



WV Flood Risk Assessment & Visualization Tools

WVU GIS Technical Center

Kurt Donaldson

Aaron Maxwell

Behrang Bidadian

Annie Mahmoudi

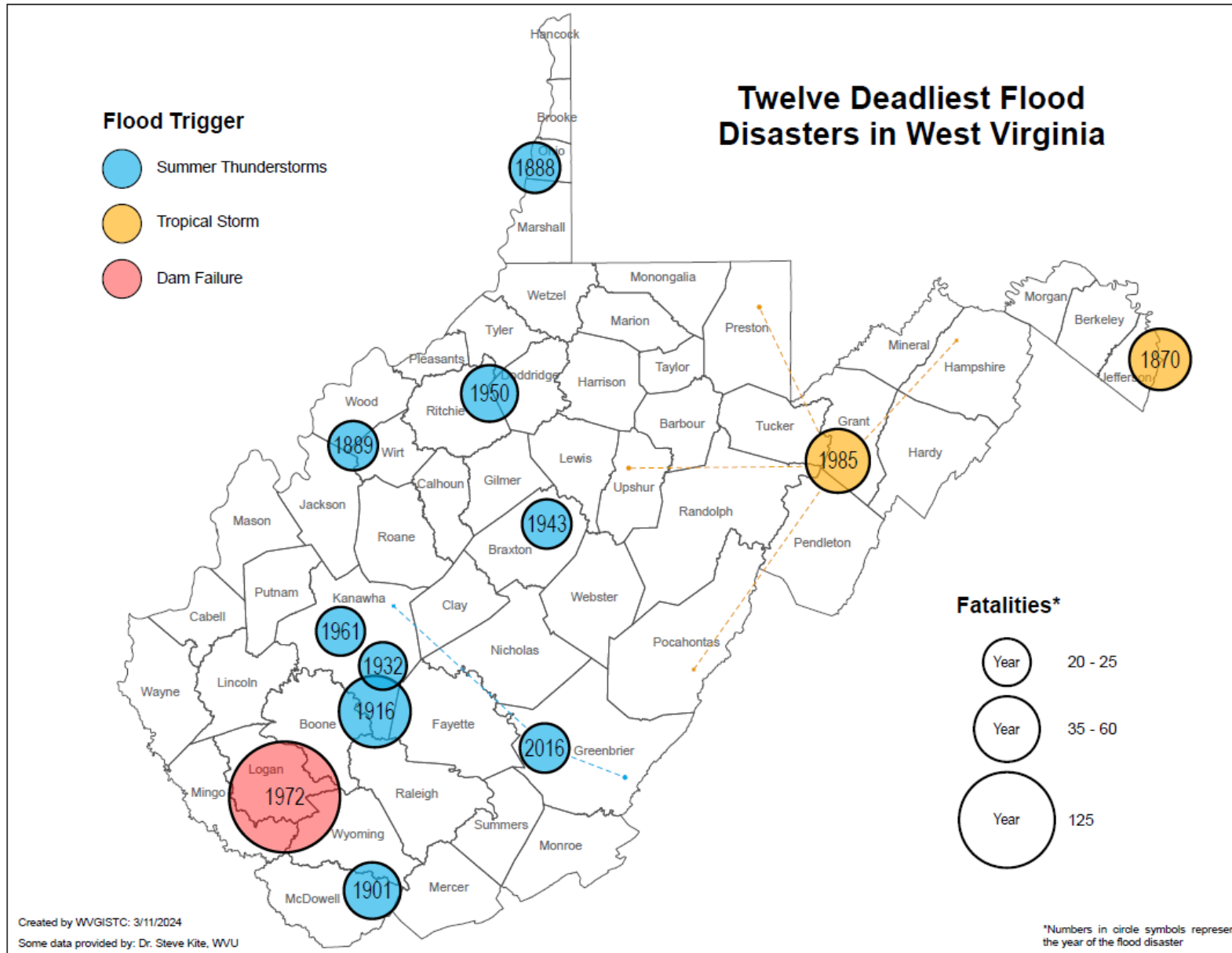


