

February 7, 2022

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Office of Water
U.S. Environmental Protection Agency
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Stacey Jensen
Office of the Assistant Secretary of the Army
for Civil Works
Department of the Army
108 Army Pentagon
Washington, D.C. 20310-0104

RE: Docket ID No. EPA-HQ-OW-2021-0602

Dear Ms. Christensen and Ms. Jensen:

Thank you for the opportunity to comment on the definition of “waters of the United States” under the Clean Water Act. The Nature Conservancy (TNC) recognizes the long-standing desire of landowners, businesses, federal and state agencies, the courts, and others to improve implementation of the Clean Water Act (CWA). TNC acknowledges the need to clarify the definition in a manner grounded in science and consistent with the statute and the subsequent court decisions. After careful consideration of the comments received, we urge you to complete this rulemaking effort expeditiously.

TNC is a global conservation organization dedicated to conserving the lands and waters on which all life depends. Guided by science, we create innovative, on-the-ground solutions to the world’s toughest challenges so that nature and people can thrive together. We are tackling climate change, conserving lands, waters, and oceans at unprecedented scale, providing food and water sustainably, and helping make cities more sustainable. Working in all 50 states and 72 countries, we use a collaborative approach that engages local communities, governments, the private sector, and other partners, including farmers, ranchers, and other landowners. Within the United States, TNC owns approximately 2.5 million acres and holds conservation easements covering approximately 3.5 million acres. TNC is involved in many conservation activities that require CWA permits on these lands and elsewhere, and therefore, is directly affected by the rulemaking you are proposing.

Restore Pre-2015 Regulatory Conditions

TNC supports restoration of the CWA regulations that were in place prior to 2015, as updated to be consistent with relevant Supreme Court decisions. This will offer a better alternative that aligns with current science, best management practices, and prior Supreme Court precedent. Utilizing the pre-2015 regulatory conditions would reinstate protection of headwater wetlands and unique wetland features that lack a direct surface connection such as prairie potholes, Carolina bays, and vernal pools. TNC urges you to restore those regulations as quickly as possible to avoid ambiguity in the interim and undue risks to the nation's waters.

The Navigable Waters Protection Rule (NWPR) resulted in a weakened Clean Water Act and is contradicted by our scientific understanding of hydrologic connections that demonstrates that small streams and wetlands are critical to the health of communities and waterways. The NWPR threatened the benefits of clean water, which include sources of drinking water for people, habitat for fish and wildlife, and support for local economies and thriving communities.

As addressed in the preamble to the proposed rule, the NWPR excluded wetlands, streams, and waters that impact foundational waters. Using a watershed-based, hydrogeomorphic approach, TNC and Wisconsin's Green Fire conducted an analysis to determine the areal extent of wetlands not protected under the NWPR, as well as the potential implications for ecosystem services. According to our analysis, approximately 3.5 million acres (55%) of Wisconsin's wetlands were not federally protected under the NWPR, including 48% of wetlands important for flood mitigation.¹ Subsequent analysis explored potential implications for additional ecosystem services, revealing 56.5% of Wisconsin's wetlands important for phosphorus retention were unprotected by the NWPR, 79% of wetlands important for nutrient transformation were unprotected, and 19% of wetlands important for surface water provision were unprotected.² A strong north-south trend was apparent, with northern Wisconsin watersheds most at risk of losing protection of water quality and other ecosystem services.

