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RE: Docket No. EPA-HQ-OW-2018-0149

Dear Mr. McDavit and Ms. Moyer:

Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) and the U.S. Department of the Army's (Army) ("the agencies") proposed rule defining the scope of waters federally regulated under the Clean Water Act (CWA). PEER is a Washington D.C.-based non-profit, non-partisan public interest organization concerned with honest and open government. Specifically, PEER serves and protects public employees working on environmental issues. PEER represents thousands of local, state and federal government employees nationwide.

The proposed changes to the CWA jurisdictional definitions of "waters of the United States" (WOTUS) are both scientifically unsound, and arbitrary and capricious. Our comments, set forth below, describe precisely how the proposed rule ignores current scientific literature, misstates the legislative intent of the CWA, and violates the Administrative Procedure Act.

Background

The agencies are proposing this new definition of WOTUS purportedly in light of confusion arising from the U.S. Supreme Court cases in *United States v. Riverside Bayview Homes (Riverside Bayview)*,¹ *Solid Waste Agency of Northern Cook County v. United States (SWANCC)*,² and *Rapanos v. United States (Rapanos)*.³ On February 28, 2017, the President signed Executive Order (EO) 13778, entitled, "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule." In the EO, the President specified that "the Administrator and the Assistant Secretary *shall* consider interpreting the term 'navigable waters,' as defined in 33 U.S.C. 1362(7), in a manner consistent with the opinion of Justice Antonin Scalia in *Rapanos v. United States*, 547 U.S. 715 (2006)"⁴ (emphasis added).

The current proposed rule is the latest in the long and tortured path of the Trump Administration's efforts to severely restrict federal clean water protections. After the President signed EO 13778 in February of 2017, the agencies published a notice of intent to review the 2015 Clean Water Rule⁵ on March 6, 2017. The 2015 Clean Water Rule, promulgated under President Obama, was a comprehensive study based on over 1,200 peer-reviewed scientific studies, and supported by EPA's Science Advisory Board (SAB).⁶ This rule did not redefine WOTUS; rather, it clarified the scope of jurisdictional waters under the CWA. On July 27, 2017, the agencies under the Trump Administration proposed to repeal the 2015 Clean Water Rule and recodify the definition of WOTUS. On November 22, 2017, the agencies proposed to extend the Rule's so-called "applicability date"⁷ for two years, purportedly to provide continuity and regulatory certainty while revisions to the 2015 Rule were being considered. Despite opposition from commenters, the agencies issued a final rule on February 6, 2018, adding an applicability date to the 2015 Rule (such that the Rule would be delayed and become applicable on February 6, 2020). This action was challenged by numerous parties, and on August 16, 2018, the U.S. District Court for the District of South Carolina enjoined the applicability date rule nationwide.⁸ To this Administration's dismay, the 2015 Clean Water Rule is currently in effect in 22 states.

While the geographic scope of WOTUS has been legally contentious, Congressional intent behind the CWA is unambiguous. Specifically, according to the October 4, 1972 Senate Congressional Record, the authors stated, "The conferees fully intend that the term 'navigable waters' be given the broadest possible Constitutional interpretation unencumbered by agency determinations which have been made or may be made for administrative purposes."⁹ In addition, the purpose of the CWA is to "restore and maintain the

¹ 474 U.S. 121 (1985)

² 531 U.S. 159 (2001)

³ 547 U.S. 715 (2006)

⁴ https://www.whitehouse.gov/presidential-actions/presidential-executive-order-restoring-rule-law-federalism-economic-growth-reviewing-waters-united-states-rule/

⁵ Army Corps of Engineers and EPA, "Clean Water Rule: Definition of 'Waters of the United States'; Final Rule," 80 *Federal Register* 37054, June 29, 2015.

⁶ See EPA, Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence, 80 Fed. Reg. 2100 (Jan. 15, 2015).

⁷ Note that there is no such thing as an "applicability date."

⁸ Puget Soundkeeper Alliance, et al. v. Andrew Wheeler, et al., 2018 U.S. Dist. LEXIS 199358, No. C15–1342– JCC (W.D. Wash. Nov. 26, 2018).

⁹ https://www.govinfo.gov/content/pkg/GPO-CRECB-1972-pt25/pdf/GPO-CRECB-1972-pt25-7.pdf

chemical, physical, and biological integrity of the Nation's waters,"¹⁰ a sweeping intent that *must* be informed by the best available science. The proposed rule before us today is unsupported by any science, and would fail to protect the nation's waters.

Lack of Science Behind the Proposed Rule

Differences between the proposed rule and the 2015 Clean Water Rule.

The 2015 Clean Water Rule defines WOTUS to include:

- Traditionally Navigable Waters (TNWs);
- Interstate waters including interstate wetlands;
- Territorial seas;
- Impoundments of jurisdictional waters;
- Tributaries of the above waters;
- Adjacent waters of the aforementioned waters;
- Similarly situated regional waters found to have a significant nexus; and
- Certain waters with a case-specific "significant nexus" as set forth by Justice Kennedy in the *Rapanos* case. (e.g., "if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.'").¹¹

Under the 2015 Clean Water Rule, five specific types of waters (prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands) were always subject to the "significant nexus" test, and examined as a group rather than individually.¹² In addition, "adjacent" is defined to mean "bordering, contiguous, or neighboring" one of these listed waters; and "neighboring" is further defined to include waters (1) located within 100 feet of the ordinary high water mark (OHWM) of a TNW, interstate water, the territorial seas, jurisdictional tributary, or impoundment of these waters; (2) located in the 100-year floodplain and within 1,500 feet of the OHWM of a traditional navigable water, interstate water, the territorial seas, jurisdictional tributary, or impoundment of these waters; or (3) located within 1,500 feet of the high tide line of a TNW or the territorial seas and waters located within 1,500 feet of the OHWM of the Great Lakes. The terms "bordering" and "contiguous" are given their plain meanings. In addition, under the 2015 Clean Water Rule, tributaries (including intermittent and ephemeral streams) are jurisdictional if they have certain indicators of flow (e.g., a bed, bank, and an OHWM) and contribute flow either directly or indirectly to a TNW, an interstate water, or the territorial seas. Finally, the 2015 Rule specifies that waters located within the 100-year floodplain of a TNW, interstate water, or the territorial seas, and waters located within 4,000 feet from the high tide line or the ordinary high water mark of TNWs, interstate waters, the territorial seas, impoundments, or covered tributaries may be found to have a significant nexus on a case-specific basis.

The proposed rule narrowly redefines WOTUS as:

¹⁰ 33 U.S.C. § 1251(a).

¹¹ 547 U.S. at 780.

¹² 80 Fed. Reg. 37059.

- TNWs, including the territorial seas;
- Tributaries of TNWs;
- Certain ditches;
- Certain lakes and ponds;
- Impoundments of jurisdictional waters; and
- Wetlands adjacent to the above jurisdictional waters.

