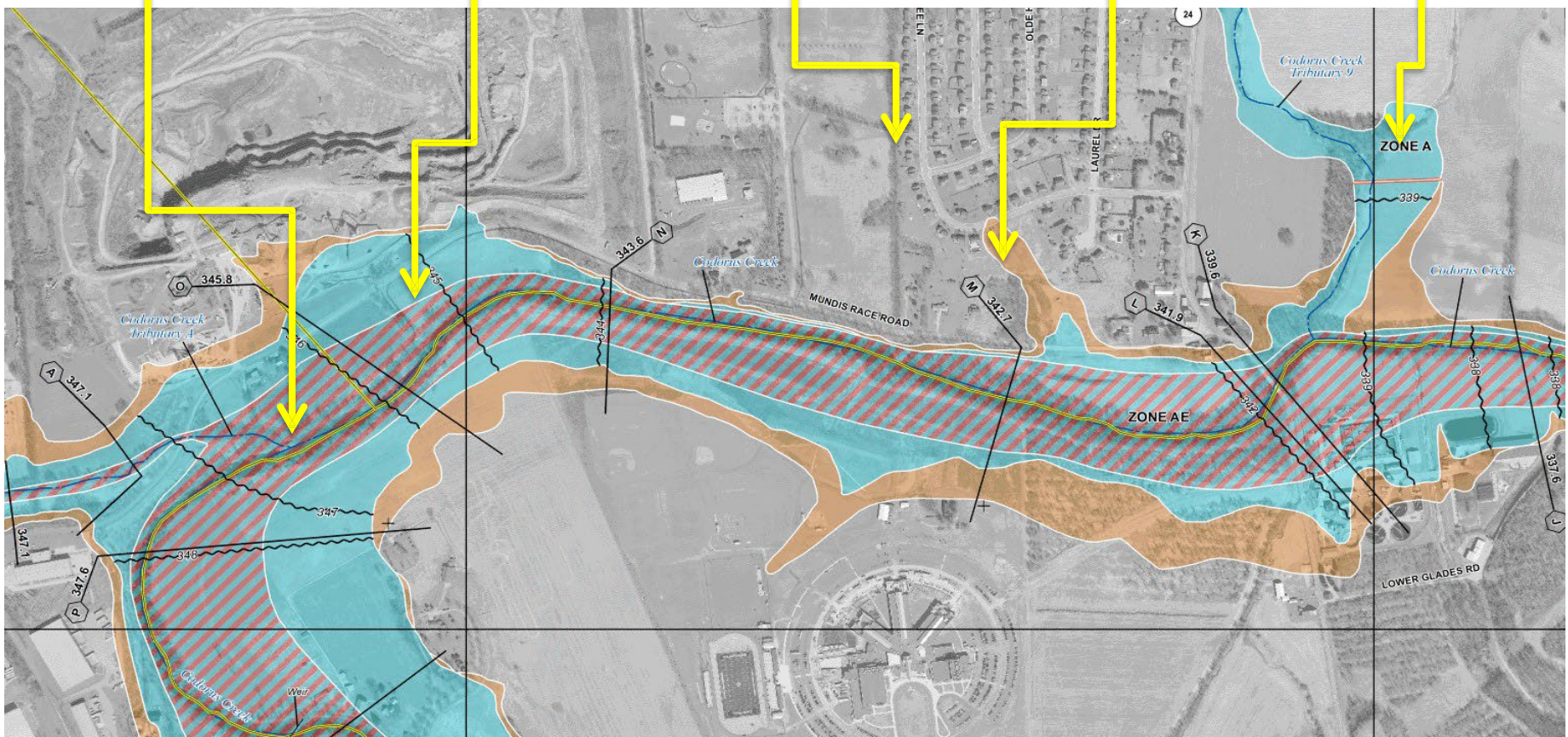
Zone AE
Floodway

Zone AE

Zone X

Shaded
Zone X

Zone A

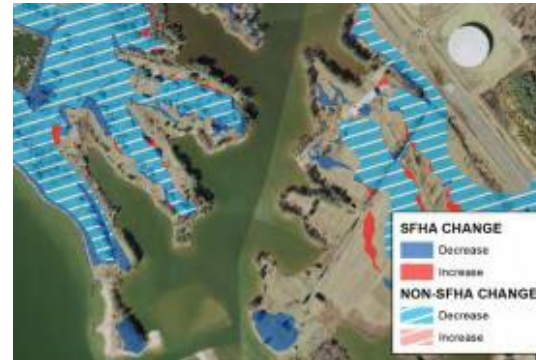
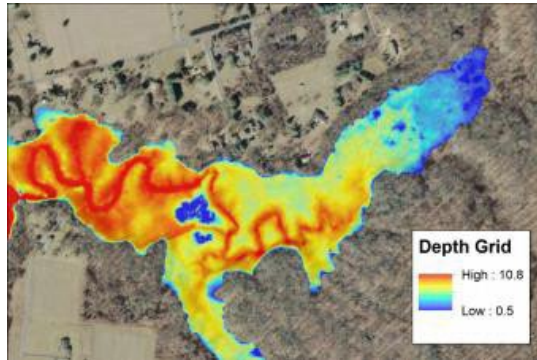


Study Types

		Approximate (Zone A)	Detailed (Zone AE)
Survey	Channel XS	None	Field survey at road crossings
	Hydraulic Structures	None	Field survey
Hydrology	Methodology	Historically regression equations with gage analysis where applicable - Alternate methods such as HEC-HMS or Rainfall Run off	
Hydraulics	Recurrence Interval	10%, 4%, 2%, 1%, 1%+ and 0.2% annual chance	
	Manning's "n"	Aerial Imagery (Horizontal Variation)	
	Channel Geometry	LiDAR	LiDAR; Supplemented with field survey
Mapping	Boundaries	1% annual chance	1% and 0.2% annual chance
	Flood Zones	Zone A (no mapped BFEs but WSELs available in FEMA National Flood Hazard Layer)	Zone AE (all XS with labeled WSELs, and Floodways) and 'Shaded' Zone X
FIS Report	Tables	Study Summaries, Summary of Discharges	Study Summaries, Summary of Discharges, Floodway Data, Roughness Coefficient
	Profiles	None	10-, 4-, 2-, 1-, 1+, and 0.2% annual chance