2024 Symposium: Building Flood Resiliency in West Virginia Communities

← Devastating June 2016 Flood

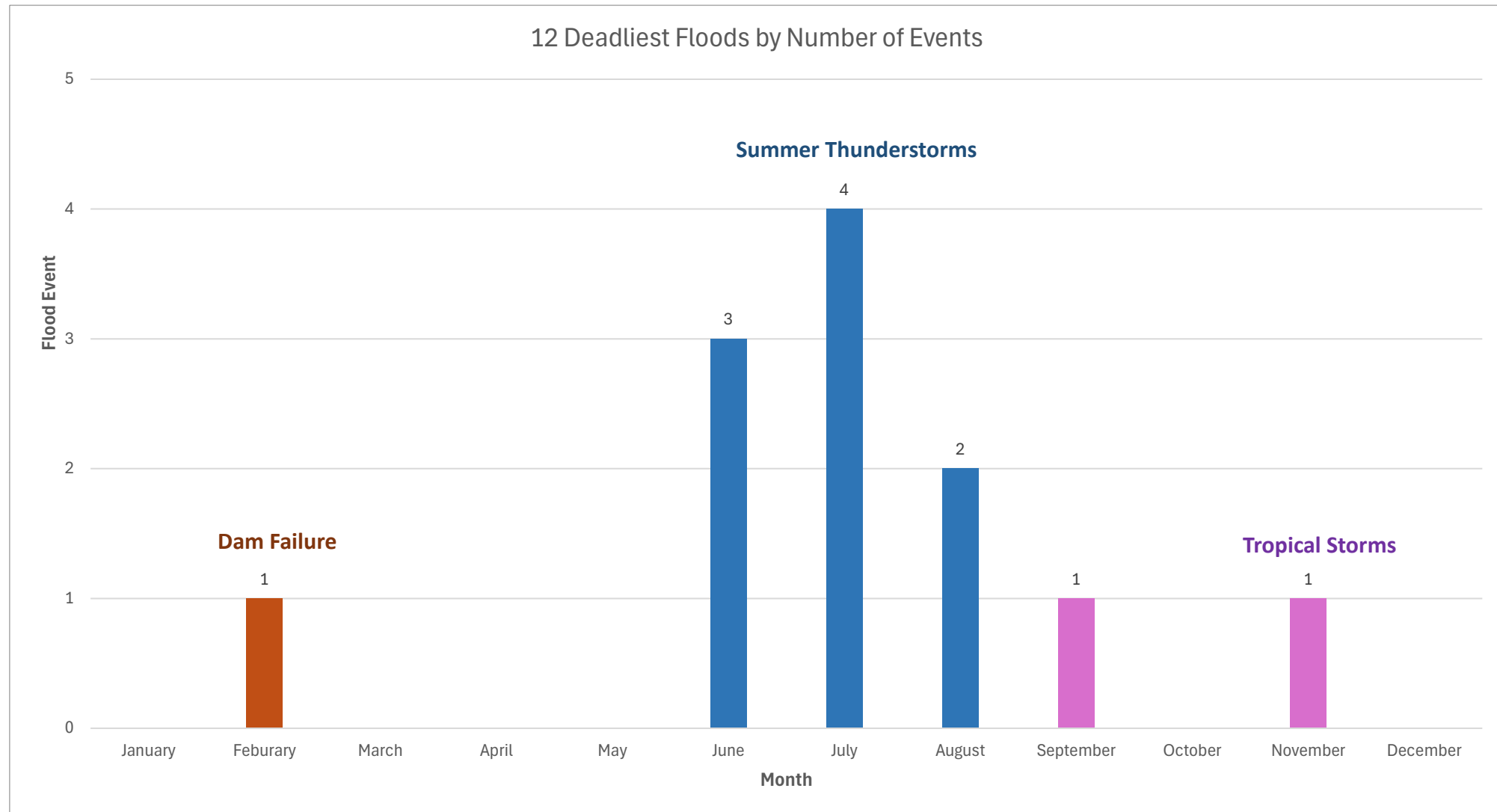
Slides related to the June 2016 Flood Extracted