The proposed rule also defines "tributaries" as surface water channels that contribute perennial or intermittent flow to a jurisdictional water such as a TNW in a "typical year." Therefore, the proposed rule has eliminated from jurisdiction: ephemeral streams, interstate waters (unless they are themselves one of the six categories of jurisdictional WOTUS); all geographically isolated wetlands (GIWs) (wetlands that do not abut or have a direct surface water connection to a jurisdictional water in a typical year); and lakes and ponds that do not contribute perennial or intermittent flow in a typical year to a jurisdictional water. Because of these new definitions, Justice Kennedy's "significant nexus" test has also been eliminated.

There are additional differences between the 2015 Clean Water Rule currently in effect in 22 states and the proposed rule. However, these major distinctions are the subject of our comments.

While the full impacts of the proposed rule cannot be assessed, the little we can know is unacceptable.

The proposed rule's preamble and supporting documentation are replete with disclaimers by the agencies that the environmental impacts associated with the proposed rule are impossible to assess. However, the data analyzed by the agencies shows that the loss of wetlands and waters would be staggering, despite being grossly underestimated.

According to the National Hydrography Dataset (NHD) issued by the United States Geological Survey (USGS), 30% streams in the United States are perennial; 52% are intermittent; and 18% are ephemeral, with the caveat that many of the ephemeral streams outside of the arid west are misclassified as intermittent or are not mapped.¹³ In the arid west, 18% of all streams are perennial, 47% are intermittent, and 35% are ephemeral. EPA examined the NHD data when considering options for the redefinition of WOTUS, and in internal deliberative documents, stated, "[p]otential policy options for defining 'relatively permanent flow' excluding Intermittent Streams could result in a *large reduction in jurisdiction and would impact every state*"¹⁴ (emphasis added).

A recent analysis by Trout Unlimited (TU) agrees that the NHD vastly underestimates the number of ephemeral streams. TU states: "[i]n many basins, especially in the eastern US, ephemeral stream

¹³ See e.g., EPA's September 2017 summary of the NHD data prepared from briefing materials for Administrator Pruitt and Mr. Douglas Lamont, senior official performing the duties of the Assistant Secretary of the Army for Civil Works at https://www.eenews.net/assets/2018/12/11/document_gw_05.pdf. It is worth noting that these data were obtained through a news agency's Freedom of Information Act (FOIA), and that immediately prior to their release, EPA claimed that "no one has that data." See https://www.eenews.net/stories/1060109323

¹⁴ Id.

channels visible on the ground are absent from the NHD. In other basins, ephemeral streams are underrepresented in the NHD. TU estimates that, on average for the continental US, 1.5 miles of unmapped ephemeral streams exist for every mile of mapped stream in the NHD."¹⁵ If accurate, the miles of streams that would no longer be jurisdictional under the proposed rule would be much larger than the agencies claim.

With regard to wetlands, EPA examined the National Wetland Inventory (NWI) maps,¹⁶ and stated:

Potential policy options for defining "continuous surface connections" may reduce jurisdiction over Palustrine¹⁷ waters the most since they may not be directly touching rivers, lakes, or tidal waters....[The m]ajority of NWI-mapped potential wetlands (by acreage) do not intersect any NHD stream feature. The proposed option of defining "continuous surface connection" as directly touching a waters of the U.S. may result in ~51% of NWI-mapped potential wetland acreage not being considered adjacent.

This admission is critical, as the agencies are now proposing to eliminate from federal CWA jurisdiction all wetlands that do not abut or otherwise have a direct surface connection to a jurisdictional water. Therefore, at least half of all wetlands in the United States would lose protection. It is important that the NWI maps on which the agencies relied in an attempt to assess impacts do not map wetlands smaller than one acre.¹⁸ These small wetlands make up more than three-quarters of the wetlands in certain regions, such as the 300,000 mi² Prairie Pothole Region covering the Dakotas, Minnesota, Montana, Iowa, Manitoba, Saskatchewan, and Alberta which produces more than half the ducks in North America. The Natural Resources Conservation Service of the U.S. Department of Agriculture estimated in 2005 that of the 5.3 million acres of wetlands remaining in that region, 78 percent were smaller than one acre.¹⁹ They also acknowledge privately that "Wetlands are dynamic systems that may sustain several years of drought conditions, making it difficult to identify and map simply because they are not detected on aerial imagery."²⁰

PEER agrees with the agencies that it is currently impossible to assess the full impacts of the proposed rule. However, we do know the following: by eliminating jurisdiction for ephemeral streams, an extremely low estimate of 18 to 35% of streams will no longer be protected by the CWA, and by eliminating GIWs, a minimum of 51% of wetlands would no longer be jurisdictional. According to EPA's own figures, then, which are admittedly gross underestimates, 40,604,876 acres of Palustrine

¹⁵ https://standup.tu.org/stand-up-for-clean-water/

¹⁶ The NWI maps, created by the U.S. Fish and Wildlife Service (USFWS), provide detailed information on the distribution and classification of wetlands throughout the United States. Although the NWI maps cannot be used for jurisdictional purposes, as they underestimate the extent of wetlands, they are the only comprehensive maps available.

¹⁷ Inland, freshwater wetlands lacking flowing water.

¹⁸ <u>https://www.eenews.net/assets/2018/12/11/document_gw_05.pdf</u>.

¹⁹ NRCS, CROPPED WETLANDS AND WILDLIFE (May 2005),

<u>https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_010129.pdf</u> (historically the region contained 20 million acres of wetlands, subsequent losses were predominantly caused by agriculture).

 $^{^{20}}$ Id.

wetlands²¹ and 1,350,000 miles of ephemeral streams²² would no longer be jurisdictional under the CWA. Even assuming the impacts were restricted to these waters, it would be impossible to restore and maintain the chemical, physical, and biological integrity of *covered* waters, as demanded by the CWA. If, as PEER suspects, between 60% and 90% (in the arid west and great plains) of freshwater wetlands would lose jurisdiction under the proposed rule, the result would be environmentally devastating.

Analytical Flaws of the Proposed Rule

Loss of ephemeral streams.

In the preamble to the proposed rule, the agencies state they are "drawing a line between intermittent and ephemeral flows for administrative efficiency as they balance the law, science, and stakeholder feedback....Therefore ...ephemeral features ... are excluded from the definition [of WOTUS]."²³ By excluding ephemeral streams from jurisdiction, the agencies are ignoring all the science on streams. The 2015 Clean Water Rule was supported by a comprehensive, peer-reviewed analysis - citing over 1,200 studies - of the importance of the very streams and wetlands the Trump Administration wants to remove from protection (the "Connectivity Report").²⁴ Since the Connectivity Report was finalized in 2015, even more research has been conducted on the critical functions performed by these waters, none of which was used to inform the proposed rule before us today. These recent studies cannot be ignored in any effort to redefine WOTUS.