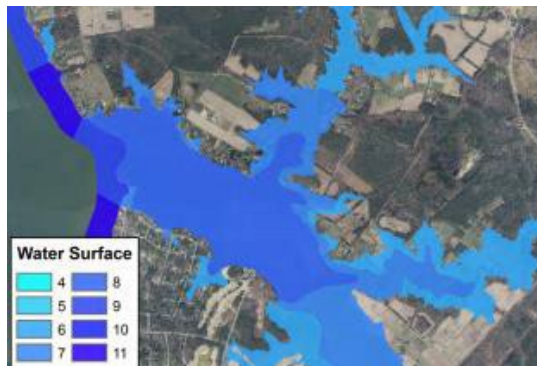
FEMA Flood Risk GIS Datasets

**Flood Depth
& Analysis
Grids**



**Changes
Since
Last FIRM**

**Water
Surface
Elevation
Grids**



**Flood Risk
Assessment**

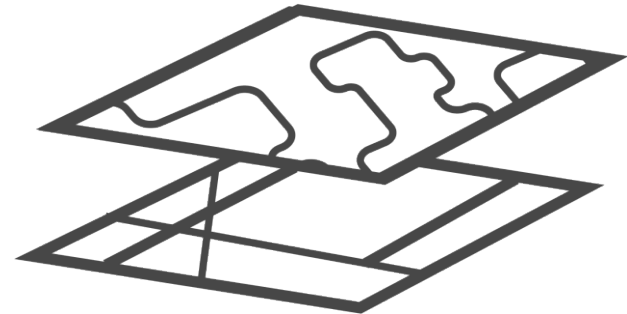
Where to Find Flood Risk Data

WV Flood Tool

- Digital mapping source publicly available that shows property-level flood risk
- www.mapwv.gov/flood

FEMA's Flood Map Service Center (MSC)

- Where you can view effective maps online for free
- <https://msc.fema.gov/portal/home>



National Flood Hazard Layer (NFHL)

- Geospatial database that contains current effective flood hazard data
- <https://www.fema.gov/flood-maps/national-flood-hazard-layer>



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Where Can I Find My Flood Maps?

The FEMA Map Service Center (MSC) is the official public source for flood hazard information: <https://msc.fema.gov/portal/home>

FEMA Flood Map Service Center

Looking for a Flood Map? ⓘ

Enter an address, a place, or longitude/latitude coordinates:

Enter an address, a place, or longitude/latitude coordinates

Looking for more than just a current flood map?
Visit [Search All Products](#) to access the full range of flood risk products for your community.



Search Results for NICHOLAS COUNTY ALL JURISDICTIONS

Click [subscribe](#) to receive email notifications when products are updated. If you are a person with a disability, are blind, or have low vision, and need assistance, please contact a [map specialist](#).

Please Note: Searching All Products by county displays all products for all communities within the county. You can refine your search results by specifying your specific jurisdiction location using the drop-down menus above.

- Effective Products (79) ⓘ
 - FIRM Panels (57)
 - FIS Reports (1)
 - LOMC (19)
 - NFHL Data-State (1)
 - NFHL Data-County (1)
- Preliminary Products (0) ⓘ
- Pending Product (0) ⓘ
- Historic Products (55) ⓘ
- Flood Risk Products (0) ⓘ

National Flood Hazard Layer

Visit <https://www.fema.gov/national-flood-hazard-layer-nfhl> for multiple options to view and download NFHL data.

Accessing the National Flood Hazard Layer

Map Service Center

Access localized National Flood Hazard Layer data by searching FEMA's Map Service Center.

[FEMA's Map Service Center](#)

NFHL ArcGIS Viewer

Or you may view, download, and print current local digital effective flood hazard data in an ArcGIS map.

[NFHL Viewer](#)

In the [NFHL Viewer](#), you can use the address search or map navigation to locate an area of interest and the NFHL Print Tool to download and print a full Flood Insurance Rate Map (FIRM) or FIRMette (a smaller, printable version of a FIRM) where modernized data exists. Technical GIS users can also utilize a series of dedicated GIS web services that allow the NFHL database to be incorporated into websites and GIS applications. For more information on available services, go to the [NFHL GIS Services User Guide](#).

You can also use the address search on the [FEMA Flood Map Service Center \(MSC\)](#) to view the NFHL data or download a FIRMette. Using the "Search All Products" on the MSC, you can download the NFHL data for a County or State in a GIS file format. This data can be used in most GIS applications to perform spatial analyses and for integration into custom maps and reports. To do so, you will need GIS or mapping software that can read data in shapefile format.

FEMA also offers a download of a KMZ (keyhole markup file zipped) file, which overlays the data in Google Earth™. For more information on using the data in Google Earth™, please see [Using the National Flood Hazard Layer Web Map Service \(WMS\) in Google Earth™](#).

