



April 15, 2019

Michael McDavit  
Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

**Re: Docket ID EPA-HQ-OW-2018-0149**

Dear Sir:

On behalf of The Pew Charitable Trusts (Pew), we thank the Environmental Protection Agency and the Department of the Army, Corps of Engineers (the Agencies) for the opportunity to submit comments on the proposed rule, “Revised Definition of ‘Waters of the United States’.”

This proposal, which will likely result in a significant reduction in the waters protected under the Clean Water Act,<sup>1</sup> represents a major departure from long-standing practices used to evaluate the jurisdictional reach of the law. As an organization with interest in sound public policies to protect the nation’s natural resources, we are concerned that this change will run counter to the clearly stated goal of the Act to protect the physical, chemical, and biological integrity of the nation’s waters.<sup>2</sup>

The Agencies proposed rule removes jurisdiction for wetlands that do not directly “abut” navigable waters or are not readily observed to have a surface water hydrologic connection to navigable waters. The comments we are submitting specifically address the failure to consider

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<sup>1</sup> See, e.g., Meyer, Roger and Andrew Robertson, “Clean Water Rule Spatial Analysis,” January 16, 2019, [https://static1.squarespace.com/static/578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett\\_report\\_Final.pdf](https://static1.squarespace.com/static/578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett_report_Final.pdf); Meyer, Roger, “Modeling Federally Protected Waters and Wetlands,” 2019, <https://www.arcgis.com/apps/Cascade/index.html?appid=f3de6b30c0454c15ac9d3d881f18ae33>; U.S. EPA, “Connectivity of Streams & Wetlands to Downstream Waters: A Review & Synthesis of the Scientific Evidence,” January, 2015, <https://www.tucson.ars.ag.gov/unit/Publications/PDFfiles/2302.pdf>; Colvin, Susan A., et al., “Headwater streams and wetlands are critical for sustaining fish, fisheries, and ecosystem services.” American Fisheries Society, December 2018, <https://fisheries.org/wp-content/uploads/2019/02/Headwaters-Paper-final.pdf>.

<sup>2</sup> Department of the Army, Corps of Engineers & Environmental Protection Agency, “Revised Definition of ‘Waters of the United States,’” 84 FR 4154, Feb. 14, 2019, citing 33 U.S.C. 1251(a)).

flood impacts associated with these wetlands. The loss of protection for these so-called isolated wetlands will lessen natural flood storage capacity, and in turn, harm the physical, chemical, and biological integrity of the nation's waters. While the Act itself and its long history of Congressional review and oversight recognize the complex interrelationships of the physical, chemical, and biological aspects of the hydrologic system,<sup>3</sup> this proposal – in large part – disregards these interrelationships in an attempt to lessen regulatory complexity.

While we understand and appreciate the search for regulatory options that ease the burden on regulated entities, we do not believe that the current proposal has found that reasonable balance—one that respects the science, the goals of the Act, the federal-state partnership embodied in the law, and the capabilities and responsibilities of regulated parties. Rather, the proposed rule creates further difficulties by contradicting the Agencies' previous findings regarding the relatedness of isolated wetlands to the integrity of our nation's waters.

### **I. Agencies Must Consider the Proposed Rule Impacts to Flooding**

The proposed rule will likely create new impairments in water quality and water-associated habitat in certain areas which would be exacerbated by increased flooding damages in locales that are currently or could be protected by the flood-amelioration capacity of wetlands.

This proposed rule will also likely have serious economic consequences for many flood-vulnerable communities and for the federal government, which has been increasingly called upon to help communities recover from flood disasters.<sup>4</sup> We urge the Agencies to re-examine the proposal in light of possible flooding impacts and to incorporate potential flood damages as a cost to be considered in the regulatory review.

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<sup>3</sup> See, e.g., H.R. Rep. No. 92-911, 92<sup>nd</sup> Congress, 1972, which states that “[T]he word ‘integrity’ ...refers to a condition in which the natural structure and function of ecosystems [are] maintained;” Leibowitz, Scott G., et al, “Connectivity of Streams and Wetlands to Downstream Waters: An Integrated Systems Framework,” *Journal of the American Water Resources Association*, March 1, 2018; Brooks, J.R., et al, “Estimating Wetland Connectivity to Streams in the Prairie Pothole Region: An Isotopic and Remote Sensing Approach,” *Water Resources Research*, Vol. 54, Issue 2, February 2018; Ameli, Ali A. and Irena F. Creed, “Quantifying hydrologic connectivity of wetlands to surface water systems,” *Hydrology and Earth System Sciences*, Vol. 21, March 2017; and “Cohen, Matthew J., et al, “Do geographically isolated wetlands influence landscape functions,” *Proceedings of the National Academy of Sciences of the United States of America*, February 2016.