USGS's NHD most accurately assesses the extent of non-perennial waters in the arid west. Specifically, 94%, 89%, 88%, and 79% of the streams in Arizona, Nevada, New Mexico, and Utah, respectively, are either intermittent or ephemeral.²⁵ These streams not only supply water to perennial downstream rivers, but they also supply critical nutrients, sediment, and biota, even in the absence of direct above ground flow.²⁶ They are also the primary source of groundwater recharge to aquifers, and can be the only source of flow in these downstream rivers during dry seasons.²⁷ In other words, ephemeral streams are critical

²¹ See <u>https://www.eenews.net/assets/2018/12/11/document_gw_05.pdf</u>, where EPA states that there are 79,773,823 acres of Palustrine wetlands, 50.9% of which are geographically isolated.

²² See *Catching Up on NHDPlus Version 2 (National Hydrography Dataset Plus)*, Presentation by Tommy Dewald, EPA Office of Water at the AWRA Specialty Conference on GIS and Water Resources VIII. Link:

https://slideplayer.com/slide/4628510/ (at p. 7), where EPA estimates 7,500,000 miles of streams in the United States; 18% of these stream miles are ephemeral.

²³ 84 Fed. Reg. 4176.

²⁴ Connectivity Of Streams And Wetlands To Downstream Waters: A Review And Synthesis Of The Scientific Evidence, Office of Research and Development, USEPA, January, 2015.

²⁵ NHD, 2008; see https://www.usgs.gov/core-science-systems/ngp/national-hydrography

²⁶ Goodrich, D.C., W.G. Kepner, L.R. Levick, and P.J. Wigington, Jr., 2018. Southwestern Intermittent and Ephemeral Stream Connectivity. Journal of the American Water Resources Association (JAWRA) 1–23.

²⁷ Id.

for maintaining the base flow of perennial streams.²⁸ By eliminating CWA jurisdiction from all ephemeral streams, the agencies are putting the nation's perennial streams at risk.

While the proposed rule makes it seem like the classification of streams as perennial, intermittent, or ephemeral is easily done, this is far from the scientific truth. In fact, "[a]brupt changes in streamflow connectivity (i.e., a change from perennial to intermittent or ephemeral and back again) can result from underlying geology."²⁹ Specifically:

A constriction and rise in bedrock geology can force regional groundwater to the surface resulting in perennial flow while streamflow encountering highly fractured bedrock or a highly porous karst system can virtually disappear over very short distances. Another relatively abrupt transition affecting connectivity in arid and semiarid stream hydrology and morphology occurs where steep mountain slopes transition into lower valley slopes. At this transition, watersheds with high sediment transport out of the mountainous portion often form alluvial fans. The stream channel system above the transition is typically dendritic, and below the transition the channel system often becomes a diffusive set of shallow braided channels. Runoff across alluvial fans typically becomes less concentrated or confined to a single channel but more diffuse turning into broad sections of sheet flow.³⁰

Given the changing nature of stream flow along different segments, it will not only be impossible for a landowner to "stand on their property and be able to tell whether they have a water,"³¹ it is likely that the destruction of one segment of a stream would adversely impact the very segments the agencies claim they will protect.

More importantly, it is clear from the scientific research that ephemeral and intermittent streams perform many of the same functions as perennial streams; therefore, it is illogical to delete one type from jurisdiction. In arid regions of the country, the riparian areas of ephemeral and intermittent streams "support the vast majority of wildlife species, are the predominant sites of woody vegetation including trees, and surround what are often the only available surface water sources, even if they are available only for limited periods … These riparian areas occupy a small percentage of the overall landscape but they host a disproportionately greater percentage of the biodiversity than the areas surrounding them" (citations omitted).³²

Goodrich et al. sum up the many ways that ephemeral streams are connected with and influence perennial streams in the Southwest:

• Flows from ephemeral streams are a major driver of the dynamic hydrology of Southwestern rivers. Ephemeral tributary stream flows are especially important drivers of downstream floods during the monsoon season;

²⁸ Tang, C., I. Machida, S. Shindo, A. Kondoh, and Y. Sakura. 2001. "Chemical and Isotopic Methods for Confirming the Roles of Wadis in Regional Groundwater Recharge in a Regional Arid Environment: A Case Study in Al Ain, UAE." Hydrological Processes 15: 2195–202.

²⁹ Goodrich, at 4.

³⁰ Id.

³¹ EPA Administrator Andrew Wheeler; see https://www.npr.org/2018/12/12/675987873/president-trump-proposed-a-new-definition-of-what-waters-fall-under-clean-water

 $^{^{32}}$ Goodrich at 6.

- Ephemeral tributary streams supply water to mainstem river alluvial aquifers; these alluvial aquifers help sustain river baseflows;
- Ephemeral streams export sediment to rivers during major hydrologic events; the sediment contributes to materials that comprise alluvial aquifers and shapes the fluvial geomorphology of rivers;
- Ephemeral tributaries export nutrients to mainstem rivers during hydrologic flow events; nutrients occur in many forms and contribute to river productivity;
- Ephemeral and intermittent streams and their associated vegetation communities provide structural elements of food, cover, nesting and breeding habitat, and movement/migration corridors for organisms;
- Water, sediment, and nutrients exported to the river from ephemeral tributaries support riparian communities of mainstem rivers; the riparian communities profoundly influence river attributes through shading and allochthonous inputs of organic matter, detritus, wood, and invertebrates to the river;
- Regional groundwater aquifers are in part recharged through infiltration of water to the streambed of ephemeral stream channels during wet years; the regional aquifer supplies a varying but critical portion of baseflow for perennial river reaches illustrating subsurface connectivity;
- Fishes and invertebrates native to mainstem rivers are adapted to the variable flow regimes that ephemeral tributary streams strongly influence. Ephemeral flows mitigate invasion by introduced species.³³

This research was funded through the EPA ORD, and the USDA-ARS Southwest Watershed Research Center, and yet was completely ignored by the agencies in the proposed WOTUS redefinition. It is beyond dispute that not only are ephemeral streams important to flood control, wildlife habitat, nutrient and sediment export, and groundwater recharge, but they are critical for the maintenance of other waters of the United States, including perennial streams. As such, it is nonsensical for the agencies to remove jurisdiction from these streams.

Finally, water withdrawals and changing climate are turning perennial streams into intermittent and ephemeral streams; some scientists predict a 32% loss of perennial streams by 2060 in parts of the country.³⁴ Under the proposed WOTUS definition, as streams change from perennial and intermittent to ephemeral, more and more waters would become non-jurisdictional. This type of water loss is unfathomable and unsustainable and was not contemplated by the proposed rule.

Loss of geographically isolated wetlands.