Ecosystem Services

Wetlands, streams, and water resources are critically important to the health and well-being of our nation's people, economy, and environment. These are shared, interconnected resources that supply our drinking water, help grow our food, transport our goods, provide our energy, and support our communities and economy. These waters also support a broad range of biodiversity, including fish, wildlife, and plants, and the natural areas on which they depend. Through these roles, wetlands, streams, and waters serve as natural infrastructure, complementing and helping to sustain the nation's built infrastructure. In many cases, they provide nature-based services disproportionately relative to other landscapes, playing outsized roles in nutrient reduction, flood mitigation, sediment transport and retention, carbon storage, shoreline protection, water provisioning, and providing habitat for many rare and federally listed species.³

While all wetlands, streams, and waters provide an array of ecosystem services, the number, type, and degree of services provided by individual wetlands, streams, and waters varies based on factors such as watershed position, wetland type, stream order, landscape context, and

¹ Wetlands and Waterways in Wisconsin: Navigating Changes to the Federal Waters of the United States (WOTUS) Rule *in* Opportunities Now: An Analysis of Priority Issues and Actions for Wisconsin's Natural Resources. Wisconsin's Green Fire, Rhinelander, WI. <https://wfgreenfire.org/2019/wp-content/uploads/2021/05/WGF-Opp-Now-Waters-of-the-United-States-Final-May-10-2021.pdf>

² Unpublished manuscript. Miller, N., J. Kline, T. Bernthal et al. Rollback of US federal wetland protections under the NWPR: Implications for wetland acres and functions in Wisconsin.

³ Kusler, Jon. 2004. Common questions: Wetland conservation and the protection of migratory birds. Association of State Wetland Managers. 13 pp.

interaction with waterflow paths.^{4,5} Together, these factors inform a watershed approach, recognized and required by the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers for siting wetland compensatory mitigation under the 2008 compensatory mitigation rule (33 CFR 332).

TNC appreciates the broader, watershed-scale vision demonstrated in the proposed rule and its preamble, relative to the NWPR, to ensure adequate protection of a broad array of ecosystem services. This includes the renewed potential to consider through significant nexus analysis the relevance of headwater systems, ephemeral streams, and wetlands lacking surface connections to the water quality of foundational waters.

Climate Change Resilience and Mitigation

TNC supports the commitment to allow for consideration of climate change impacts (e.g., increased frequency and intensity of storms, which cause increased runoff and flooding) in significant nexus analyses. Further, we support the goal in the proposed rule to consider and maintain climate resilience of downstream water resources. These considerations are essential, because climate change is causing major shifts in hydrologic cycles of many watersheds, and these effects will increase as our climate continues to change. Climate-induced change in watershed hydrology (1) increases our society's reliance on the ecosystem services provided by water resources, such as flood abatement, water quality, and baseflow maintenance and (2) strains and sometimes overwhelms the capacity of individual wetlands, streams, and waters to provide these same services. To maintain climate resilience, we should protect as many of our nation's wetland and water resources that can provide such services as is practicable. This requires adequate protection throughout watersheds, from headwaters to foundational waters.

The preamble to the proposed rule excludes carbon storage and sequestration potential from consideration in significant nexus analyses, based on the argument that the climate mitigation function of wetlands does not directly impact physical, chemical, or biological aspects of water quality in foundational waters. While the mechanism and route of impact to downstream waters is less direct and localized than other types of significant nexus, such as discharge of pollutants, wetlands serve as significant carbon banks at national and global scales and thereby reduce climate change impacts to the nation's waters. TNC encourages the agencies to consider, either in the final rule or the next rulemaking on CWA jurisdiction, whether the carbon storage and sequestration potential of wetlands can be included in the significant nexus analyses of impacts on foundational waters. Like other potential impacts, the magnitude of this issue will vary among wetlands under consideration for protection (some storing more carbon or having potential to sequester more carbon than others) and according to the foundational water under consideration (with differential sensitivities to temperature changes, extreme events, and drought).

⁴ Zedler, J. B. 2003. Wetlands at your service: Reducing impacts of agriculture at the watershed scale. *Frontiers in Ecology and Environment* 1:65-72.

⁵ National Research Council (NRC). 2001. *Compensating for wetland losses under the Clean Water Act*. National Academy Press. Washington, DC.