<sup>4</sup> See, e.g., Congressional Budget Office, “Expected Costs of Damage From Hurricane Winds and Storm-Related Flooding,” April 2019, <https://www.cbo.gov/publication/55019>; National Centers for Environmental Information, National Oceanic and Atmospheric Administration, “Billion-Dollar Weather and Climate Disasters: Overview,” <https://www.ncdc.noaa.gov/billions/>; Government Accountability Office, “Climate Change: Information on Potential Economic Effects Could Help Guide Federal Efforts to Reduce Exposure,” September 2017, <https://www.gao.gov/assets/690/687466.pdf>; Congressional Research Service, “Natural Disaster of 2017: Congressional Considerations Related to FEMA Assistance,” December 6, 2017, [https://www.everycrsreport.com/files/20171206\\_IN10810\\_dfd6552af28c08639ec1e222eb0c7c60d8feebe3.pdf](https://www.everycrsreport.com/files/20171206_IN10810_dfd6552af28c08639ec1e222eb0c7c60d8feebe3.pdf); Robert G. Ottenhoff, “2017 Disasters Could Prompt Reconsideration of FEMA’s Role with States,” *Center for Disaster Philanthropy*, July 30, 2018, <https://disasterphilanthropy.org/blog/preparedness/2017-disasters-prompt-reconsideration-femas-role-states/>; and U.S. House of Representatives, Committee on Transportation and Infrastructure, “Controlling the Rising Cost of Federal Responses to Disaster,” May 12, 2016, hearing record.

Scientists and water policy experts, including those in the Agencies, have long recognized that wetlands play an important role in the hydrologic system. As moderators of hydrologic variability, wetlands are capable of storing flood flows and reducing flood velocities, while at the same time enhancing water quality and supporting important ecosystem niches for aquatic species. The function that wetlands serve is, in EPA's words, "a fundamental component of the hydrologic regime" serving "critical ecological functions."

Additionally, in 2015, the Science Advisory Board examined the jurisdictional limbo of non-floodplain waters and wetlands. The Science Advisory Board reported to the EPA that "the scientific literature supports a more definitive statement that reflects how numerous functions of non-floodplain wetlands sustain the physical, chemical, and/or biological integrity of downstream waters, although the degree of connectivity can vary widely."<sup>5</sup> Because EPA already recognizes the importance of flood functions in isolated wetlands to meeting the standards of the Act, the failure to consider the wetlands loss and associated flood impacts of the current proposed rule is insufficient.

By relying on new and ill-defined terminology that has not been part of the scientific lexicon, such as "normal range of precipitation," "particular geographic area," or "typical year," the proposal could further confuse rather than clarify the task of jurisdictional determinations for hydrologically connected wetlands. To the extent that any regulated entities are unduly burdened by jurisdictional determinations, a better solution would be increased training and staffing for field personnel to assist with those determinations.

## **II. Wetlands, including Seemingly Isolated Wetlands, Directly Affect Flooding Risks**

As clear and compelling evidence of the importance of wetlands to floodplain management and flood mitigation, these comments reference and incorporate a recent literature review conducted by Samuel D. Brody, Ph.D., Texas A&M University. This paper (attached) summarizes numerous studies demonstrating the importance of naturally-occurring wetlands, including seemingly isolated wetlands, to flood mitigation.

As Dr. Brody notes, "Various studies have shown that naturally occurring wetlands provide flood mitigation by maintaining a properly functioning water cycle." He also notes that "...freshwater or 'palustrine' wetlands, even those seemingly disconnected from navigable waters, can significantly reduce the amount of flood losses to residential communities." [emphasis added]. Dr. Brody's previous studies, included in the paper, illustrate that alteration of naturally-occurring wetlands in two flood-prone states—Texas and Florida—was found to "significantly increase flooding events and associated property damage." Considering the impact of isolated wetlands on flood risk and the Agencies' previous acknowledgment of the role of flood mitigation to the goals of the Act, it is imperative that the Agencies' consider flood implications when reviewing the proposed rule.

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<sup>5</sup> Congressional Research Service, "EPA and the Army Corps' Rule to Define 'Waters of the United States,'" January 2017, citing Science Advisory Board "SAB Review of the Draft EPA Report "Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence," August 11, 2014.