The proposed rule also eliminates all geographically isolated wetlands (GIWs) from CWA jurisdiction. EPA concedes that this is a minimum of 51% of our nation's wetlands, with the understanding that this number is actually much higher. One recent study states that up to 88% of wetlands in the prairie

³³ *Id.* at 19.

³⁴ Perkin, J. S., K. B. Gido, J. A. Falke, K. D. Fausch, H. Crockett, E. R. Johnson, *and* J. Sanderson. 2017. Groundwater declines are linked to changes in Great Plains stream fish assemblages. *Proceedings of the National Academy of Sciences of the United States of America* 114:7373–7378

pothole region of the United States are GIWs.³⁵ Moreover, it is critical to understand that geographic isolation is not the same thing as hydrological isolation.³⁶ As such, making a distinction between GIWs and other wetlands is "not justifiable"³⁷ from an ecological standpoint.

There are millions of acres of GIWs in the United States. One study identified over 8.3 million GIWs across the conterminous U.S., with an estimated area of 16,296,138 acres, although this is known to be a huge underestimate because: small wetlands are not mapped (again, wetlands less than one acre are not included in the NWI maps); vegetation can obscure wetlands in aerial photographs; and the age of the photographs and other data under-represent wetlands³⁸ (see Table 2, below):

State	Count of GIWs	Area of GIWs (ha)	GIW % of Total Freshwater Wetland Habitat	State	Count of GIWs	Area of GIWs (ha)	GIW % of Total Freshwater Wetland Habitat	State	Count of GIWs	Area of GIWs (ha)	GIW % of Total Freshwate Wetland Habitat
AL	87,653	65,184	4.1	MA	73,608	45,464	18.1	OH	206,834	100,781	27.1
AR	151,560	90,425	7.9	MD	24,558	28,384	14.0	OK	285,878	80,425	10.8
AZ	12,274	11,734	3.5	ME	112,152	135,302	11.0	OR	58,719	47,206	5.2
CA	118,282	122,291	6.7	MI	324,427	459,713	15.3	PA	64,531	36,365	12.2
CO	114,421	69,646	9.6	MN	730,213	724,186	13.6	RI	6,454	5,344	15.8
CT	22,430	11,937	12.5	MO	439,735	99,190	13.4	SC	103,991	161,067	10.7
DC	27	42	12.2	MS	141,382	99,047	4.6	SD	652,277	485,216	46.3
DE	11,157	13,076	17.2	MT	183,725	102,241	12.2	TN	130,951	37,499	6.2
FL	318,973	584,714	12.7	NC	83,581	146,522	8.7	TX	631,225	444,599	17.0
GA	163,334	263,617	12.2	ND	1,149,022	700,861	48.5	UT	48,215	47,537	2.4
IA	126,636	52,118	12.6	NE	195,533	109,442	26.2	VA	64,906	47,338	8.7
ID	47,071	27,721	4.4	NH	29,357	19,697	10.5	VT	12,815	11,103	5.7
IL	145,167	78,716	10.7	NJ	21,969	28,396	9.6	WA	61,063	45,166	7.8
IN	172,181	108,953	22.2	NM	50,670	40,556	12.5	WI	183,293	338,349	10.0
\mathbf{KS}	250,897	86,464	27.8	NV	10,023	32,094	3.2	WV	23,567	5,562	8.5
KY	179,850	46,466	13.0	NY	197,070	177,531	10.5	WY	113,553	59,705	10.1
TΔ	44,969	59.821	1.8					Totals	8 382 179	6 594 813	15.6

TABLE 2. Areal Abundance of Potential Geographically Isolated Wetlands (GIWs) > 0.05 ha per km² by State, after Applying a 10-m Geospatial Buffer to National Hydrography Dataset Features and Overlapping the Output with the National Wetlands Inventory. Total eshwater wetland habitat by state was derived by combining the areal abundance of riverine lacustrine, and abustrine wetland system as

It is worth noting that this study was "reviewed in accordance with the U.S. Environmental Protection Agency's peer and administrative review policies and *approved for publication*."(emphasis added). EPA's Peer Review Handbook (4th, 2015),³⁹ states, "[a]n internal peer review is an assessment of the scientific and technical quality of a work product by independent Agency experts prior to the publication or release of the work product outside the Agency." Therefore EPA explicitly deemed this paper to be of sufficient "scientific and technical quality." As such, it is mystifying why the agencies did not include such a pertinent study in its analysis.

Researchers in Georgia noted that they found almost 50,000 more acres of GIWs in one region of Georgia when they combine other data sources with the NWI maps.⁴⁰ Vernal pools, by their definition, are also GIWs. Vernal pools are critical habitat for a number of amphibian, reptile, and invertebrate species, and play a critical role in the food chain. In Massachusetts, more than 29,000 potential vernal

³⁵ Thorslund J, Cohen MJ, Jawitz JW, et al. Solute evidence for hydrological connectivity of geo- graphically isolated wetlands. *Land Degrad Dev.* 2018;1–9, at 2.

 $^{^{36}}$ *Id.* at 5.

³⁷ Id.

³⁸ Lane, C. R., and E. D'Amico. 2016. Identification of putative geographically isolated wetlands of the conterminous United States. *Journal of the American Water Resources Association (JAWRA)* 52:705–722.

³⁹ Available at: https://www.epa.gov/osa/peer-review-handbook-4th-edition-2015

⁴⁰ Martin GI, Kirkman LK, Hepinstall-Cymerman J. Mapping geographically isolated wetlands in the Dougherty Plain, Georgia, USA, *Wetlands*, 2012, vol. 32 (pg. 149-160)

pools have been identified;⁴¹ theoretically, none of these wetlands would be jurisdictional under the proposed WOTUS definition.

Like ephemeral streams, GIWs also affect the "physical integrity of downstream waters."⁴² Much more work needs to be done on the effect these wetlands have on waters in the United States. However, "a priori assumptions about GIW hydrological connectivity (or assumed lack thereof) predicated only on coarse geographic measures like proximity to streams or regional topographic gradients are not empirically supported. Similarly, the assumption that wetlands lacking permanent surface water connections also lack landscape functional significance is not tenable."⁴³

Studies have also been done on the impacts associated with the loss of GIWs in the Chesapeake Bay watershed. Researchers have found that elimination of GIWs leads to an increase in surface runoff of 9%, and a decrease in groundwater flow of 7% in upstream areas.⁴⁴ In addition, elimination of GIWs led to an increase in flow of downstream waters by an astounding 91% during high precipitation events, and decreasing downstream flow by 17% during low flow conditions.⁴⁵ GIWs were found to have a greater total water storage capacity than riparian wetlands, and "protecting GIWs is important for enhanced hydrological resilience to extreme flow conditions in this region."⁴⁶Therefore, not only do GIWs stabilize streamflow, but they also help prevent flooding and restrain the effects of the changing climate on both water quantity and water quality.

