

MCDOWELL COUNTY RISK ASSESSMENT

Compiled by WV GIS Technical Center, 10/13/2024

ENVIRONMENTAL JUSTICE FACTORS*

- McDowell County is the **8th-poorest county** in the U.S., indicating social disparities in environmental exposures and health exist. *Source* [StatsAmerica](#).
- McDowell County has the **highest social vulnerability index** in the state. *Sources* [WV Risk Explorer](#) / [Rationale](#).
- McDowell County's municipalities have the **highest racial minority percentage** in the state. *Source* [Census](#).
- McDowell County is the **4th most racially diverse county** in the state. *Source* [Census](#).
- McDowell County has the **highest percentage of African American flood deaths** in the state. *Sources* [WVFRF Flood Fatality Dashboard](#) and [Newspaper Archives](#).
- McDowell County has the **lowest median household income** (\$28,972) in the nation. *Source* [StatsAmerica](#).
- McDowell County's **geographical area is comprised of 45% by Community Disaster Resiliency Zones** designated by FEMA, the most at-risk and in-need jurisdictions designated by FEMA. *Sources* [WV Hazard Library](#) / [FEMA](#).

FLOOD IMPACT CONDITIONS

- McDowell County has the **third highest cumulative flood risk score** (96%) in the state, signifying greater environmental, physical, and human exposures to flooding. *Sources* [WV Flood Explorer](#) / [Cumulative Flood Risk](#).
 - McDowell County **ranks 1st in the WV Social Vulnerability Index**, a socio-economic resiliency indicator, revealing which communities less likely to recover from a flood disaster quickly and fully. *Source* [WV Risk Explorer](#); same as Item #2 above.
 - McDowell County **ranks 1st in the state with the highest ratio of population at 45% residing in the high-risk floodplains to total population**, since many of the floodprone communities were established in the early-20th century along narrow river valleys and steep mountainsides during the boom of coal mining and timbering extraction industries. *Sources* [WV Risk Explorer](#) / [Rationale](#).
 - McDowell County **ranks 2nd in the building exposure category** that consists of building floodplain count (3rd), building floodway count (3rd), building floodplain ratio (5th), and building density (3rd). *Sources* [WV Risk Explorer](#) / [Building Exposure Indicators](#) / [Rationale](#).
 - McDowell County **ranks 3rd for critical infrastructure** (essential facilities and roads) category vulnerable to flooding. *Sources* [WV Risk Explorer](#) / [Rationale](#).
 - McDowell County **ranks 2nd for non-historical community assets** vulnerable to flooding. *Sources* [WV Risk Explorer](#) / [Rationale](#).
 - McDowell County **ranks 8th in building damage loss risk category** and **ranks 6th in previous damage claims**, indicating high building debris and severe environmental impacts associated with flood damage. *Sources*: [WV Risk Explorer](#) / [Damage Loss Indicators](#) / [Rationale](#).
- McDowell County has **four municipalities scoring in the top 10% cumulative flood risk** of all incorporated places in the state. *Sources*: [WV Flood Explorer](#) / [Cumulative Flood Risk](#).
- McDowell County is in the **Tug Fork Watershed** which has a **very high cumulative flood risk** (94%), which **ranks 3rd of 33 watersheds** in the state. *Source* [WV Flood Explorer](#).

- McDowell County has the **Tug Fork** (86%) and **Elkhorn Creek** (84%) in the **top 20%** for cumulative flood risk index score. Source [WV Flood Explorer](#).
- McDowell County is situated in the Ohio River Basin in which **USACE climate change models predict higher stream flows** in the future for central and southern West Virginia. Source [USACE](#).

OPEN SPACE PRESERVATION AND RESILIENT HOUSING

- McDowell County has the **highest number of buyout parcels** of protected floodplain open space in the state. Source [WVFRF Mitigation Buyout Property Dashboard](#).
- McDowell County's **land is largely owned by corporate entities** for the purposes of coal, mineral, and timber extraction. Sources: [WV Property Viewer](#) and [WV Encyclopedia](#).
- McDowell County has the **highest housing vacancy rate** in the state. Source: [WV NRCS Elkhorn Creek EA Plan](#).
- McDowell County has the **highest percentage of dilapidated properties** in the region and state which are environmental and public safety hazards. Sources: [WV Hazard Library](#) and [Region 1 PDC](#).
- McDowell County has **thousands of structures that straight-pipes discharging raw sewage** directly into rivers and streams, affecting water supplies. Source: [WV NRCS Elkhorn Creek EA Plan](#).
- McDowell County has one of the **lowest flood insurance penetration rates** in the state, whereby less than 3% of residential structures in the Special Flood Hazard Area have flood insurance to protect from flood losses. Sources [WV Hazard Library](#) and [FEMA Region 3](#).

**Environmental justice is the fair treatment of all people, regardless of their race, income, national origin, or other characteristics, in the development, implementation, and enforcement of environmental laws, regulations, and policies.*