Tributaries

TNC supports reinstating the inclusion of headwater tributaries thereby recognizing the demonstrated effect that upstream tributaries have on downstream waters. Hypoxia in the Gulf of Mexico is an example of cumulative downstream impacts of pollution and excess nutrient loading flowing from the Mississippi River watershed into the Gulf of Mexico. This hypoxic area creates a dead zone that has reduced biodiversity and impacted commercial fisheries with major economic and social consequences.⁶ Water pollution in headwater systems can exacerbate harmful algal blooms, causing fish kills and toxic water leading to domestic animal and human death and economic damage.⁷ This has been especially true in Toledo, Ohio, which sources its water from Lake Erie. Excess nutrient loading causes algal blooms in the western Lake Erie basin, contaminating the Toledo water system with cyanobacteria, or blue-green algae, known to cause liver and kidney damage. These algal blooms affect approximately 400,000 residents of Ohio and southeastern Michigan, depriving them of municipal drinking water. Furthermore, the 2014 algal bloom cost the local economy approximately \$65 million because of the loss of tourism and tax revenue.⁸

The EPA's 2015 Connectivity Report states that "[t]he scientific literature clearly demonstrates that cumulatively, streams exert strong influence on the character and functioning of rivers" and that this is true "for ephemeral tributaries, as well as for intermittent and perennial tributaries; for tributaries both near to and far from the downstream traditional navigable water, interstate water, or the territorial seas; and for natural tributaries, human-altered, or human-made tributaries, which may include certain ditches and canals."⁹ Accordingly, defining tributaries that meet the significant nexus standard as jurisdictional better ensures the protection and maintenance of river systems. Headwater stream systems help protect communities from the risks of flooding. Ephemeral and intermittent streams reduce the burdens of high-water events placed on bridges, culverts, and other drainage infrastructure. Changes in the natural flow regimes of headwater streams can increase the intensity and frequency of downstream flooding.¹⁰ High-intensity flows exacerbate the problems of streambed scour near bridge piers and abutments, which causes more bridge failures than all other causes.¹¹

The proposed rule includes relatively permanent tributaries in the definition recognized by the standard articulated in the *Rapanos* opinion. We recognize there may be administrative

⁶ Rabotyagov, S.S., C.L. Kling, P.W. Gassman, N.N. Rabalais, and R.E. Turner. 2014. The economics of dead zones: causes impacts, policy challenges, and a model of the Gulf of Mexico hypoxic zone. *Review of Environmental Economics and Policy* 8(1): 58-79.

⁷ Tango, P. 2008. Cyanotoxins in tidal waters of Chesapeake Bay. *Northeastern Naturalist*. 15: 403-416.

⁸ Malewitz, J. 2018. Lake Erie's algae bloom is growing again after paralyzing Toledo water system, August 22, 2018 report. Bridge: Michigan Environmental Watch. Available at <https://www.bridgemi.com/michigan-environment-watch/lake-eries-algae-bloom-growing-again-after-paralyzing-toledo-water-system>.

⁹ EPA/600/R-14/475F, *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence*, January 2015

¹⁰ Colvin, S.A.R., S.M.P. Sullivan, P.D. Shirey, R.W. Colvin, K.O. Winemiller, R.M. Hughes, K.D. Fausch, D.M. Infante, J.D. Olden, K.R. Bestgen, R.J. Danehy, L. Eby. 2019. Headwater streams and wetlands are critical for sustaining fish, fisheries, and ecosystem services. *Fisheries*. Vol. 44 No. 2: 74-91.

¹¹ U.S. Geological Survey, 2000. "National Bridge Scour Program: Measuring Scour of the Streambed at Highway Bridges." Available at <https://pubs.usgs.gov/fs/2000/0107/report.pdf>.

efficiencies in applying the relatively permanent standard as opposed to undertaking a significant nexus analysis in all cases. When the relatively permanent standard of flow is utilized instead of applying a significant nexus test, current and changing climate as well as shifting hydrologic conditions should be considered. For this reason, TNC appreciates the consideration of requesting comments on developing definitions for flow regimes classified as perennial, intermittent, and ephemeral in the context of determining whether a tributary meets the relatively permanent standard. If it is determined that flow classification definitions are necessary or useful, the definitions should reflect the usage of these terms by the scientific community and should be derived in consideration of the different climatic, hydrologic, and geomorphologic features in regions throughout the country.