12 Deadliest Disasters



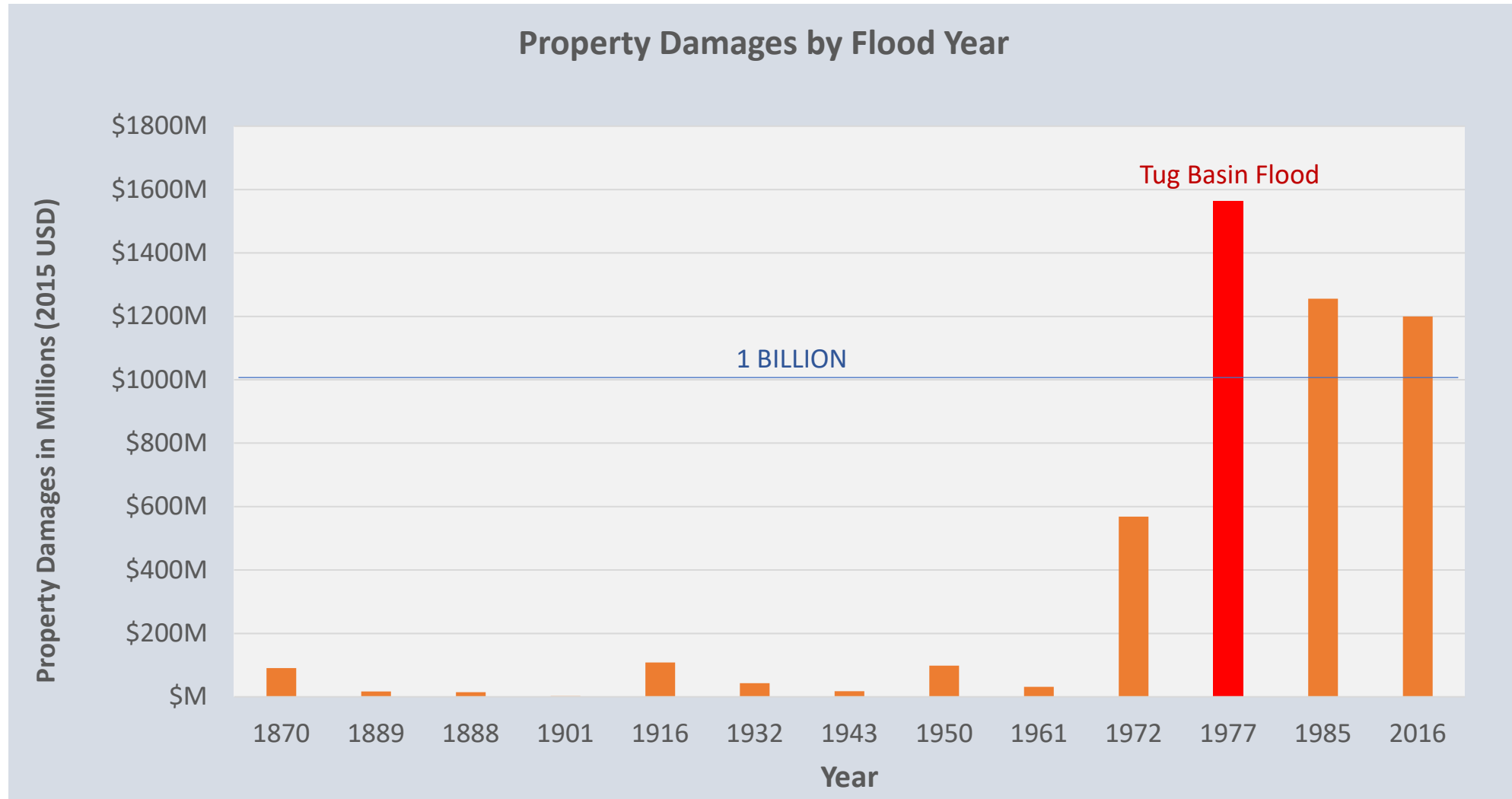
According to the analysis of flood fatalities in the 48 contiguous United States between 1959 and 2019, **West Virginia has the third highest ranking in the nation when flood fatalities are standardized as the average annual number of fatalities per million inhabitants ([Han and Hatim, 2021](#))**.

12 Deadliest Disasters



*Four of the Deadliest Floods have occurred in **Kanawha County** from **cloudbursts** during the **summer months***

Major Disasters (Property Damage)

