

# Floodplain Area Ratio (SFHA RT) (Incorporated Place Scale)



West Virginia University  
WV GIS Technical Center

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# Floodplain Area Ratio

Major Category	Detailed Category	Code	Indicator	Short Description	Unit
Flood Hazard Risk	Floodplain Area	<b>SFHA_RT</b>	<b>Floodplain Area Ratio</b> (Incorporated Place Scale)	Special Flood Hazard Area (SFHA) acreage to Total Community Area	%

Rationale	Recommendations	Data Source
<p>At the community level, incorporated places with a higher ratio of floodplain area to community area face more significant challenges for development. Small towns in which a high percentage of their total incorporated land is in the Special Flood Hazard Area (SFHA) often have a higher flood exposure than other communities. Essential facilities and other significant structures that provide critical services to the community are often located in high-risk floodplains of smaller communities.</p> <p>Recently the small communities of Henderson (Mason), Matoaka (Mercer County), and Rhodell (Raleigh) with a high percentage of floodplain area have dissolved and are now unincorporated.</p>	<p>Smaller jurisdictions must be vigilant in relocating critical facilities away from the floodplain along with enforcing its floodplain management ordinance for any development.</p> <p>Although expensive to build and maintain, engineering flood control structures like levees, floodwalls, and dams protect vulnerable flood-prone communities.</p>	<p>FEMA Flood Insurance Rate Map (FIRM)</p> <p>Streams and Waterbodies (USGS NHD 24K), National Public Lands (USGS PAD-US)</p>

# Floodplain Area Ratio; Top 20% Rankings

RANK	All Communities	Percent Rank	Incorporated Communities	Percent Rank
1	Sylvester	100.0%	Sylvester	100.0%
2	Friendly	99.6%	Friendly	99.5%
3	Addison	99.2%	Addison	99.1%
4	Hambleton	98.9%	Hambleton	98.6%
5	Reedy	98.5%	Reedy	98.2%
6	Bruceston Mills	98.2%	Bruceston Mills	97.8%
7	Buffalo	97.8%	Buffalo	97.3%
8	Parsons	97.5%	Parsons	96.9%
9	Pine Grove	97.1%	Pine Grove	96.4%
10	Matewan	96.8%	Matewan	96.0%
11	Elizabeth	96.4%	Elizabeth	95.6%
12	Chesapeake	96.1%	Chesapeake	95.1%
13	Albright	95.7%	Albright	94.7%
14	Rowlesburg	95.4%	Rowlesburg	94.2%
15	Capon Bridge	95.0%	Capon Bridge	93.8%
16	Gary	94.6%	Gary	93.4%
17	New Martinsville	94.3%	New Martinsville	92.9%
18	Hartford	93.9%	Hartford	92.5%
19	Whitesville	93.6%	Whitesville	92.1%
20	Milton	93.2%	Milton	91.6%
21	Paw Paw	92.9%	Paw Paw	91.2%
22	Grantsville	92.5%	Grantsville	90.7%
23	Buckhannon	92.2%	Buckhannon	90.3%
24	Jane Lew	91.8%	Jane Lew	89.9%
25	Marlinton	91.5%	Marlinton	89.4%
26	Wellsburg	91.1%	Wellsburg	89.0%
27	Sand Fork	90.8%	Sand Fork	88.5%
28	Rainelle	90.4%	Rainelle	88.1%
29	Bancroft	90.1%	Bancroft	87.7%
30	Point Pleasant	89.7%	Point Pleasant	87.2%
31	Alderson**	89.3%	Alderson**	86.8%
32	Montrose	89.0%	Montrose	86.4%
33	Clay	88.6%	Clay	85.9%
34	Rupert	88.3%	Rupert	85.5%
35	Womelsdorf (Coalton)	87.9%	Womelsdorf (Coalton)	85.0%
36	Cowen	87.6%	Cowen	84.6%
37	Kimball	87.2%	Kimball	84.2%
38	Harman	86.9%	Harman	83.7%
39	Fort Gay	86.5%	Fort Gay	83.3%
40	Wayne	86.2%	Wayne	82.8%
41	Mason	85.8%	Mason	82.4%
42	Monongah	85.5%	Monongah	82.0%
43	Moundsville	85.1%	Moundsville	81.5%
44	Beverly	84.8%	Beverly	81.1%
45	Moorefield	84.4%	Moorefield	80.7%
46	Kermit	84.0%	Kermit	80.2%
47	New Haven	83.7%		
48	Glenville	83.3%		
49	Clendenin	83.0%		
50	Hendricks	82.6%		
51	Richwood	82.3%		
52	Ceredo	81.9%		
53	Hamlin	81.6%		
54	Pax	81.2%		
55	Eleanor	80.9%		
56	West Hamlin	80.5%		
57	Williamstown	80.2%		