Impoundments

TNC supports a return to longstanding language whereby any impoundment of waters otherwise defined as “waters of the United States” are considered jurisdictional. These waters include lakes, ponds, and impoundments which are standing bodies of open water that contribute surface water flow to or from “waters of the United States.” Furthermore, a lake, pond, or impoundment of a jurisdictional water contributes surface water flow to a downstream jurisdictional water in a typical year through a culvert, dike, spillway, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. These impounded waterbodies would include any associated berms, dikes, levees, dams, and connected floodplains as jurisdictional.

Environmental Justice

The conterminous 48 U.S. states have lost more than 53% of their original, pre-settlement wetland area, from an estimated 221 million acres in the 1780s to 104 million acres in the 1980s.¹² Reductions in ecosystem services have followed losses of wetland acreage, with disproportionately greater wetland conversion and ecosystem service losses in areas with more intensive land use. These trends have resulted in greater impacts to watersheds supporting communities of color and economically stressed communities. These historical impacts may begin to be redressed by ensuring adequate protection and restoration of water resources in areas that have been differentially impacted, particularly through the lens of ecosystem services—both historical losses and current needs. Therefore, TNC supports the renewed emphasis on ecosystem services, through significant nexus analyses, in the proposed rule. In addition, we recommend consideration of historical impacts in environmental justice assessments on communities of color and economically stressed communities. The proposed rule’s economic analysis assessed environmental justice implications relative to the NWPR as a baseline, but did not consider a more meaningful, longer-term baseline for determining historical environmental injustices.

Because the proposed rule narrows consideration to the physical, chemical, and biological impacts only specifically affecting downstream water quality,¹³ many wetland benefits and services of water resources are excluded from consideration that are critical to historically

¹² Dahl, T.E. 1990. Wetlands Losses in the United States, 1780's to 1980's. U.S. Department of the Interior, Fish and Wildlife Service. Washington, D.C. 13pp.

¹³ “...as the text and structure of the Act, supported by legislative history and Supreme Court decisions, make clear—chemical, physical, and biological integrity refers to water quality.”

impacted communities. These include, for example, the potential for wetlands in cities to reduce urban heat island effect, as well as the potential for wetland vegetation to improve air quality and water quality in cities. The proposed limitation would also restrict consideration by tribes of impacts to traditional hunting and fishing, thus negatively impacting Native Nations. While it is understood that this narrowing in the proposed rule is an attempt to conform with court decisions, it undermines the agencies' stated intent to align with Executive Order 13990, "Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." Protection and restoration of wetlands, streams, and waters provide significant opportunities to avoid and redress environmental injustices to communities of color and low-income communities. We encourage the agencies to maximize these opportunities to the extent possible in the proposed rule, to stay aligned with EO 13990, thereby "holding polluters accountable, including those who disproportionately harm communities of color and low-income communities." Consideration of a broader array of ecosystem services in the proposed rule would provide an important route to do so.