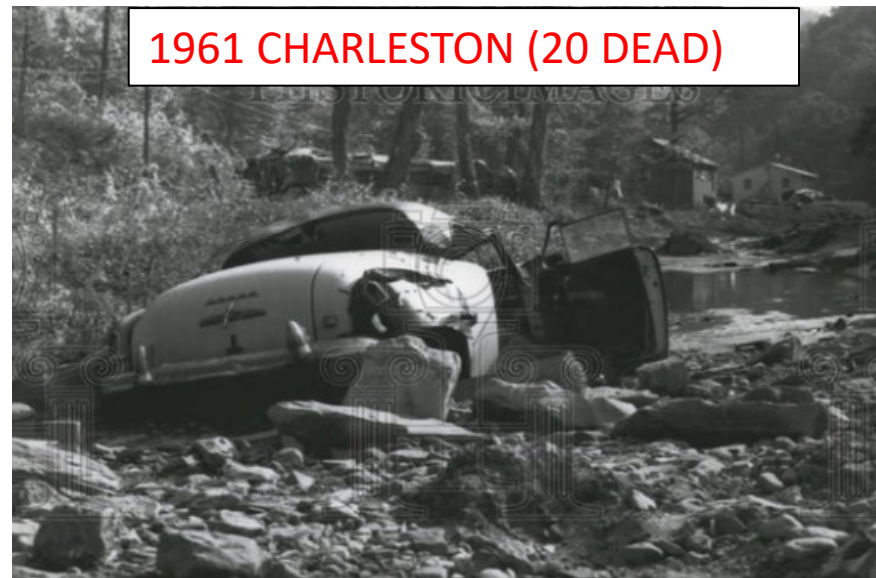


Kanawha County Deadly Flood Disasters

1916 CABIN CREEK (60 DEAD)



1961 CHARLESTON (20 DEAD)



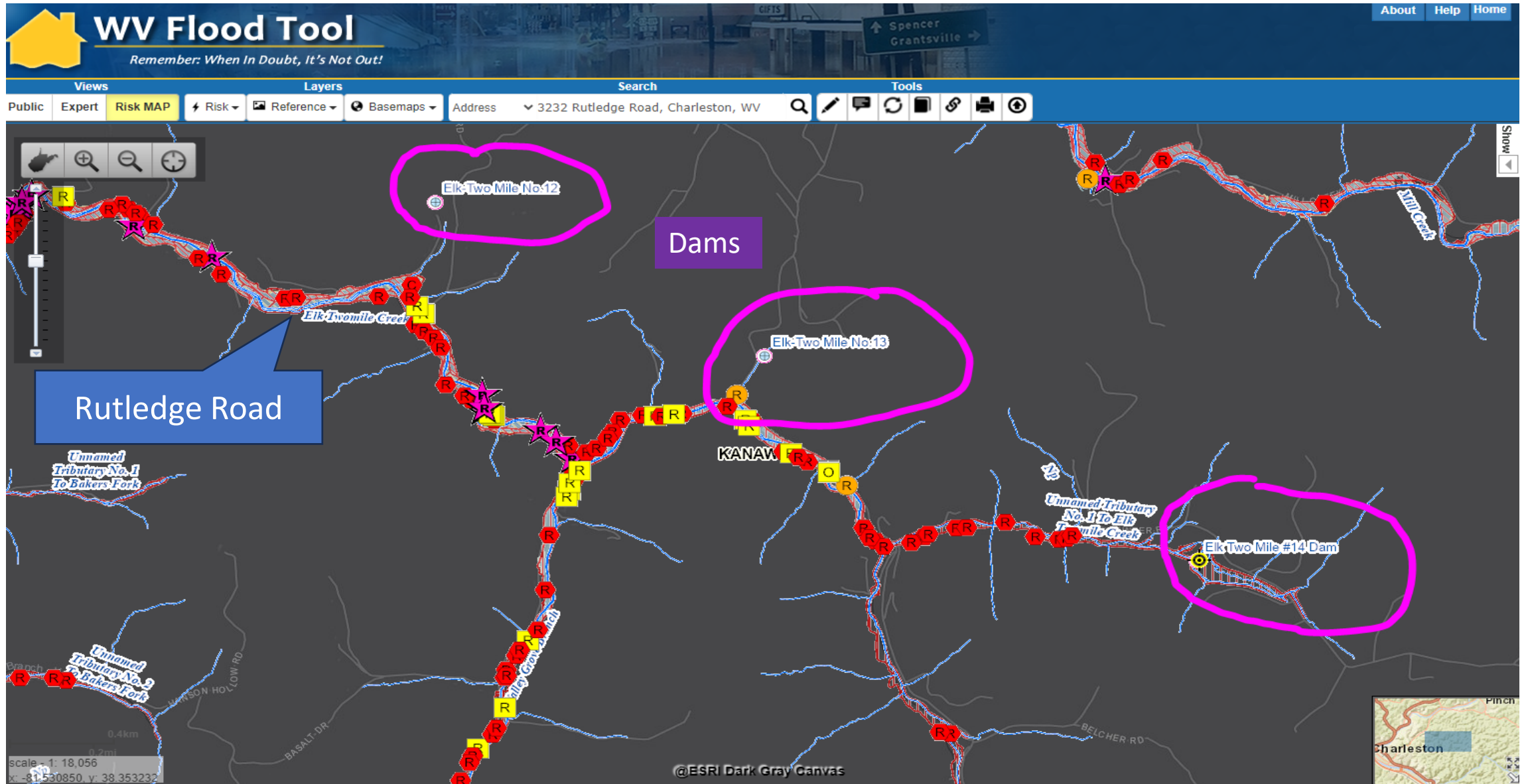
1932 PAINT CREEK (20 DEAD)



2016 FLOOD (23 DEAD; 5 KANAWHA)



WV Flood Tool RiskMap View: Rutledge Avenue



Elk Twomile Dams (flood mitigation)



West Virginia
Conservation Agency

[HOME](#)[ABOUT US](#)[PROGRAMS](#)[EDUCATION](#)[WVCA PARTNERS](#)[CAREERS](#)[CONTACT US](#)

WV Watershed Focus: Elk Twomile dams

🕒 May 18 2020



Chuck Grishaber, floodplain manager for the Kanawha County Commission, said the Elk Twomile dams are a real benefit to the Rutledge Road community. “It’s a great benefit to prevent flooding up there,” he said. “It’s also a great recreational area for fishermen.”