Key findings of this review include the following:

- The alteration of naturally-occurring wetlands has significantly increased flooding and associated property damage across the United States. This conclusion holds up over multiple studies conducted at different scales, study areas, and time periods.
- A recent comprehensive observational study of wetlands and flood loss demonstrates that palustrine wetlands—which may not consistently demonstrate an observable surface water connection to jurisdictional waters—are nonetheless highly effective at limiting the impacts of rainfall-based flooding. For every percent increase in this type of wetland across the Gulf of Mexico region, there is a demonstrated reduction in insured flood losses per watershed.
- Even small, freshwater wetlands that seem disconnected from major water bodies have significant value in reducing the adverse impacts of floods, particularly when they are located upstream of existing development.

### **III. Costs of Flood-Related Impacts to Lost Wetlands**

Under the proposed rule the costs of flood damages associated with wetlands loss could escalate significantly as the Clean Water Act jurisdictional purview is narrowed. If determination of hydrologic connection is reduced to a layperson’s observed surface water flow to a “navigable” water, rather than a careful consideration of the multiple factors involved the hydrologic regime, additional wetlands may be lost or impaired. The lost wetlands include those currently lessening the peak flows of major storm events. Such losses will come at significant costs to flood-prone communities across the nation.

While Dr. Brody’s literature review focused on the flood-mitigation services of freshwater wetlands, there is also evidence of the contribution of coastal wetlands in lessening flood damages. “The Value of Coastal Wetlands for Flood Damage Reduction in the Northeastern USA,”<sup>6</sup> for example, looked at the impacts of coastal wetlands on property damage in states affected by Hurricane Sandy and found that the presence of coastal wetlands lessened damages by an estimated \$625 million. These damage avoidance benefits accrued not only to areas with larger, intact wetlands but also to areas with few wetlands. Not unlike Brody, these authors conclude that in highly urbanized areas, “the few wetlands that remain can still have high absolute values.” Coastal wetlands, state the authors, “provide significant risk reduction services even where their distribution has been heavily impacted by human activity.”

In addition, as the Agency itself already recognizes, by removing the obligation to evaluate impacts associated with wetlands fill and disturbance, this new rule will likely lessen opportunities and incentives for wetlands reconstruction and mitigation. The wetlands protection projects assessed by the National Research Center demonstrated multiple benefits, which would

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<sup>6</sup> Narayan, Siddharth et al., sponsored by Lloyd’s Tercentenary Research Foundation, “The Value of Coastal Wetlands for Flood Damage Reduction in the Northeastern USA,” *Scientific Reports* 7, no. 1, 2017, <https://www.nature.com/articles/s41598-017-09269-z>.

be undercut by the failure to protect categories of wetlands.<sup>7</sup> We are concerned that the proposed rule may have serious economic implications, creating further challenges to the use of wetlands restoration as a cost-effective and lasting flood mitigation technique.<sup>8</sup> As the disturbance of expansive wetlands ecosystems accelerates under the proposed rule, there may be fewer efforts to undertake the sort of large wetlands restoration and conservation projects, such as the Charles River Natural Valley Storage Area in Massachusetts,<sup>9</sup> that have proven valuable for multiple objectives, including water quality, wildlife habitat, fisheries, recreation, and flooding.

In sum, Pew finds that the proposed rule will effectively dilute wetland preservation and restoration, especially seemingly unconnected wetlands, from the suite of defenses needed to effectively and economically lower the level of damages from future storms and floods. We urge the Agency to revisit this aspect of the rule and its likely cost, and we recommend a rule that better incorporates the complex science of wetland hydrology.

Again, we appreciate the opportunity to submit these comments.

Sincerely,



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Associate, Flood-Prepared Communities

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<sup>7</sup> The National Academies Press, *Compensating for Wetland Losses Under the Clean Water Act* (2001) <https://www.nap.edu/catalog/10134/compensating-for-wetland-losses-under-the-clean-water-act>

<sup>8</sup> See, e.g., the analysis published by the Wetlands Initiative in 2004, which examined the potential for reducing flood peaks and damage costs by restoring impaired wetlands and floodplain habitat in the Upper Mississippi River Basin. According to “Flood Damage Reduction in the Upper Mississippi River Basin: An Ecological Alternative,” hydrology restoration on a massive scale throughout the upper basin could have provided storage capacity exceeding the volumes associated with the major flood event that occurred in 1993.

<sup>9</sup> U.S. Army Corps of Engineers, Charles River Natural Valley Storage Area, (updated March 2017) <https://www.nae.usace.army.mil/Missions/Civil-Works/Flood-Risk-Management/Massachusetts/Charles-River-NVS/>; see also, U.S. Army Corps of Engineers, “Draft environmental statement, Charles River study, Massachusetts.