A plethora of other studies published after the Connectivity Report show that GIWs are essential for maintaining the integrity of waters in the United States. In fact, it is so likely that GIWs contribute to downstream water quality, some scientists suggest that the "burden of proof could be shifted to assuming that all GIWs are critical for protecting aquatic systems until proven otherwise."⁴⁷ The loss or alteration of GIWs can lead to changes in the ability of these wetlands to "maintain the biological and chemical integrity of jurisdictional waters at local and regional scales,"⁴⁸ the very heart of the purpose of the CWA. These researchers state: "[t]herefore, preserving all wetlands within a watershed is the most defensible way to maintain the integrity of jurisdictional waters, at least until we better understand the significance of distance, retention, ecoregion, and wetland type on biogeochemical processes and connectivity."⁴⁹

In recent years, scientists have posited that GIWs are a misnomer: "wetlands typically referred to as "isolated" [are] not, from either an ecological, hydrological, or physicochemical perspective, inherently isolated from other aquatic systems."⁵⁰ These so-called isolated wetlands are rarely functionally isolated.

⁴¹ Massachusetts Heritage and Endangered Species Program (MHESP), 2014. Commonwealth of Massachusetts, Office of Geographic Information (MassGIS), Boston, Massachusetts.

 $^{^{42}}$ *Id.* at 6.

⁴³ *Id.* at 7.

⁴⁴ Lee, S., et al. Assessing the cumulative impacts of geographically isolated wetlands on watershed hydrology using the SWAT model coupled with improved wetland modules, *J. of Envir. Mang't* 223 (2018) 37-48.

⁴⁵ *Id.* at 44.

⁴⁶ *Id.* at 37.

 ⁴⁷ Marton, J.M., et al. Geographically Isolated Wetlands are Important Biogeochemical Reactors on the Landscape, *BioScience*, Volume 65, Issue 4, April 2015, Pages 408–418, 23 February 2015
 ⁴⁸ Id.

⁴⁹ *Id*.

⁵⁰ Mushet, D. et al., Geographically Isolated Wetlands: Rethinking a Misnomer, *Wetlands*, (2015) 35: 423 (2015).

Although the phrase was coined to describe wetlands that are situated surrounded by uplands, "new, high resolution, remote sensing techniques... reveal surface connections among wetlands previously considered to be 'geographically isolated."⁵¹ By calling these wetlands "isolated," it furthers the misconception among non-scientists that they are not connected to other waters, clearly a delusion suffered by the authors of the proposed rule. "[K]nowing that a wetland is 'geographically isolated' imparts little implicit knowledge relative to the functioning of a wetland and its potential influence on other aquatic systems, thereby hampering efforts to perform unbiased explorations of connectivity among these systems."⁵² Some scientists have gone so far as to say that using the term GIW is "detrimental to conservation."⁵³ This was noted by the science-based 2015 Clean Water Rule, and the term GIW was not used in the rule. However, the agencies revived the term for the proposed rule, replete with its unscientific connotations, and are using it as an excuse to remove these valuable wetlands from federal jurisdiction.

Given the lack of knowledge of the true extent of GIWs, and the effects of the proposed rule on waters and wetlands downstream from GIWs, it is incumbent on the agencies to withdraw the proposed rule and reconsider their latest redefinition of WOTUS.

The effect of climate change is not considered in the proposed rule.

Regardless of what President Trump and Administrator Wheeler believe (or do not believe) about the existence of climate change, or its danger to our nation, there is no dispute among scientists about the risks it poses. Climate change will result in prolonged drought punctuated by more intense precipitation events in many parts of the country. These precipitation patterns will lead to water redistribution and decrease our water security.⁵⁴ Climate change will also have drastic effects on the nation's stream systems and their connectivity. Prolonged periods of drought and less snowpack will increase days with no flow in both intermittent and ephemeral streams. Even now, stream types are not static; research on the San Pedro River watershed in Arizona shows that streams varied in percentage of wet reaches versus dry by 36% to 76% in the years (1999-2006).⁵⁵ The changeable nature of streams makes it impossible to base a rule on stream type as proposed here. The concept of a "typical year" is changing rapidly, and failure to take this into account is a fatal flaw in the proposed WOTUS definition.

Moreover, the proposed rule would eliminate from jurisdiction those streams that *become* ephemeral due to water withdrawals. Specifically, the agencies state, "in some parts of the country, streams may be perennial or intermittent at the headwaters but become ephemeral downstream due to natural conditions (e.g., losing streams) or due to anthropogenic alterations (e.g., water withdrawals). Such perennial or intermittent waters would not be jurisdictional under the proposed rule..."⁵⁶ Climate change, together

⁵¹ Id.

⁵² Id.

⁵³ Calhoun, A.J.K., Mushet, D.M., Alexander, L.C. et al. The Significant Surface-Water Connectivity of "Geographically Isolated Wetlands," *Wetlands* (2017) 37: 801.

⁵⁴ Eekhout, J. et al. *Why increased extreme precipitation under climate change negatively affects water security*, Hydrol. Earth Syst. Sci., 22, 5935–5946, 2018

⁵⁵ http://azconservation.org/downloads/san_pedro_wet_dry_mapping

⁵⁶ https://www.epa.gov/sites/production/files/2018-12/documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf, at 38.

with growing populations and more demand, are stressing our water supplies.⁵⁷ The warming temperatures enhance evapotranspiration and dry out waters and wetlands, while also increasing water demand for cooling.⁵⁸ A 2019 study shows the startling amount of isolated and headwater watersheds, particularly in the arid southwest, California, Florida, the Great Lakes region, and the eastern seaboard (Figure a, below).⁵⁹



As water use intensifies, and climate change brings warmer temperatures and prolonged droughts, more and more streams will become non-jurisdictional under the proposed rule. This analysis reveals one of the reasons why relying on stream type to determine jurisdiction is so dangerous.

Ephemeral streams and isolated wetlands are critical for fisheries and other wildlife.

Headwater streams, which are defined by EPA as "the smallest parts of river and stream networks,"⁶⁰ comprise the majority of river miles in the United States, and include ephemeral and some intermittent streams. Even today, EPA stresses the importance of these streams, stating, "Many headwater streams have been lost or altered due to human activities such as urbanization and agriculture, and this can impact species and water quality downstream."⁶¹ Because of the lack of data on many of these headwaters streams, it is impossible to tease apart how many stream miles are ephemeral versus intermittent.

⁵⁷ Duan, K. et al., Understanding the role of regional water connectivity in mitigating climate change impacts on surface water supply stress in the United States, *Journal of Hydrology*, 570 (2019) 80-95, at 80.

⁵⁸ Id.

⁵⁹ *Id.* at 82.

⁶⁰ <u>https://www.epa.gov/water-research/headwater-streams-studies</u>, accessed 4/13/19.