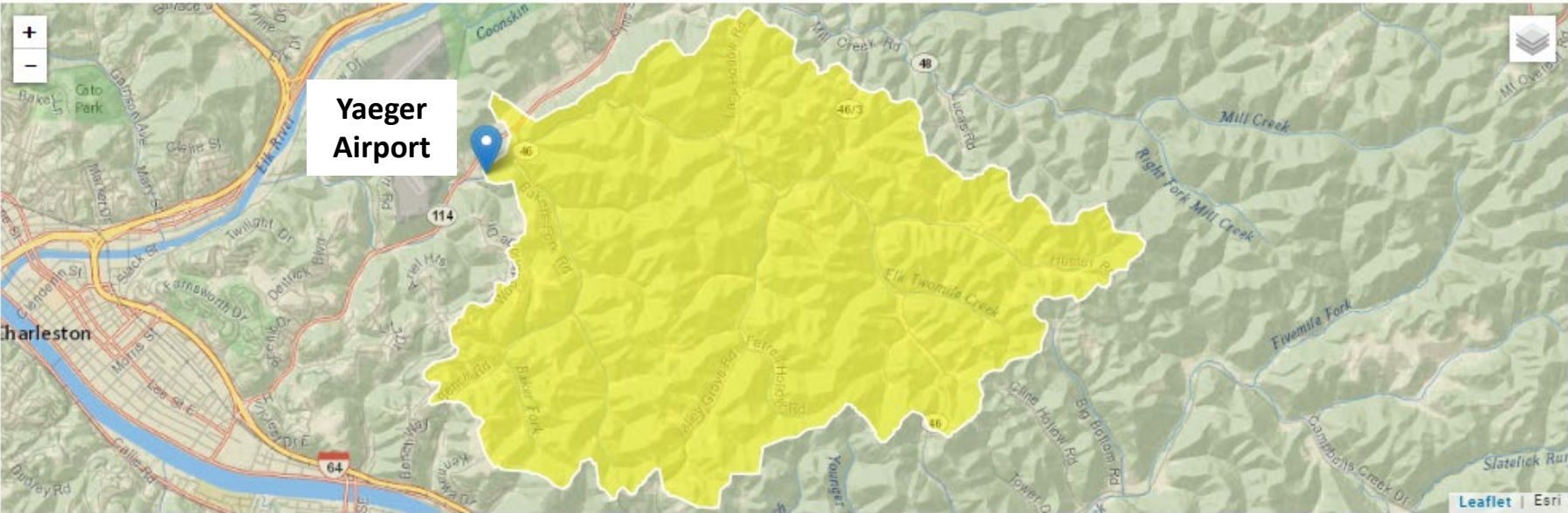
The Kanawha County Commission provides annual funding for maintenance with the WVCA matching the funding dollar for dollar.

StreamStats Report for Rutledge Road (Airport)