## Colors:

Black --> Incorporated areas

Brown --> Unincorporated areas

Green --> Counties (Total)

Red --> Split communities

Blue --> Incorporated communities participating in the National Flood Insurance Program (NFIP) with no regulatory Special Flood Hazard Area (SFHA)

Purple --> Incorporated communities with no regulatory Special Flood Hazard Area (SFHA) not participating in the National Flood Insurance Program (NFIP) (not mentioned in the FEMA's Community Status Book Report)

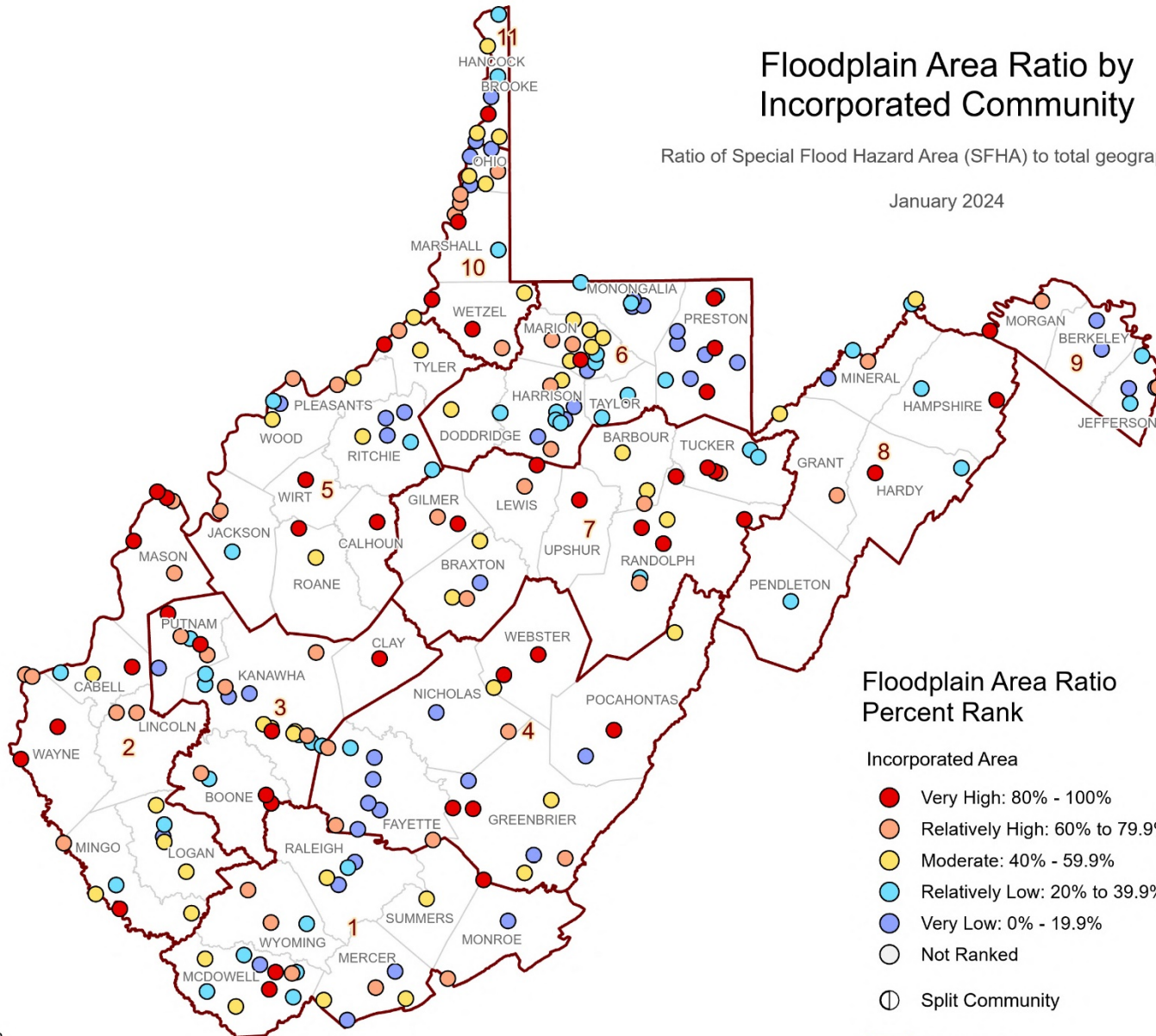
Black on blue: Six incorporated communities included in the detailed risk study (Camden-on-Gauley, Clendenin, Rainelle, Richwood, White Sulphur Springs, and Marlinton)