Draft National Flood Hazard Layer

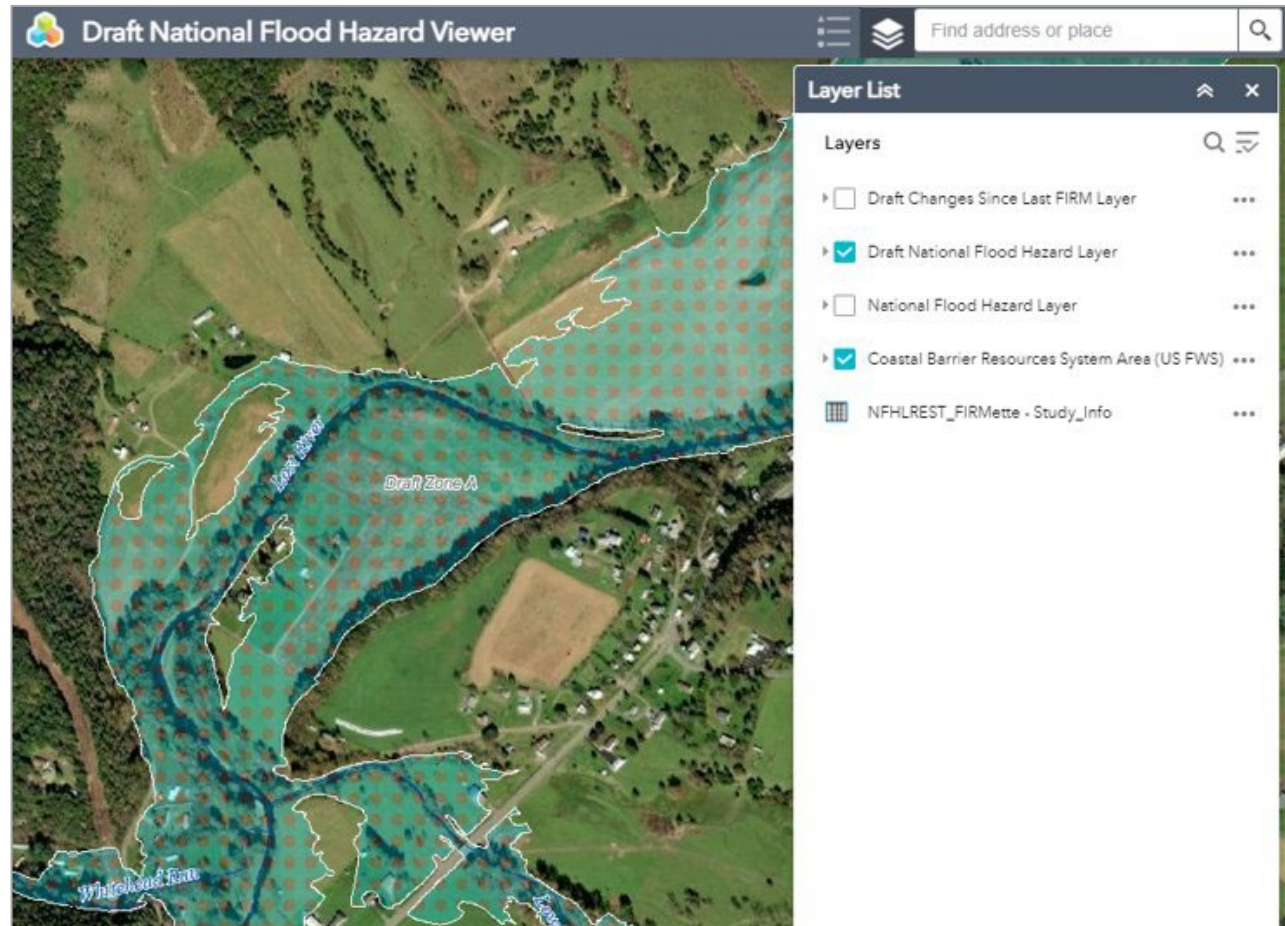
The [Draft National Flood Hazard Layer](#) is for early awareness of possible changes to regulatory flood map information. Until the data becomes effective and it appears in the National Flood Hazard Layer, the data cannot be used to rate flood insurance policies or enforce the federal mandatory purchase requirement.


Preliminary Flood Hazard Data

Preliminary flood hazard data provides the public an early look at their home or community's projected risk to flood hazards. Preliminary data may include new or revised Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS) Reports and FIRM Databases. [View your community's preliminary flood hazard data.](#)

Pending Flood Hazard Data

Pending flood hazard data provides the public an early look at their home or community's projected risk to flood hazards. Pending data may include new or revised Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS) Reports and FIRM Databases. [View your community's preliminary flood hazard data.](#)





Flood Risk Study Project and Discovery Overview



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Why Are We Here?

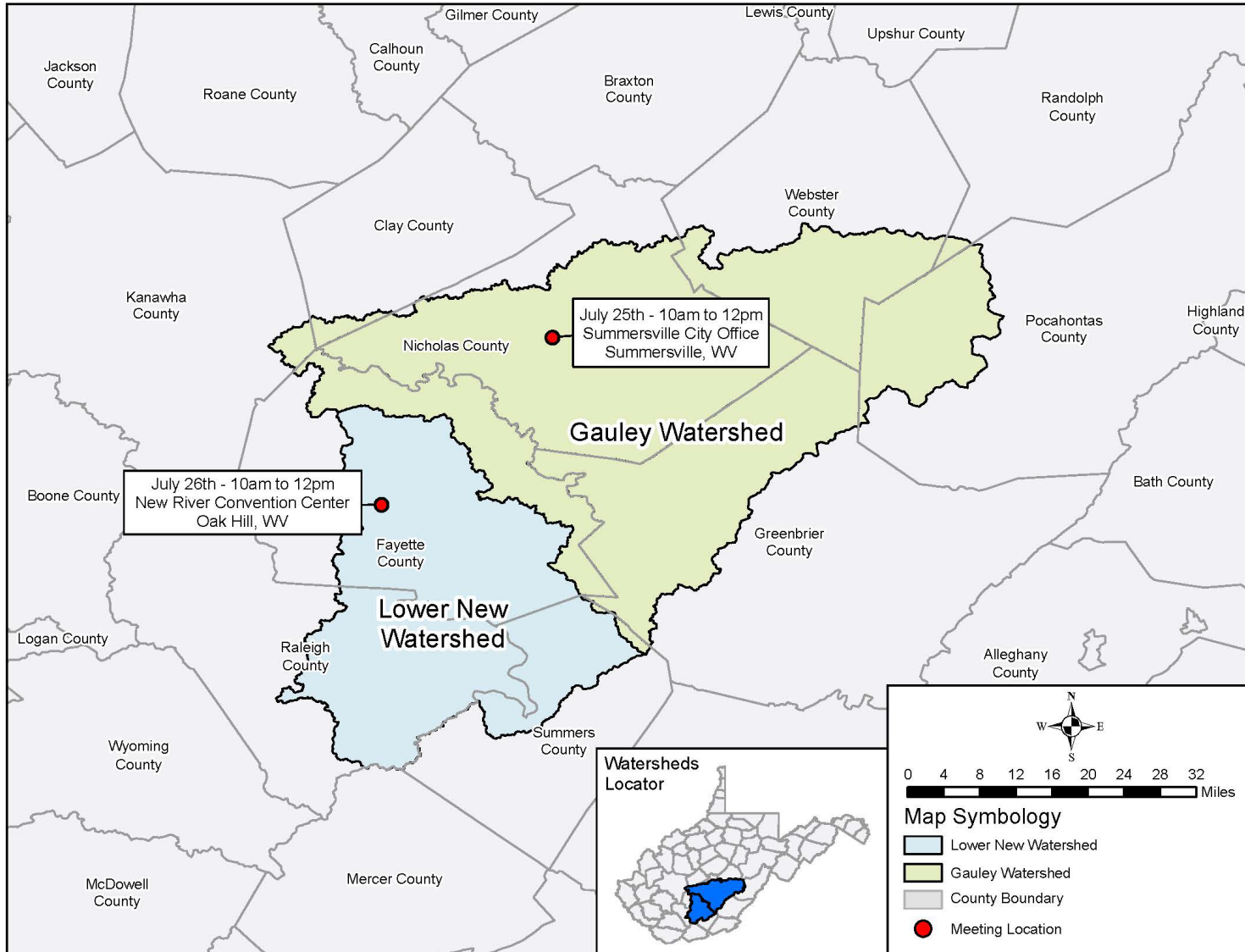
Through collaboration with state and local partners like yourselves, our goal is to deliver **quality flood hazard data** that helps you **increase public awareness** and **leads to action** that reduces risk to life and property.