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

WV
WV20240312061829530000
38.36653, -81.57922
2024-03-12 02:18:52 -0400

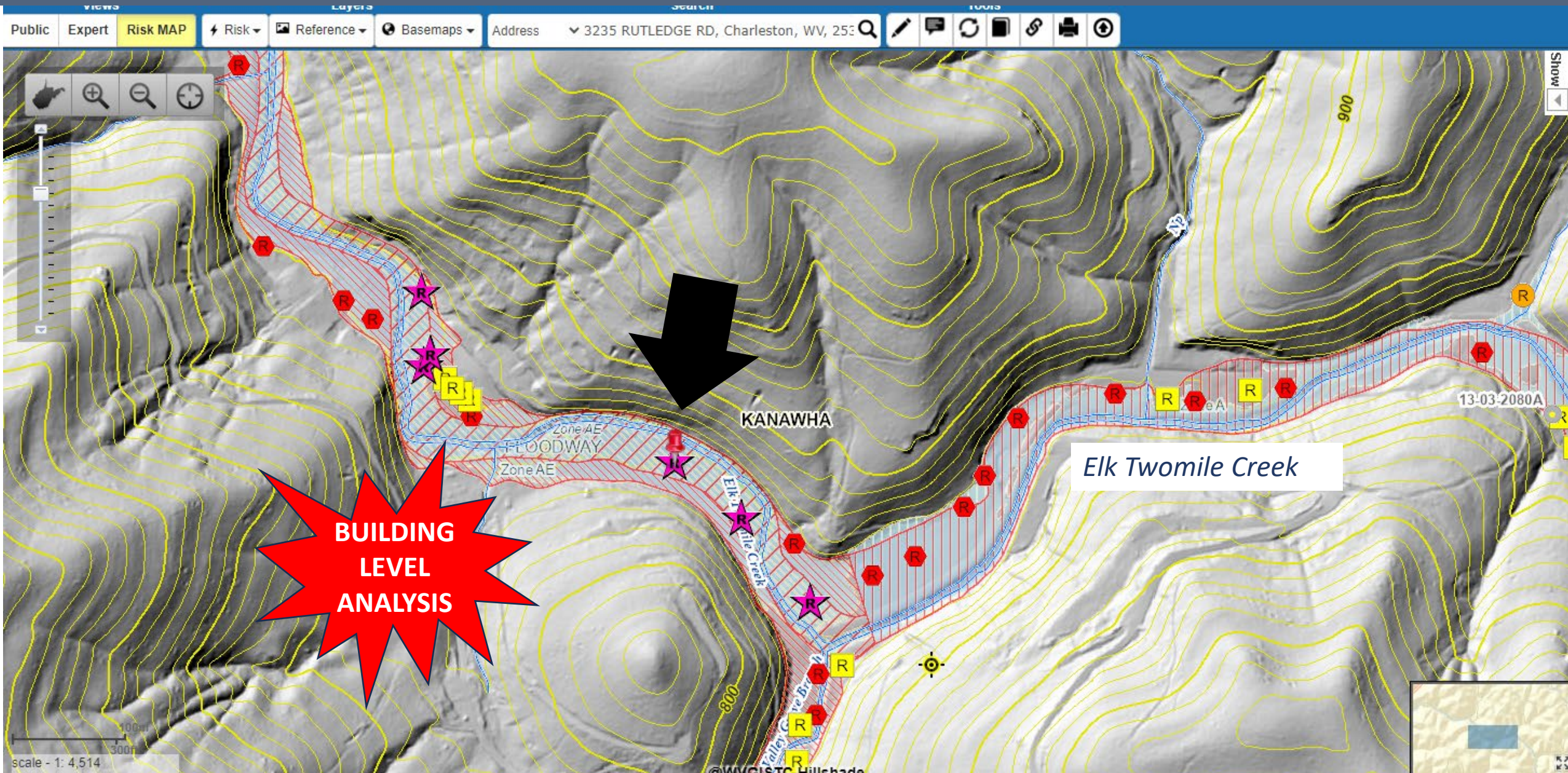


No Flood Mitigated Structures in headwaters above Rutledge Road

+ Collapse All

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	10.9	square miles
LC16DEV	Percentage of land-use categories 21-24 from NLCD 2016	8.6	percent

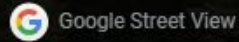
Risk Assessment: 3235 RUTLEDGE RD, Charleston



Risk Assessment: 3235 RUTLEDGE RD, Charleston

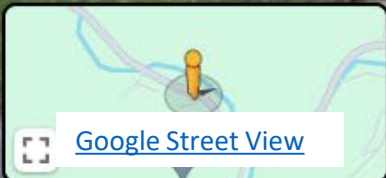
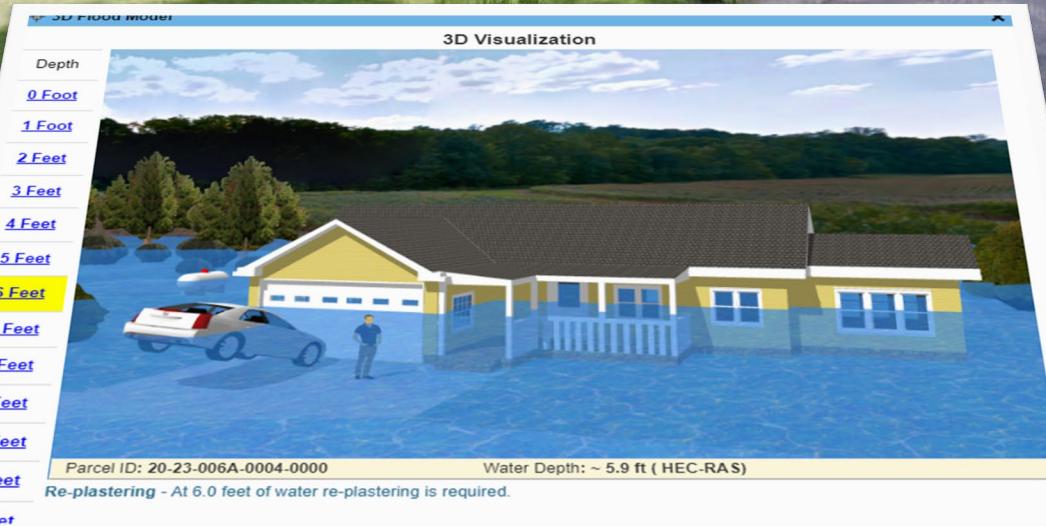
WV Flood Tool link to Street View and 3D Visualization

Charleston, West Virginia



Jul 2023

[See more dates](#)



[Google Street View](#)