# Floodplain Area Ratio; Maps

## Floodplain Area Ratio by Incorporated Community

Ratio of Special Flood Hazard Area (SFHA) to total geographic area

January 2024

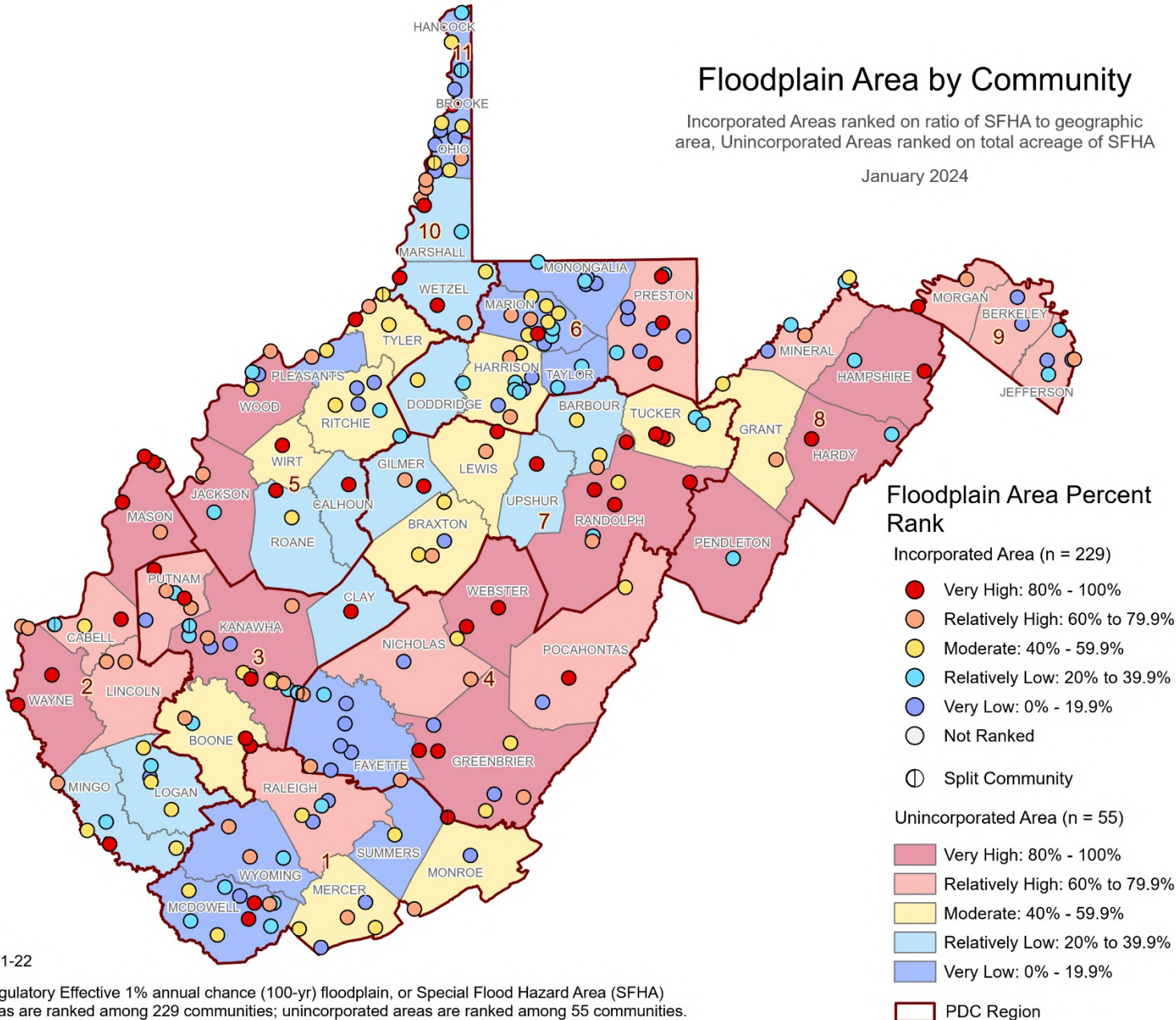


# Floodplain Area Ratio; Maps

## Floodplain Area by Community

Incorporated Areas ranked on ratio of SFHA to geographic area, Unincorporated Areas ranked on total acreage of SFHA

January 2024



WVGISTC 2024-1-22

Data Source: Regulatory Effective 1% annual chance (100-yr) floodplain, or Special Flood Hazard Area (SFHA)  
Incorporated areas are ranked among 229 communities; unincorporated areas are ranked among 55 communities.