Economic Analysis

In the current rule making, the agencies perform a quantitative assessment of the potential national economic impacts.¹⁴ While this analysis does address some of our past concerns, such as the inclusion of a wetland valuation, we believe that the current economic analysis continues to underestimate the benefits of wetland protection. First, the agencies stated that "[23] states that currently regulate waters more broadly than required under the proposed rule are excluded."¹⁵ Across the United States, 36 states have laws that restrict their ability to regulate waters that are not federally regulated.¹⁶ In addition, most states do not have viable, stand-alone programs that could quickly be adapted to fill the gaps left by the large reduction of federal jurisdiction in the current definition.¹⁷ For these reasons, we strongly encourage the agencies to include all states in their analysis. Second, water bodies in the United States are not contained within state lines; the current state-oriented definition of "waters of the United States" ignores cross-jurisdictional benefits that would accrue from the stronger regulations in the pre-2015 rule.¹⁸ For example, a recent study of wetlands showed that the flood mitigation benefits of wetlands can accrue as far as 50 km away.¹⁹ Third, the agencies' economic analysis vastly underestimates important benefits from expanded protection of streams and wetlands. Most notably, wetlands in the United States provide critical flood protection benefits, water quality enhancement, and carbon sequestration benefits, all of which are essentially valued at zero in the current analysis. During Hurricane Sandy alone, TNC and partners estimated that protective wetlands avoided \$624

¹⁴ U.S. Environmental Protection Agency and Department of the Army, November 17, 2021. Economic Analysis for the Proposed Revised Definition of "Waters of the United States."

¹⁵ U.S. Environmental Protection Agency and Department of the Army, November 17, 2021. Economic Analysis for the Proposed Revised Definition of "Waters of the United States," page xii.

¹⁶ State Constraints: State-Imposed Limitations on the Authority of Agencies to Regulate Waters Beyond the Scope of the Federal Clean Water Act, 2013 Environmental Law Institute, Washington, D.C.

¹⁷ Association of State Wetland Managers, 2015. Status and Trends Report on State Wetland Programs in the United States.

¹⁸ See TNC's previous letter (dated April 12, 2019) pages 37-43 for examples of cross-jurisdictional water impacts.

¹⁹ Taylor, C.A., H. Druckenmiller. *In Press*. Wetlands, flooding, and the clean water act. The American Economic Review.

million in direct flood damage.²⁰ Across the entire US, the average hectare of wetland loss between 2001 and 2016 has been estimated to cost society \$1,810 annually, or over \$36,000 per hectare over 30 years at a discount rate of 3%.²¹ In addition, previous studies have shown that the interactions between streams, wetlands, and groundwater are complex; some of the greatest benefits of wetlands are realized when they are located within 500 to 750 meters of the nearest stream or river.²¹ Restoring the pre-2015 regulatory conditions is likely to have indirect and positive impacts to the water quality of groundwater systems, groundwater recharge, and total water levels that would need to be included in any economic analysis.

Future Guidance Needed

We understand that the agencies intend to pursue a second rulemaking to establish a new, more durable definition of “waters of the United States.” This would provide a consistent implementation framework for the regulated community and ensure lasting protection of aquatic resources. Either as part of that rulemaking or as subsequent guidance to the current rulemaking, we request further guidance regarding the agencies’ regulatory framework as it pertains to CWA objectives. We encourage the agencies to provide additional definitions for terms that relate to the adjacency of wetlands to jurisdictional waters, specifically “bordering,” “contiguous,” and “neighboring,” as these terms and their definitions were often a source of confusion and disagreement prior to 2015. Furthermore, we request expansion of guidance regarding swales, rills, gullies, prior converted cropland, and other exclusions as it pertains to the CWA and jurisdiction. Addressing these items will better inform the regulated community and provide consistency as the proposed rule is implemented.

The protection of our nation’s water resources depends heavily on a scientifically sound and legally defensible definition of “waters of the United States.” We look forward to working with you towards that shared goal. Thank you for the opportunity to comment on your intention to revise the definition of Clean Water Act jurisdiction.

Sincerely,

A handwritten signature in black ink that reads "James M. Hague". The signature is written in a cursive, flowing style.

James M. Hague
Senior Water Policy Advisor

²⁰ Narayan, S. et al. (2017). “The Value of Coastal Wetlands for Flood Damage Reduction in the Northeastern, USA.” *Scientific Reports* 7, Article Number 9463 (2017).

²¹ Taylor, C.A., H. Druckenmiller. *In Press*. Wetlands, flooding, and the clean water act. *The American Economic Review*.