



WEST VIRGINIA RIVERS

23 April 2025

Lee M. Zeldin, Administrator
US Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Ave, NW
Washington, DC 20460

Re: Docket ID No. EPA-HQ-OW-2025-0093

Submitted via <https://www.regulations.gov>

Dear Administrator Zeldin,

On behalf of our members, we appreciate the opportunity to comment on the Implementation of the Definition of Waters of the United States (WOTUS) by the US Environmental Protection Agency (EPA) and US Army Corps of Engineers. This issue is essential for water security and flood resiliency in West Virginia and nationwide.

The 2023 Supreme Court decision in *Sackett v. EPA* hinges on the definition of water features that are “connected to...relatively permanent” waters, and calls into question whether “isolated” wetlands and “intermittent” streams should receive Clean Water Act protections. The practical question is whether the condition of such headwater features will affect downstream water resources and communities.

Here we highlight the vital importance of wetlands and headwater streams for downstream resiliency to floods and droughts in West Virginia, and we recommend a comprehensive definition of WOTUS that accounts for hydrologic connectivity through groundwater.

In recent years, West Virginia has been subject to extreme drought and floods on multiple occasions^{1 2}. Prior research demonstrates that removal of headwater streams through mountaintop mining can increase downstream base flows³ and peak flows⁴, and recent flooding across the southern region of the state attests to the severity of this problem. The West Virginia Department of Environmental Protection (WVDEP) recognizes the value of wetlands to reduce downstream flooding⁵, and EPA's own documentation highlights the importance of wetlands for water purification, flood risk reduction, groundwater recharge, carbon sequestration, and wildlife habitat⁶.

The proposed WOTUS definition requiring a "continuous surface connection" is too narrow because it ignores groundwater processes that connect streams and wetlands. Moreover, ignoring groundwater would be untenable because it would exclude baseflow that sustains downstream river flows during periods lacking precipitation. Also, groundwater cannot be ignored because groundwater pumping is known to reduce water levels in nearby rivers⁷, and groundwater upwelling promotes thermal resiliency in headwater streams⁸. Thus, groundwater processes are essential for a meaningful definition of WOTUS.

Wetlands are sustained and connected to each other through the movement of groundwater, and this is well-known from the scientific literature⁹ as well as EPA

¹ <https://www.wowktv.com/news/west-virginia/state-of-emergency-extended-for-14-west-virginia-counties/>

² <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?WV>

³ Wiley, J.B., *et al.* 2001. Reconnaissance of stream geomorphology, low streamflow, and stream temperature in the mountaintop coal-mining region, southern West Virginia, 1999-2000. US Geological Survey Water-Resources Investigations Report 2001-4092.

<https://pubs.usgs.gov/publication/wri20014092>

⁴ Bryan, B.A., and J.D. Hewlett. 1981. Effect of surface mining on storm flow and peak flow from six small basins in eastern Kentucky. *Journal of the American Water Resources Association* 17:290-299.

⁵ <https://dep.wv.gov/WWE/watershed/wetland/Documents/WetlandsFactsheet.pdf>

⁶ <https://www.epa.gov/wetlands/why-are-wetlands-important>

⁷ Condon, L.E., and R.M. Maxwell. 2019. Simulating the sensitivity of evapotranspiration and streamflow to large-scale groundwater depletion. *Science Advances* 5:eaav4574.

⁸ Hitt, N.P., *et al.* 2023. Stabilising effects of karstic groundwater on stream fish communities. *Ecology of Freshwater Fish* 32:538-551; Kessler, K., *et al.* 2023. Karst terrain promotes thermal resiliency in headwater streams. *Proceedings of the West Virginia Academy of Science* 95(3):1-8.

⁹ Neff, B.P., *et al.* 2020. A hydrologic landscapes perspective on groundwater connectivity of depressional wetlands. *Water* 12:50; Leibowitz, S.G. *et al.* 2023. National hydrologic connectivity classification links wetlands with stream water quality. *Nature Water* 1:370-380; Winter, T. 1999. Relation of streams, lakes, and wetlands to groundwater flow systems. *Hydrogeology Journal* 7:28-45.

documentation¹⁰. According to WVDEP, over 80% of the wetlands in West Virginia have already been lost¹¹, and ignoring groundwater connectivity would likely result in further losses. Such losses would undercut state agency goals for “no net loss” of wetlands in West Virginia¹² and could negate prior investments for wetland conservation supported by WV taxpayers across the state.

We therefore strongly encourage the EPA to follow the science and its own documentation recognizing the importance of groundwater connectivity when defining WOTUS. This is an issue of importance for communities across West Virginia that rely on headwater streams and wetlands for water security and flood control. Ignoring groundwater not only would exclude the best available scientific evidence but also would expose downstream communities to increased risks for flooding and drought.

Thank you for considering our comments. Please feel free to contact me for further information or clarification.

Sincerely,

Jennie Smith
Executive Director

cc. Nathaniel Hitt, PhD, Senior Scientist
Maria Russo, Policy Specialist

¹⁰ <https://www.epa.gov/wetlands/classification-and-types-wetlands>

¹¹ <https://dep.wv.gov/WWE/watershed/wetland/Pages/default.aspx>

¹² https://dep.wv.gov/WWE/watershed/wetland/Documents/WV_Wetland_Program_Plan_2021-2025.pdf