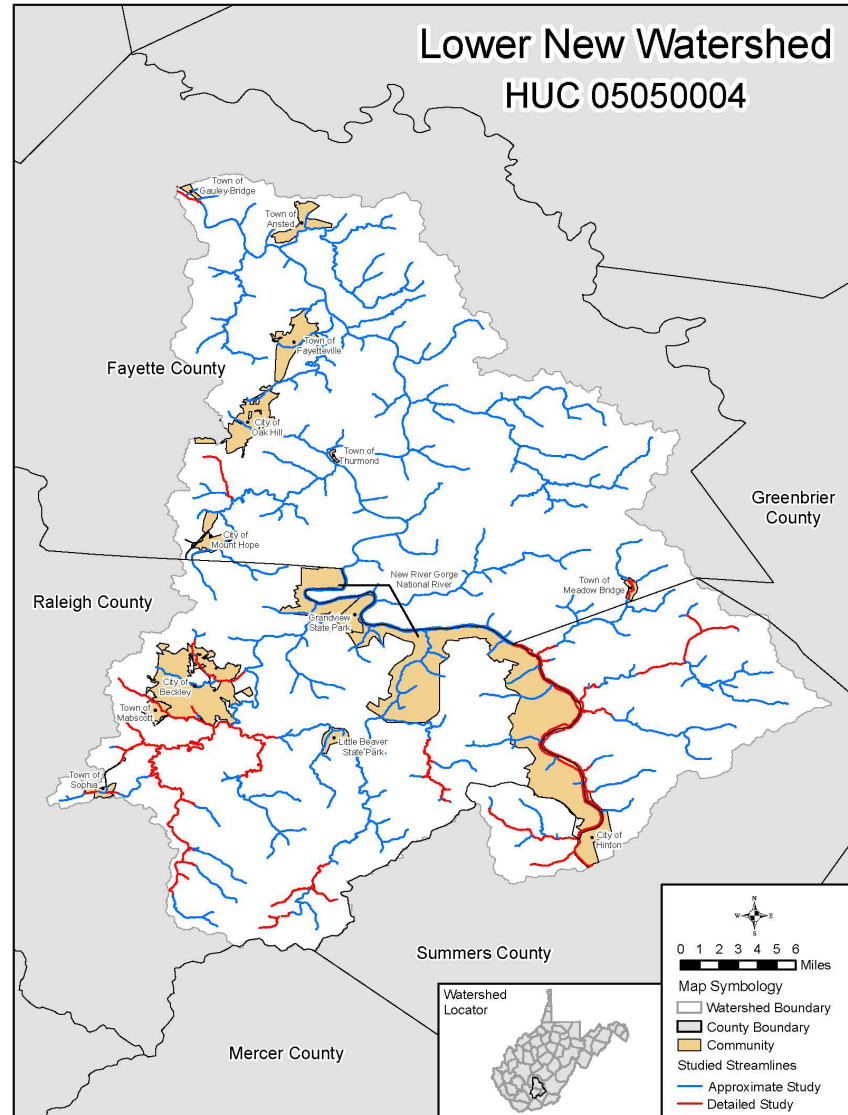
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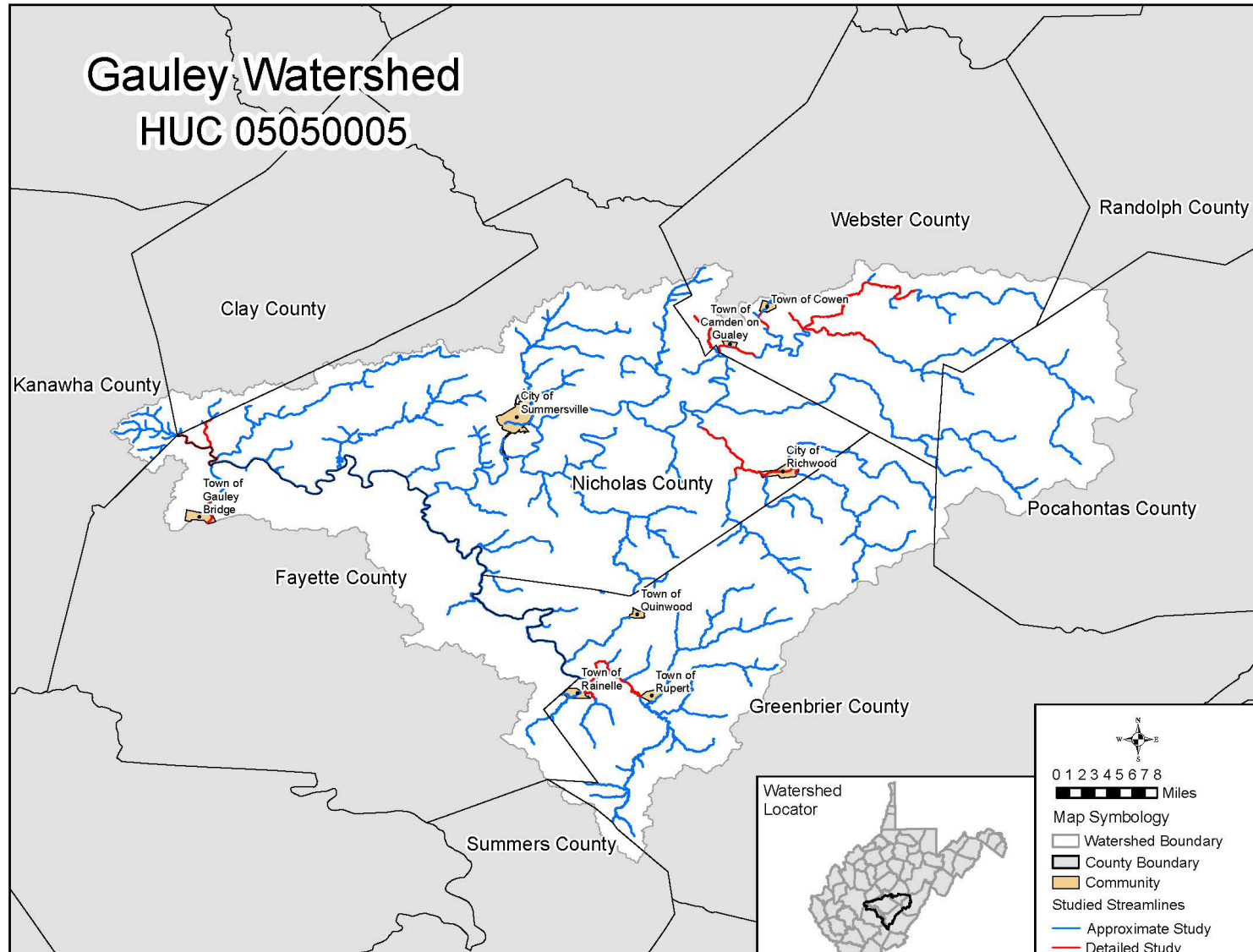
Watershed Maps