# Floodplain Area Ratio; Focus Communities

Indicator	White Sulphur Springs	Rainelle	Clendenin	Richwood	Marlinton	Camden-on-Gauley	Statewide Median
Total SFHA Area (acres)	267	223	235	247	494	35	77
Water Bodies > 10 acres & Wide Streams > 500 ft.	0	0	0	0	0	0	0
Federal Lands (> 10 acres)	0	0	0	0	0	0	0
<b>Modified Total SFHA Area (acres) (Minus large water bodies and federal lands)</b>	267	223	235	247	494	35	74
Total Community Area (acres)	1,214	714	974	1,068	1,566	214	559
<b>Ratio of aSFHA to Community Area</b>	<b>22.0%</b>	<b>31.2%</b>	<b>24.1%</b>	<b>23.1%</b>	<b>31.5%</b>	<b>16.4%</b>	13.8%
<b>Floodplain Area Ratio Percent Ranks</b>	<b>74.2% (Relatively High)</b>	<b>87.7% (Very High)</b>	<b>78.6% (Relatively High)</b>	<b>77.7% (Relatively High)</b>	<b>89.0% (Very High)</b>	<b>58.5% (Moderate)</b>	-

Percent Rank Legend: Very High: 80% to 100% Relatively High: 60% to 79.9% Moderate: 40% to 59.9% Relatively Low: 20% to 39.9% Very Low: 0% to 19.9%

# Floodplain Area Ratio; Findings

## Top 10 incorporated communities with the highest Floodplain Area Ratio:

BLDG SFHA Ratio, Top 10 Communities										
Rank	Community	County	RPDC Region	Total SFHA Area (acres)	Water Bodies > 10 acres & Wide Streams > 500 ft.	Federal Lands (> 10 acres)	Modified Total SFHA Area (acres) (Minus large water bodies and federal lands)	Total Community Area (acres)	Ratio of aSFHA to Community Area	Percent Rank
<b>INCORPORATED</b>										
1	<b>Sylvester</b>	Boone	3	27	0	0	<b>27</b>	34	<b>79.4%</b>	<b>100.0%</b>
2	<b>Friendly</b>	Tyler	5	43	5	0	<b>38</b>	65	<b>58.5%</b>	<b>99.5%</b>
3	<b>Addison</b>	Webster	4	171	0	0	<b>171</b>	303	<b>56.4%</b>	<b>99.1%</b>
4	<b>Hambleton</b>	Tucker	7	83	0	0	<b>83</b>	166	<b>50.0%</b>	<b>98.6%</b>
5	<b>Reedy</b>	Roane	5	60	0	0	<b>60</b>	125	<b>48.0%</b>	<b>98.2%</b>
6	<b>Bruceton Mills</b>	Preston	6	17	0	0	<b>17</b>	36	<b>47.2%</b>	<b>97.8%</b>
7	<b>Buffalo</b>	Putnam	3	342	0	0	<b>342</b>	745	<b>45.9%</b>	<b>97.3%</b>
8	<b>Parsons</b>	Tucker	7	230	0	0	<b>230</b>	529	<b>43.5%</b>	<b>96.9%</b>
9	<b>Pine Grove</b>	Wetzel	10	103	0	0	<b>103</b>	243	<b>42.4%</b>	<b>96.4%</b>
10	<b>Matewan</b>	Mingo	2	145	0	0	<b>145</b>	348	<b>41.7%</b>	<b>96.0%</b>

# Floodplain Area Ratio; Findings

## Summary of Findings:

- The median ratio of **modified area of floodplains (aSFHA) to community area** for all incorporated places statewide is **13.8%**.
- Among the incorporated communities, **Sylvester** in Boone County has the highest ratio (79.4%) followed by **Friendly** in Tyler County (58.5%).

## Focus Communities Highlights:

- **Marlinton** and **Rainelle** are among the **top 20% incorporated communities** in terms of the ratio of modified area of floodplains (aSFHA) to community area with 31.5% and 31.2% of their areas covered with such high-risk zones, respectively.
- **Clendenin** (24.1%), **Richwood** (23.1%), and **White Sulphur Springs** (22.0%) are among the **top 40% incorporated communities** in terms of the ratio of modified area of floodplains (aSFHA) to community area.
- The ratio of modified area of floodplains (aSFHA) to community area is **higher than the statewide median** for all incorporated areas (13.8%) in all six focus communities.