 $^{^{61}}$ *Id*.

It is indisputable that headwater streams, including ephemeral streams, are "critical for sustaining aquatic biodiversity and for providing vital spawning and rearing habitat for migratory fishes, including commercially fished species."⁶² (citations omitted). In addition, they provide habitat for other aquatic and semi-aquatic organisms, including invertebrates, amphibians, reptiles, and birds; some of these species are threatened or endangered. 63 In fact, "[e]phemeral headwater streams can support levels of aquatic invertebrate diversity and abundance comparable to, or greater than, those estimated for perennial headwaters, as well as taxa found nowhere else in the watershed"⁶⁴ (citations omitted; emphasis added). Some of these ephemeral streams and wetlands "provide unique and essential habitat for species for which there is no known perennial equivalency"⁶⁵(citations omitted).

In 2015, commercial and recreational fisheries contributed \$208 billion to the economy in sales and provided 1.62 million jobs.⁶⁶ The proposed rule would jeopardize both commercial and recreational fisheries, including salmon fisheries, as destruction of ephemeral streams and wetlands would adversely impact spawning and rearing habitat, and would pollute downstream waters. "Any rule that excludes [headwaters] protection will have far reaching implications for fish, wildlife, and their habitats."⁶⁷

GIWs also provide valuable foraging and breeding habitat for a number of species, including Little Blue Herons (Egretta caerulea),⁶⁸ whose populations are declining. Vernal pools and prairie potholes are, by definition, isolated and would no longer receive protection under the proposed definition of WOTUS. The prairie pothole region covers roughly 100,000 square miles in the northern plains of Iowa, Minnesota, North Dakota, South Dakota and Montana. USFWS describes it as "one the richest wetland systems on earth, characterized by millions of depressional wetlands ... critically important to nesting waterfowl, shorebirds and grassland birds ... it is estimated that about one-third of the continent's waterfowl breeding population nest within it, many of which spend the winter months in the coastal marshes along the Gulf."69

The agencies misstate the Scientific Advisory Board's (SAB's) findings.

After the agencies issued their draft Connectivity Report, SAB reviewed the report and wrote a letter to then-EPA Administrator Gina McCarthy.⁷⁰ In the proposed rule, the agencies boldly proclaim that "SAB found perennial and intermittent streams have a greater probability to impact downstream waters compared to ephemeral streams."⁷¹ This is simply not true. SAB drew a "hypothetical illustration," (see

⁷¹ 84 Fed. Reg. at 4176.

⁶² See, e.g., Colvin, S. et al., Headwater Streams and Wetlands are Critical for Sustaining Fish, Fisheries, and Ecosystem Services, Fisheries Magazine, AFS Special Report, 18 January 2019.

⁶³ Id.

⁶⁴ Id. ⁶⁵ Id.

⁶⁶ https://www.fisheries.noaa.gov/feature-story/fisheries-economics-united-states-2015

⁶⁷ Colvin, S.

⁶⁸ Herteux, C., Wading Bird Use of Geographically Isolated Wetlands in the Southeastern U.S., Coastal PlainFlorida Atlantic University, ProQuest Dissertations Publishing, 2018.

⁶⁹ https://www.fws.gov/southeast/gulf-restoration/next-steps/focal-area/prairie-potholes/

⁷⁰ See Letter to Gina McCarthy, SAB Review of the Draft EPA Report Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (Oct. 17, 2014) ("Hereinafter "SAB Review").

SAB hypothetical illustration, below)⁷² suggesting that the agencies develop something similar, as they thought it might be "possible" and "useful."⁷³ In fact, the SAB Review concluded that even low levels of connectivity can result in impacts on the chemical, physical, and biological integrity of downstream waters.

Permitéd Streams	Determittens Streue Rijtarian Weslands	u – Floodpâsse Wes	Ephemeral Streams lands Non-Elson	plain Olon-Riparian Weelands
Probability that will be transmitt	changes at the lo ad to downstrea	cation of intere n waters	a	
High frequency and duration of connection	frequency & c	duration of conne	ction (Low frequency and duration of connection
High magnitude fluxes	สารทับข	e / mass of inputs		 Low magnitude fluxes
	3. Transfers Med	iated by Biota to	Downstream	Waters
Probability tha will be transmi Large magnitu	3. Transfers Med t changes at the tted to downstre de transfer of	iated by Biota to location of inter am waters	est → No or log	Waters Xmagnitude transfe
Probability tha will be transmi Large magnitu energy, nutrien contaminants b	3. Transfers Med t changes at the tted to downstre de transfer of ts or y biota	iated by Biota to location of inter am waters	Downstream rest No or lot of energ contami	Waters w magnitude transf y, nutrients or nants by biota

Legal Shortcomings of the Proposed Rule

Reliance on Justice Scalia's definition in *Rapanos* is legally flawed.

Executive Order 13778's insistence that the EPA and Corps of Engineers consider modifying the definition of WOTUS to match that articulated by Justice Scalia in *Rapanos v. United States*, 547 U.S. 715, suffers from a fundamental misunderstanding of Supreme Court precedent. Justice Scalia authored a *plurality* decision in *Rapanos*, and a majority of the Court could not reach a conclusion of what the waters of the United States are. The proposed rule repeatedly invokes Justice Scalia's proposed definition in *Rapanos* as if it were a binding opinion. It is not. The proposed definition of WOTUS was in fact *rejected* by five members of the Supreme Court.

Under ordinary circumstances, an opinion joined by less than a majority of the Justices does not create binding authority. These are not ordinary circumstances however. In *Rapanos*, the defendants were accused of discharging fill into a wetland without a permit. They challenged the enforcement order, claiming that the wetland in question was not a WOTUS. Four Justices, including Justice Scalia, argued for a restrictive reading of the definition of WOTUS, four argued for a more traditional interpretation, and Justice Kennedy did not fully join either side, instead writing an opinion setting forth his now infamous "significant nexus" test. The case was remanded to the lower court, and ultimately, the defendants paid a \$1 million fine.

⁷² SAB Review, at 54.

⁷³ *Id.* at 53.