Watershed Maps



Watershed Maps



Flood Insurance Rate Map (FIRM) Status

Jurisdiction	Effective FIRM Date	Jurisdiction	Effective FIRM Date
Clay County	02/06/2013	Raleigh County	06/16/2009
Fayette County	09/03/2010	Randolph County	09/29/2010
Greenbrier County	07/05/2023	Summers County	10/07/2021
Kanawha County	08/01/2023	Webster County	05/03/2022
Nicholas County	09/24/2021		
Pocahontas County	11/04/2010		



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Why Now? Better Data!

- Availability of High-Resolution Elevation Data (LiDAR) (USGS QL2 LiDAR) <http://data.wvgis.wvu.edu/elevation/>
- Age of effective flood studies
- New hydrologic calculations (30-40 more years of rainfall data)
- Affordable model-backed Zone A flood studies (HEC-RAS)
- Ability to provide new Flood Risk Products (depth grids, etc.)



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Discovery: Data Collection & Collaboration

- **Examples of data gathered and analyzed before the meeting include the following:**

- Watershed and Jurisdiction Boundaries
- Dams and Levees
- Stream Data
- Declared Disasters
- Effective Floodplains: Special Flood Hazard Areas
- Letters of Map Change
- NFIP Participation
- Individual and Public Assistance
- Mitigation Plan Status and Summary
- Population and Socioeconomic Characteristics



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Flood Risk Data Questions

- **Data**

- What data do you already have available?
- What is your data wish list?

- **Technical Assistance**

- What technical challenges are you facing, and what assistance could support your efforts right now?