3232 Rutledge Road Structure (1997)

100-YR Risk Assessment

STRUCTURE

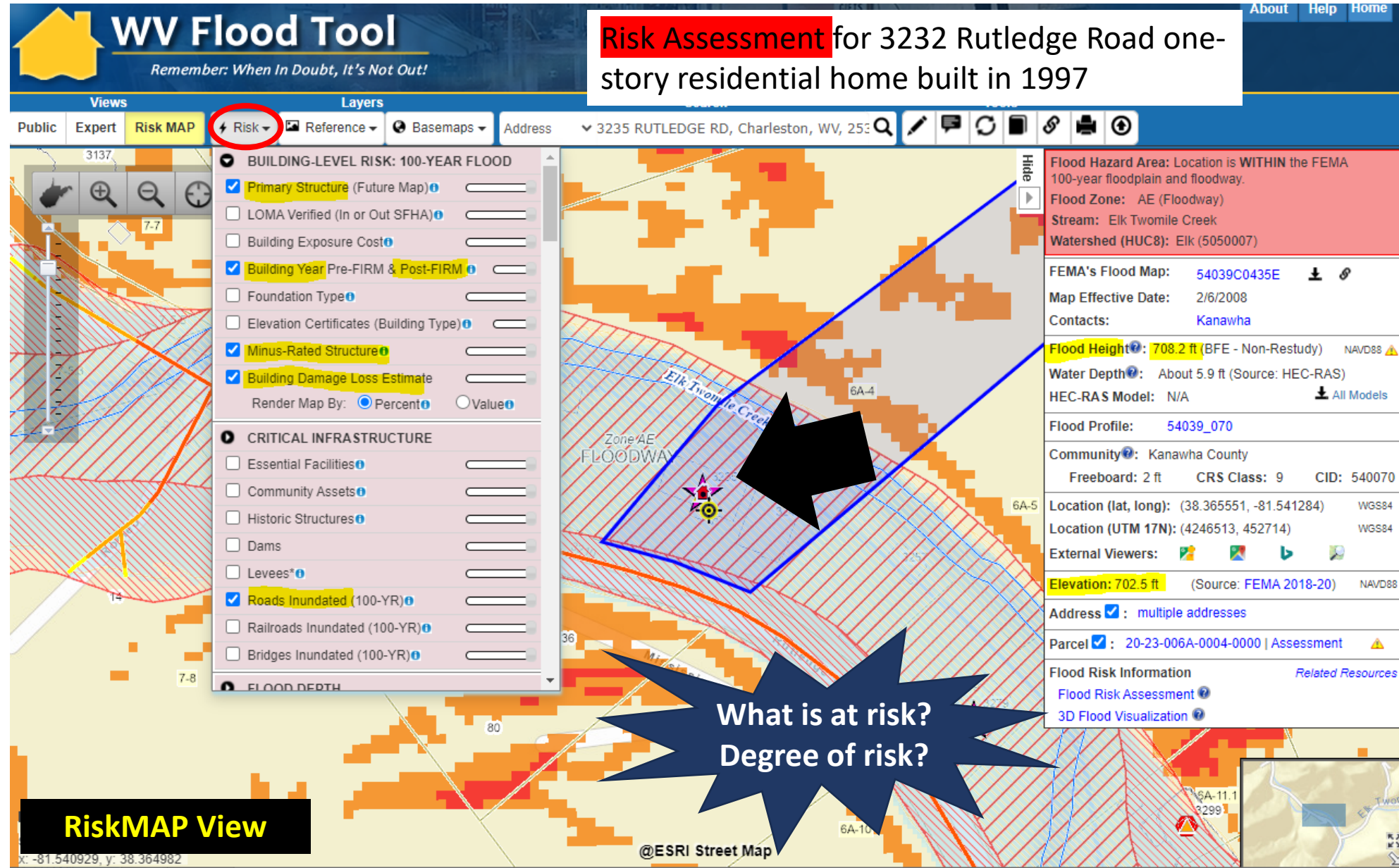
- ✓ Floodway
- ✓ Minus-Rated
- ✓ Moderate Structure Damage Estimated
- ✓ Debris Damage Risk

OTHER RISKS

- ✓ Road Inundated
- ✓ Landslide Susceptibility

**BUILDING
LEVEL
ANALYSIS**

Source: [WV Flood Tool](#)
[Panel 5400700153C](#) 1985 FIRM with BFE



Risk Assessment: 200 Riverview Drive (2 fatalities)



- After this disaster, about 4,500 households sought financial assistance through flood insurance claims or FEMA's Individual Assistance program. People who filed flood insurance claims received an average of \$53,500 per claim. People without flood insurance received only \$8,363 in individual assistance for property repairs. While IA is intended to help people begin their recovery

Source: [FEMA Flood Report](#)