Justice Scalia's definition of WOTUS was based on, according to him, the definition of "waters" in Webster's New International Dictionary.⁷⁴ Justice Kennedy argued that a nexus exists where the wetland or waterbody in question significantly affects the physical, biological, and chemical integrity of a downstream navigable waterway. By doing so, Justice Kennedy embraced the purpose of the CWA – to restore and maintain the physical, biological, and chemical integrity of waters. Justice Stevens wrote the principal *Rapanos* dissent, stating:

...while both the plurality and Justice Kennedy agree that there must be a remand for further proceedings, their respective opinions define different tests to be applied on remand. Given that all four Justices who have joined this opinion would uphold the Corps' jurisdiction in both of these cases—and in all other cases in which either the plurality's or Justice Kennedy's test is satisfied—on remand each of the judgments should be reinstated if *either* of those tests is met.⁷⁵

Chief Justice Roberts noted that because of the plurality opinion, lower courts faced with the issue would have to look at the *Marks* case: "When a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds."⁷⁶ Although the Supreme Court has declined to elucidate the words "narrowest grounds," it is clear that in cases such as this, "the lack of an agreement by a majority of the Court on the principles of law involved prevents it from being an authoritative determination for other cases."⁷⁷

Three U.S. Circuit Courts of Appeals have found explicitly that Justice Kennedy's opinion provides the legally controlling test and constitutes the narrowest grounds. Specifically, the Ninth Circuit in *Northern California River Watch v. City of Healdsburg*, explained that because it is "the narrowest ground to which a majority of the Justices would assent if forced to choose in almost all cases, . . . Justice Kennedy's concurrence provides the controlling rule of law" 496 F.3d 993, 999-1000 (2007). The Ninth Circuit relied upon the Seventh Circuit's opinion in *United States v. Gerke Excavating, Inc.*, 464 F.3d 723 (7th Cir. 2006). That case explained that Justice Kennedy's test—which it also found to be controlling—was "narrower (so far as reining in federal authority is concerned) than the plurality's in most cases." 464 F.3d at 724-25. The Eleventh Circuit has also concluded that Justice Kennedy's test is controlling. *See United States v. Robison*, 505 F.3d 1208, 1221 (11th Cir. 2007) (concluding that under the facts of Rapanos, Justice Kennedy's opinion is the narrowest and controlling).

While *no* circuits have adopted Justice Scalia's opinion as *controlling*, the First, Third, and Eighth Circuits concluded that WOTUS may be legally defined by either the plurality's *or* Justice Kennedy's standard. *See United States v. Johnson*, 467 F.3d 56, 64-66 (1st Cir. 2006); *United States v. Donovan*, 661 F.3d 174, 176, 182 (3d Cir. 2011); *United States v. Bailey*, 571 F.3d 791, 799 (8th Cir. 2009). The Fourth Circuit has used Justice Kennedy's test without ruling whether the Scalia test is valid. *See Precon Dev. Corp. v. United States Army Corps of Eng'rs*, 633 F.3d 278 (4th Cir. 2011). The Sixth Circuit has expressly not yet decided which test is controlling. *See United States v. Cundiff*, 555 F.3d 200, 210 (6th Cir. 2009). It appears that the Fifth Circuit has also not yet decided which test controls, *see United States*.

⁷⁴ *Rapanos*, 547 U.S. at 733.

⁷⁵ *Id.* at 810.

⁷⁶ Marks v. United States, 430 U.S. 188, 193 (1977)

⁷⁷ United States v. Pink, 315 U.S. 203, 216 (1942) (citing Hertz v. Woodman, 218 U.S. 205, 213-14 (1910)).

v. *Lucas*, 516 F.3d 316, 324-28 (5th Cir. 2008), although it has more recently indicated in an unpublished decision that jurisdiction could be established under either test. See United States v. Lipar, 665 F. App'x 322, 325 (5th Cir. 2016).

Justice Scalia himself, ten days after issuing the plurality decision in *Rapanos*, seems to indicate in his dissent in *Hamdan v. Rumsfeld* that Kennedy's concurrence may be more controlling than his own, when he states of Justices Stevens, Souter, Ginsburg, Breyer, and Kennedy:

Those Justices who today disregard the Commander in Chief's wartime decisions, only 10 days ago deferred to the judgment of the Corps of Engineers with regard to a matter much more within the competence of lawyers, upholding that agency's wildly implausible conclusion that a storm drain is a tributary of the waters of the United States.

548 U.S. 557, 706 (2006) (Scalia, J., dissenting).

In this case, President Trump ordered the agencies to write a rule based on a fractured Supreme Court decision which not one of the nine Circuit Courts of Appeals which have considered the question have endorsed as binding, and only three have ruled is valid. The proposed rule refers repeatedly to the illusory "*Rapanos* decision," yet there is no "decision" which can be credibly cited. The order to comply with Justice Scalia's regressive dictionary definition demonstrates that it is not based on either science or the law, but pure ideology. Because the CWA greatly affects both human health and the environment, it is incumbent on the agencies to define WOTUS in a way that complies with the spirit and clear intent of the law: to protect and maintain the chemical, physical, and biological integrity of the nation's waters.

The environmental impacts associated with the proposed rule have not been assessed, making the rule arbitrary and capricious and thus invalid.

It is unfathomable that the agencies are proposing today's rule without any inkling of the environmental impacts. The agencies state in the preamble to the proposed rule that they "are not aware of any map or dataset that accurately or with any precision portrays the scope of CWA jurisdiction at any point in the history of this complex regulatory program. Establishing a mapped baseline from which to assess regulatory changes is likewise impracticable at this time... the agencies are not aware of any means to quantify changes in CWA jurisdiction with any precision that may or may not occur as a result of this proposed rule."⁷⁸

The list of unknowns becomes staggering when you delve deeper into the proposal. All of the following statements come from the so-called "supporting documentation" for the proposed rule; more specifically, the "Resource and Programmatic Assessment for the Proposed Revised Definition of 'Waters of the United States'" published on December 11, 2018⁷⁹ (emphases added):

⁷⁸ 84 Fed. Reg. 4200.

⁷⁹ Available at: https://www.epa.gov/sites/production/files/2018-

^{12/}documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf

- With regard to oil spills, "[t]he agencies *do not have sufficient information* at this time to assess how these state or tribal programs and funding mechanisms could be affected by a revised definition of "waters of the United States." (p. 13);
- "The agencies used the [National Hydrography Dataset] NHD at high resolution in a Geographic Information Systems analysis to provide estimates of the extent of selected waterbody types within the dataset, with a specific focus on NHD mapped streams/rivers identified as ephemeral, intermittent, and perennial..." (p. 23) But the "NHD *misclassified* the flow regime 44.8 percent of the time across the mesic forest headwater reaches and 57.9 percent of the time across the Oregon headwater reaches." (p. 22)
- "[National Wetland Inventory] NWI agencies have determined that the attempted analysis *does not accurately assess the potential effects of the proposed rule.*" (p. 24)
- "[T]he agencies are *unable to ... estimate the potential change in CWA jurisdiction* for lakes and ponds under the proposed rule." (p. 43)
- "The agencies are *unable to quantify* the proposed rule's reduction in jurisdiction of adjacent wetlands compared to the 2015 Rule." (p. 44)
- "...the agencies *cannot parse out directly* from available data whether a wetland is abutting or not abutting..." (p. 45)
- "Because the proposed rule would include as adjacent wetlands only those non-abutting wetlands that have a direct hydrologic surface connection, fewer wetlands adjacent to TNWs would be considered jurisdictional as compared to both baselines. The agencies are *unable to quantify this change*." (p. 46)
- With regard to wetlands adjacent to non-relatively permanent waters (non-RPWs), "the agencies are *unable to quantify what the change in jurisdiction would be* for this category of wetlands as compared to the proposed rule." (p. 46)
- With regard to non-navigable, isolate, intrastate waters, "the agencies are *not able to quantify that change*." (p. 47)
- "...the agencies' ability to make quantitative estimates of potential changes in CWA jurisdiction under the proposed rule relative to either baseline is *severely limited* by available data. That said, the agencies anticipate that the largest potential effects associated with the proposed rule policies would be to ephemeral streams and to wetlands." (p. 52)
- *cannot appropriately or accurately assess the potential effects* of the proposed rule on public water systems (PWSs). (p. 109)