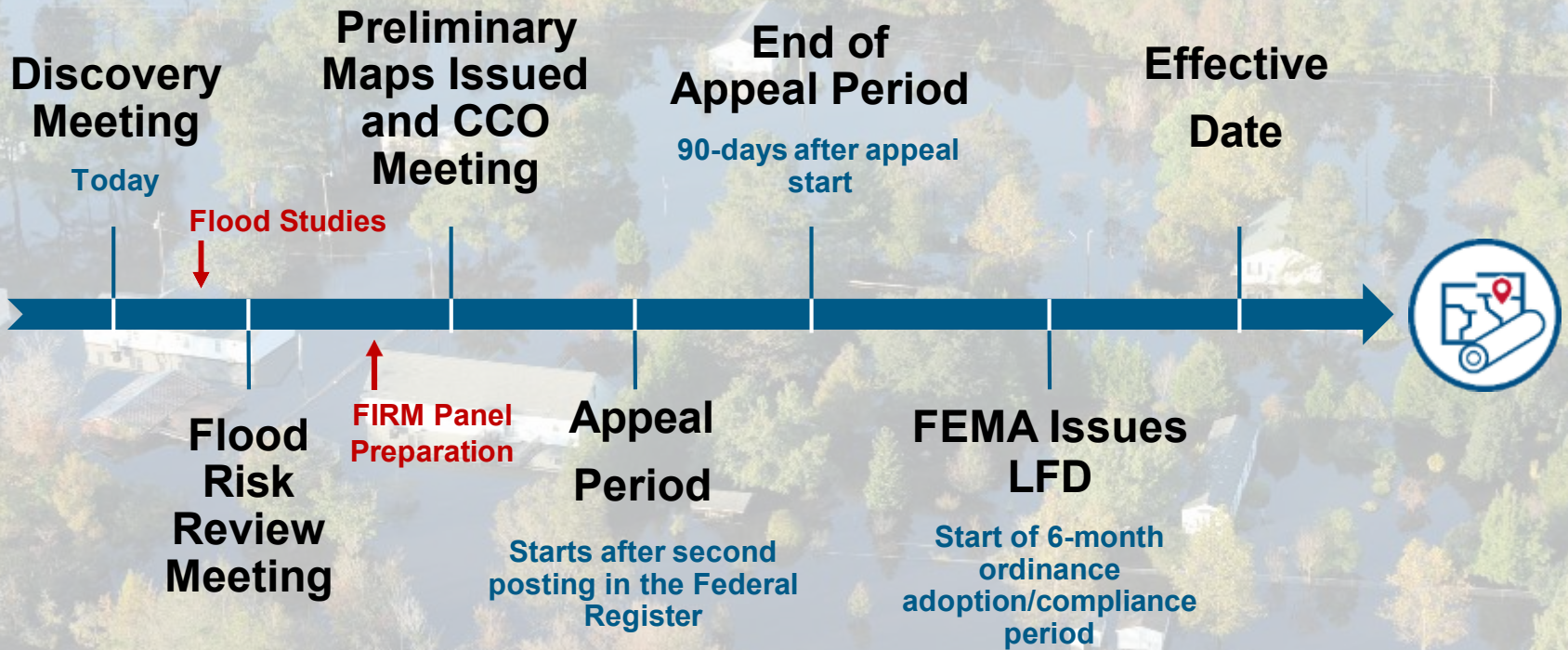
- **Training and Outreach**

- What trainings and outreach would help support your existing or planned efforts?



*For more information on floodplain management, insurance and mitigation strategies, sign up for FEMA's "Resilience Report" e-newsletter

Typical Flood Study Timeline



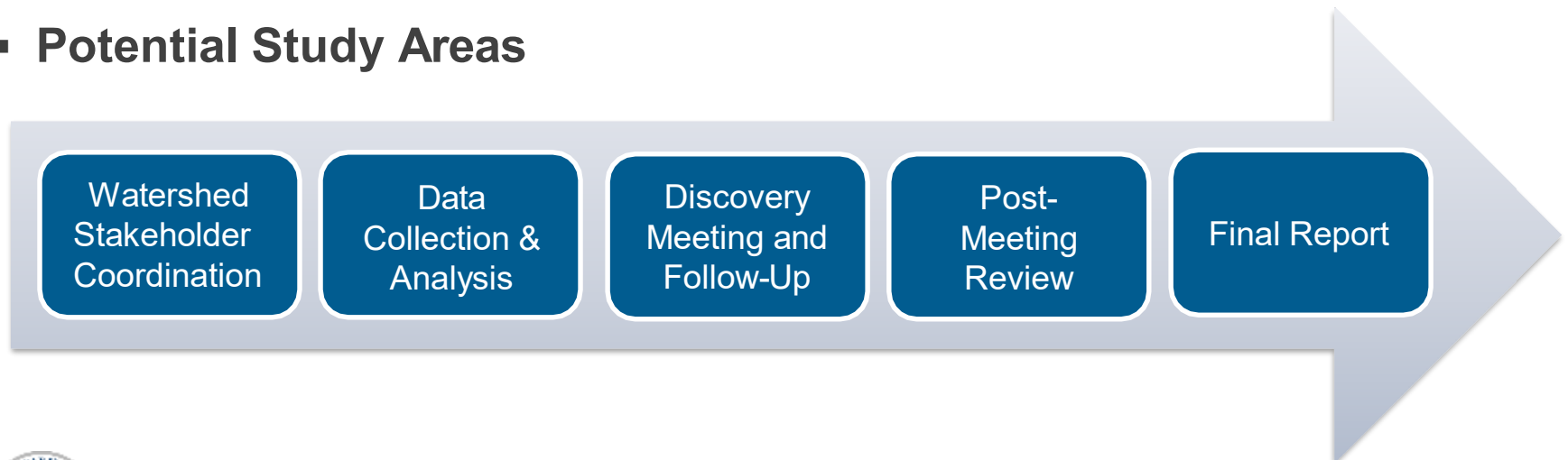
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www.fema.gov/riskmap

Discovery: Outcomes

- **Discovery Report**
 - Summary of data, analysis, meetings and action items or decisions
- **Discovery Maps**
 - Flood Hazards
 - Potential Economic Loss
 - Mapping Needs
- **Potential Study Areas**



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Reducing Flood Risk in Communities