Flood Insurance Claim Avg: \$53,500

IA for People w/o Insurance: \$8,863

Riverview Drive: Pre-FIRM Minus-Rated Structure

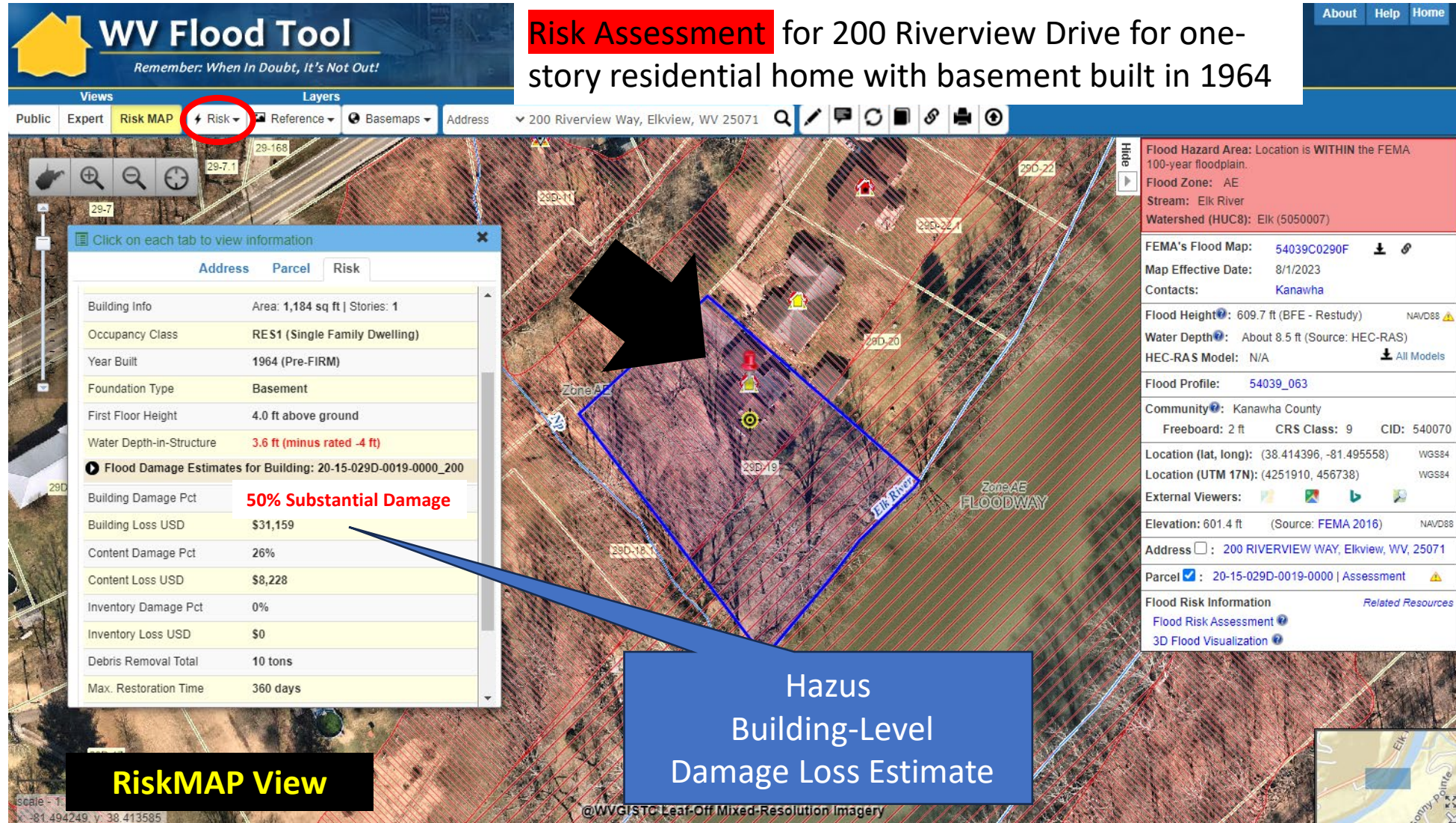
100-YR Risk Assessment

STRUCTURE

- ✓ Subgrade Basement
- ✓ Minus-Rated
- ✓ High Flood Depth
- ✓ Nearly Substantial Damage Estimated
- ✓ Hydrodynamic Flood Forces (Foundation Collapse)

**BUILDING
LEVEL
ANALYSIS**

Source: [WV Flood Tool](#)



200 Riverview Drive: FEMA 50% Rule

Sales History			WV Flood Tool Parcel Report				Learn More	
Sale Date	Price	Sale Type	Source Code	Validity Code	Book	Page		
1/6/2017	\$84,000	Land and Buildings	4	5	2963	0536		
3/4/2008	\$121,000	Land and Buildings	4	5	2715	0557		
12/6/2007	\$129,726	Land and Buildings	4	5	2710	0187		
6/21/2006	\$154,500	Land and Buildings	1	2	2663	0795		
4/1/2002	\$139,000	Land and Buildings	4	0				
7/1/1999	\$123,500	Land and Buildings	1					
Parcel History								
Tax Year	Tax Class	Owner	Owner Address	Book/ Page	Leg	Building	Total	
2023	2	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970/ 0245	LTS 13-14 SUGAR CAMP ADN	\$62,800	\$107,500	
2022	2	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970/ 0245	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$64,500	\$109,200
2021	2	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970 / 0245	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$64,500	\$109,200
2020	2	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970/ 0245	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$65,800	\$110,500
2019	3	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970/ 0245	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$23,500	\$68,200
2018	3	LUCAS CARMEL D JR	4635 PENNSYLVANA AVE, CHARLESTON, WV 25302	2970/ 0245	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$23,900	\$68,600
2017	2	ADAMS JONI	200 RIVERVIEW WAY, ELKVIEW, WV 25071	2715/ 0557	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$21,600	\$66,300
2016	2	ADAMS JONI	200 RIVERVIEW WAY, ELKVIEW, WV 25071	2715/ 0557	LTS 13-14 SUGAR CAMP ADN	\$44,700	\$105,600	\$150,300

FEMA 50% Rule

80% Decrease

Zillow

Edit

Save

Share

More

2 bd | 2 ba | 2,281 sqft

200 Riverview Way, Elkview, WV 25071

● Off market

Zestimate®: None ?

Rent Zestimate®: \$1,670

2023 assessed: \$107,500

Est. refi payment: \$516/mo

\$ Refinance your loan

Home value

Owner tools

Home details

Neighborhood details

Price history

Date	Event	Price
4/24/2017	Sold	\$13,250 -24.3% \$6/sqft
Source: <div><div></div><div>Yourscore</div></div> KVBK #212076 Report		
3/1/2017	Listed for sale	\$17,500 -88.7% \$8/sqft
Source: Homepath Report		
6/21/2006	Sold	\$154,500 +11.2% \$68/sqft
Source: Public Record Report		
4/1/2002	Sold	\$139,000 +12.6% \$61/sqft
Source: Public Record Report		

Risk Assessment: 2466 JORDAN CREEK RD

All these homes along Jordan Creek Road near Clendenin were swept away during the flood

