## Clarify US Clean Water Act jurisdiction

On 3 October 2022, the US Supreme Court heard arguments in Sackett v. USEPA, the latest in a series of cases seeking to clarify which waters are protected under the US Clean Water Act (1). Concurrently, the US Environmental Protection Agency and the US Army Corps of Engineers are actively drafting rules for the third time in the past 10 years, after the Obama-era Clean Water Rule (2) was repealed (3) and the Trump-era Navigable Waters Protection Rule (4) was vacated and remanded (5). Consequently, enforcement of the Clean Water Act has reverted to 1986 agency guidance (6). Although scientific understanding of the physical, chemical, and biological connectivity of waters (7) and the ability to leverage geospatial data to guide jurisdictional determinations (8, 9) have grown substantially since 1986, the Clean Water Act enforcement and rulemaking have yet to catch up.

When the Clean Water Act was passed in 1972, it applied to "the Waters of the United States," an undefined term that remains ambiguous today (10). The precise definition was not critical when the nation's attention was focused on point-source pollution in large rivers, but Congress has never addressed how far Clean Water Act protections should extend into headwater streams, wetlands, and aquifers. Because of this uncertainty, the Supreme Court has adjudicated six cases disputing Clean Water Act jurisdictional scope (8), contributing to the Clean Water Act being their most-heard environmental issue (11). As the agencies embark on a third attempt at rulemaking this decade, Congress remains steadfastly silent, content to watch the courts mediate 50 years of sparring over implementation of the

Congress, the Environmental Protection Agency, and the Army Corps of Engineers now have the opportunity-and responsibility-to clarify the scope of the Clean Water Act and implement evidence-based policy. We call on Congress to amend the Clean Water Act, clarifying their intent rather than leaving the agencies and courts to interpret vague language. Meanwhile, the agencies should engage and empower their own scientists to create transferable geospatial tools, embracing rather than eschewing mapping and predictive efforts (12). The EPA's Science Advisory Board can aid this effort by continuing to demand that the agency adhere to the best available science and take a proactive role in guiding transparent, effective, and science-informed rulemaking. Preserving and improving our nation's water quality future is at stake.

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## REFERENCES AND NOTES

- 1. Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. §§ 1251–1387, 1972).
- US Department of Defense, US Environmental Protection Agency, "Clean Water Rule: Definition of 'Waters of the United States," Federal Register 80, 37054 (2015).
- D. J. Trump, "Executive Order 13778: Restoring the rule of law, federalism, and economic growth by reviewing the 'Waters of the United States' rule," Federal Register 82, 12497 (2017).
- US Department of Defense, US Environmental Protection Agency, "The Navigable Waters Protection Rule: Definition of 'Waters of the United States," Federal Register 85, 22250 (2020).
- Pascua Yaqui Tribe v. U.S. Environmental Protection Agency, United States District Court, District of Arizona. CV-20-00266-TUC-RM (2021).
- US Department of Defense, "Final Rule for Regulatory Programs of the Corps of Engineers," Federal Register 51, 41217 (1986).
- L. C. Alexander et al., "Connectivity of streams and wetlands to downstream waters: A review and synthesis of the scientific evidence" (EPA/600/R-14/475F, 2013), p. 331.
- 8. R. Walsh, A. S. Ward, WIREs Wat. 9, e1603 (2022).
- J. Wade, C. Kelleher, A. S. Ward, R. L. Schewe, *Hydrol. Process.* 36, e14747 (2022).
- S. P. Mulligan, "Evolution of the meaning of 'Waters of the United States' in the Clean Water Act" (2019), pp. R44585–R44585.
- S. Zellmer, "Treading water while Congress ignores the nation's environment" Notre Dame L. Rev. 88, 2323 (2013).
- 12. US Department of Defense, US Environmental Protection Agency, "Navigable Waters Protection Rule fact sheet: Mapping and the Navigable Waters Protection Rule" (2020), p. 4.

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