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Flood Risk Dashboard

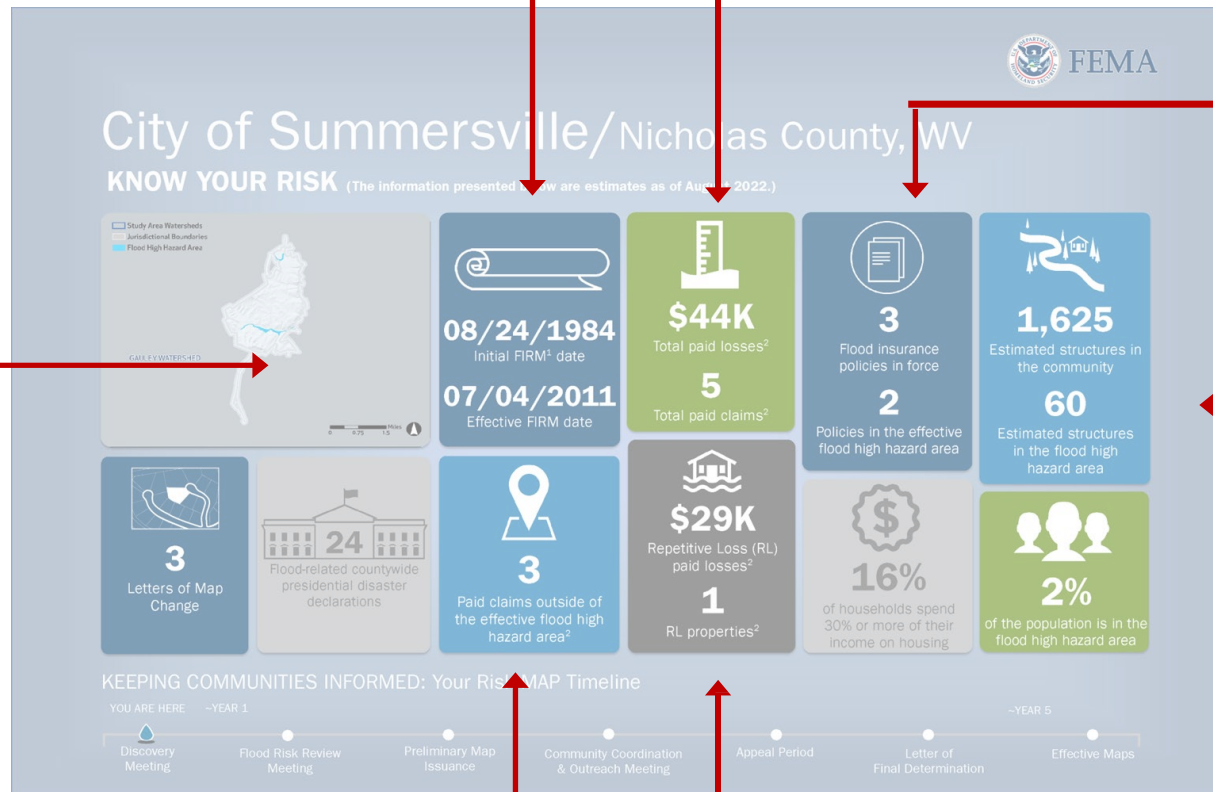
NFIP FLOOD CLAIM PAYOUTS

CLAIMS OUTSIDE OF SFHA

NFIP FLOOD POLICIES

AFFECTED RESIDENTS

HIGH-RISK STRUCTURES



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AVERAGE PREMIUM

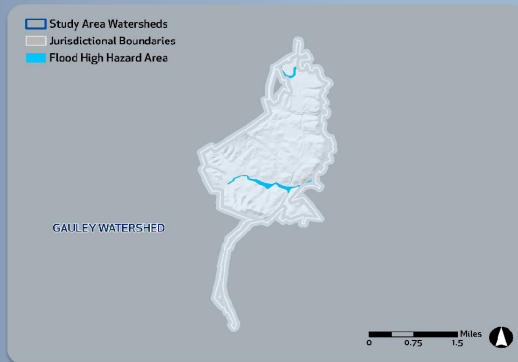
REPETITIVE LOSSES

Dashboard of Your Community Profile



City of Summersville/Nicholas County, WV

KNOW YOUR RISK (The information presented below are estimates as of August 2022.)



08/24/1984
Initial FIRM¹ date

07/04/2011
Effective FIRM date

\$44K
Total paid losses²

5
Total paid claims²

3
Flood insurance policies in force

2
Policies in the effective flood high hazard area

1,625
Estimated structures in the community

60
Estimated structures in the flood high hazard area

3
Letters of Map Change

24
Flood-related countywide presidential disaster declarations

3
Paid claims outside of the effective flood high hazard area²

\$29K
Repetitive Loss (RL) paid losses²

1
RL properties²

16%
of households spend 30% or more of their income on housing

2%
of the population is in the flood high hazard area

KEEPING COMMUNITIES INFORMED: Your Risk MAP Timeline








How Can You Improve Your Community's Resilience to Flooding Now?



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Hazard Mitigation Actions Save

National Benefit-Cost Ratio (BCR) Per Peril <i>*BCR numbers in this study have been rounded</i>		Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio		\$4:1	\$6:1
	Riverine Flood	\$5:1	\$7:1
	Hurricane Surge	\$7:1	Too few grants
	Wind	\$5:1	\$5:1
	Earthquake	\$4:1	\$3:1
	Wildland-Urban Interface Fire	\$4:1	\$3:1

[Mitigation Saves Fact Sheet \(fema.gov\)](https://www.fema.gov)

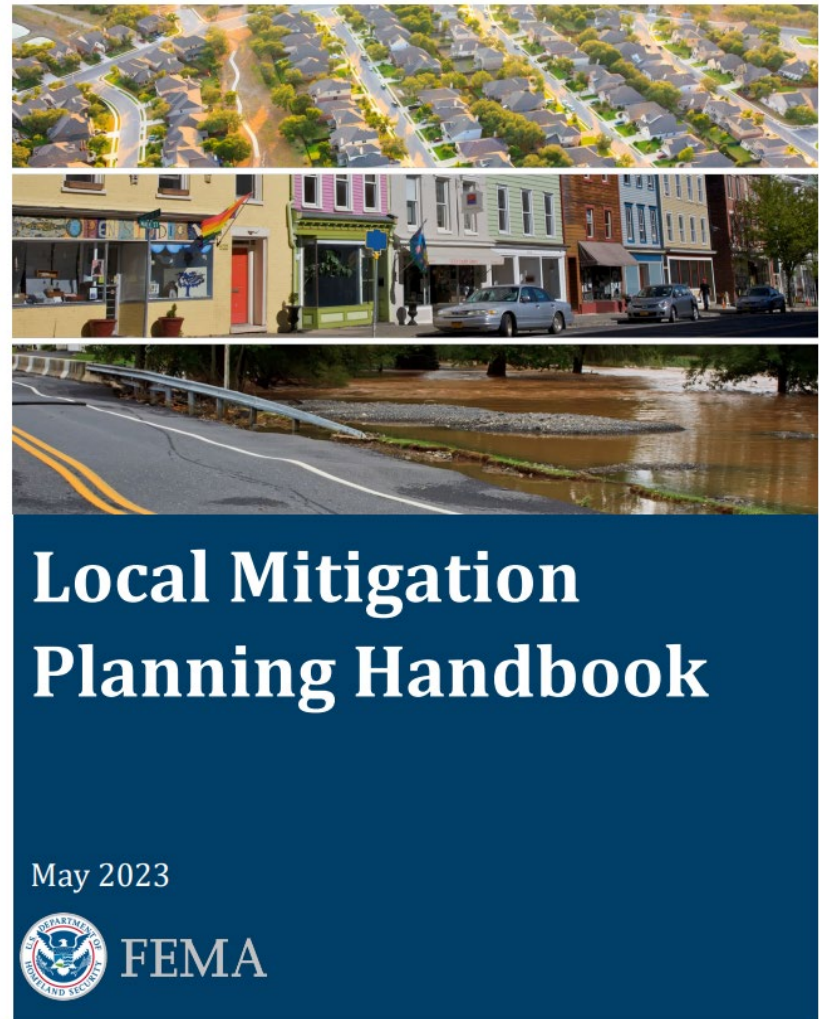


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Hazard Mitigation Plans

- **Hazard Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters.**
 - Occurs before, during and after disasters and serves to break the cycle of damage and repair
 - Long-term risk reduction
 - Essential part of community resilience

www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-handbook_052023.pdf



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Next Steps



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Information We Need From You

- **Completed Discovery data questionnaire, with GIS contact**
- **Areas of Concern**
- **Areas of historical flooding and other flood risks**
- **Mitigation projects addressing flood risks**
- **Your ideas about ways to increase resilience**



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Project Contacts



State NFIP/CTP Office:

Timothy W. Keaton, CFM
State NFIP/CTP Coordinator
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Tim.w.keaton@wv.gov

WVGISTC:

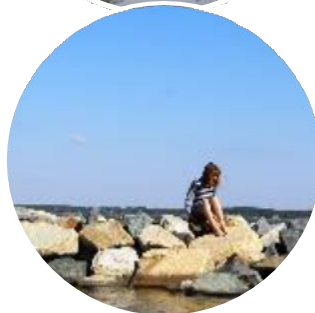
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BUILDING-LEVEL RISK: 100-YEAR FLOOD

- Primary Structure (Future Map)
- LOMA Verified (In or Out SFHA)
- Building Exposure Cost
- Building Year Pre-FIRM & Post-FIRM
- Foundation Type
- Elevation Certificates (Building Type)
- Minus-Rated Structure
- Building Damage Loss Estimate

CRITICAL INFRASTRUCTURE

FLOOD DEPTH

OTHER NATURAL HAZARDS

MITIGATED PROPERTIES & OPEN SPACE

PRIMARY FLOOD HAZARD LAYERS

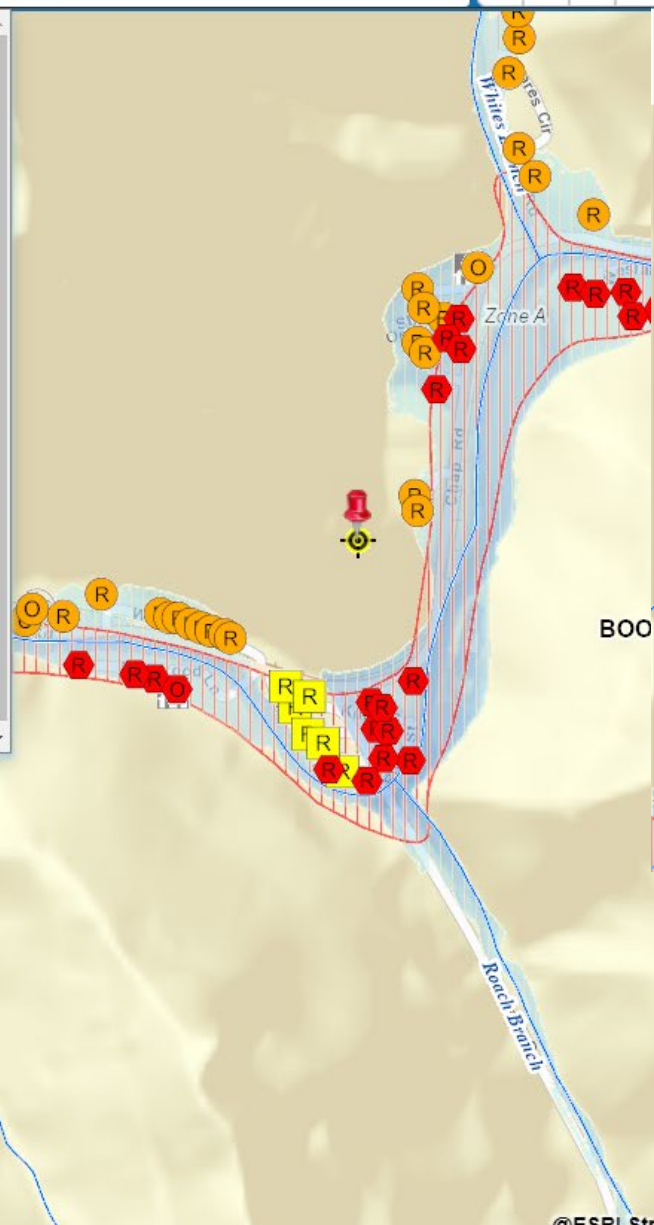
PRELIMINARY/DRAFT FLOOD LAYERS

OTHER FLOOD ZONE SYMBOLOGY

MISCELLANEOUS LAYERS

* Indicates that data is from FEMA

[Show Legend](#)



Flood Hazard Area: Location is NOT WITHIN any identified flood hazard area. Unmapped flood hazard areas may be present.

Flood Zone: Out of Flood Zone

Stream:

Watershed (HUC8): Coal (5050009)

FEMA's Flood Map: 54005C0280D [Download] [Download] NFHL

Map Effective Date: 5/16/2013

Contacts: Boone

Flood Height: N/A

Water Depth: N/A

HEC-RAS Model: N/A [Download] All Models

Flood Profile: N/A

Community: Boone County

Freeboard: 2 ft CRS Class: 10 CID: 540007

Location (lat, long): (37.973309, -81.702404) WGS84

Location (UTM 17N): (4203085, 438308) WGS84

External Viewers: [Icons]

Elevation: 1005.7 ft (Source: FEMA 2018-20) NAVD88

Address: [] : multiple addresses

Parcel: [] : 03-01-0018-0083-0000 | Assessment [Warning]

Flood Risk Information [Related Resources](#)

[Flood Risk Assessment](#)

[3D Flood Visualization](#) N/A