This list is not exhaustive; however, the agencies suggest that these data gaps are not of concern because they "are not aware of any datasets that fully depict the jurisdictional extent of all waters under the 2015 Rule or pre-2015 practice."⁸⁰ In other words, because there was no assessment of what waters were covered under the 2015 Clean Water Rule, there is no need to assess how many waters would be covered under the proposed definition. Again, this is from a *supporting* document. This is non-sensical, as the proposed definition is the one that will drastically reduce CWA jurisdiction, and result in devastating environmental consequences. If the agencies cannot quantify the negative impact of their proposed action, they should not proceed.

⁸⁰ https://www.epa.gov/sites/production/files/2018-12/documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf at p. 25.

Normally, an agency rule would be arbitrary and capricious under the Administrative Procedure Act if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."⁸¹ While a court is not to substitute its judgment for that of the agency, the agency *must* examine the relevant data and articulate a satisfactory explanation for its action including a "rational connection between the facts found and the choice made."⁸²

Motor Vehicle Mfrs. Ass'n (MVMA) is a particularly helpful case because it involved a reversal of a previously existing interpretation/rule by an agency which was attempting to deregulate in response to political pressure. *MVMA* involved the elimination of a National Highway Traffic Safety Administration (NHTSA) requirement to have air bags and seatbelts in new cars. *MVMA*'s only subsequent abrogation was in a footnote of *Verizon v. FCC*⁸³ criticizing a dissenting opinion's reliance on *MVMA* because *Verizon* did not involve an agency "changing its course" on its interpretation of a statute. Because EPA and the Corps *are* changing their course on WOTUS, analytical reliance on *MVMA* is appropriate. It recognized that while "regulatory agencies do not establish rules of conduct to last forever . . . the forces of change do not always or necessarily point in the direction of deregulation."⁸⁴ Where, as here, there is no congressional mandate to redefine WOTUS which would establish a presumption in favor of one or another interpretation, the presumption from which analysis should begin "is not *against* safety regulation, but *against* changes in current policy that are not justified by the rulemaking record."⁸⁵

Where multiple possible policy options exist for an agency to fulfill its statutory duties, the agency must actually examine them. Any "alternative way of achieving the objectives of the Act should [be] addressed and adequate reasons given for its abandonment."⁸⁶ In the case of WOTUS, the agency has proposed a definition on ideological grounds with a vague promise to sort out the pieces of how it will impact the agency's regulatory activities and jurisdiction after it goes into effect. The above list of admitted ignorance in the proposed rule's own supporting documentation is the best evidence that the rule does not meet the law's requirements. "[T]he courts may not accept … *post hoc* rationalizations for agency action. It is well established that an agency's action must be upheld, if at all, on the basis articulated by the agency itself."⁸⁷

The articulation by the agency is lacking, at best. In fact, it is abundantly clear that President Trump's EO 13778 dictated the definition of WOTUS that he wanted to see: ""the Administrator and the Assistant Secretary *shall* consider interpreting the term "navigable waters," as defined in 33 U.S.C. 1362(7), in a manner consistent with the opinion of Justice Antonin Scalia in *Rapanos v. United States*, 547 U.S. 715 (2006)"⁸⁸ (emphasis added), without the benefit of *any* scientific data or analyses as to the impacts of such a change. In other words, President Trump ordered the agencies to define WOTUS in a particular way, and to come up with the justification for doing so after the fact.

⁸¹ Motor Vehicle Mfrs. Ass'n (MVMA) v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) [hereinafter MVMA].

⁸² Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 168 (1962).

⁸³ 535 U.S. 467 (2002).

^{84 463} U.S. at 42 (quoting American Trucking Assns., Inc. v. Atchison, T. & S. F. R. Co., 387 U.S. 397, 416 (1967)).

⁸⁵ *Id.* (emphasis in original).

⁸⁶ *Id.* at 48.

⁸⁷ Id. at 50.

⁸⁸ https://www.whitehouse.gov/presidential-actions/presidential-executive-order-restoring-rule-law-federalism-economic-growth-reviewing-waters-united-states-rule/

The lack of knowledge regarding the impacts of the proposed WOTUS definition is unambiguous. As stated above, the agencies state that the evidence they do have "misclassified" streams up to 57.9% of the time; the wetland maps do "not accurately assess the potential effects of the proposed rule"; they "cannot parse out" whether a wetland would be jurisdictional; the data is "severely limited"; in fact, it is not even possible, based on the agency's proffered justification, to determine whether *lakes and ponds* are "waters of the United States." This clearly deficient reasoning is not simply a failure to properly analyze the revised WOTUS definition as a policy alternative, however. "[G]iven the judgment made" under the 2015 WOTUS interpretation that the objectives of the Clean Water Act are met by its more expansive definition, it "may not be abandoned without any consideration whatsoever" of the implications of doing so.⁸⁹ The agency need not settle every imaginable question of fact, as "it is not infrequent that the available data do not settle a regulatory issue, and the agency must then exercise its judgment in moving from the facts and probabilities on the record to a policy conclusion."⁹⁰ That said:

Recognizing that policymaking in a complex society must account for uncertainty, however, does not imply that it is sufficient for an agency to merely recite the terms "substantial uncertainty" as a justification for its actions. As previously noted, the agency must explain the evidence which is available, and must offer a "rational connection between the facts found and the choice made." *Burlington Truck Lines, Inc.* v. *United States, supra*, at 168. Generally, one aspect of that explanation would be a justification for rescinding the regulation before engaging in a search for further evidence.⁹¹

"An agency's view of what is in the public interest may change, either with or without a change in circumstances. But an agency changing its course must supply a reasoned analysis"⁹² Here, EPA and the Corps of Engineers have manifestly failed to provide such a reasoned analysis, and for that reason the proposed definition of "waters of the United States" should be rejected in its entirety until the agencies can develop a factual record sufficient to justify their radical departure from established policy.

Removal of interstate waters from jurisdiction.

The Supreme Court has long held that interstate waters are within the agencies' jurisdiction. Indeed, the agencies themselves admitted that the CWA intended for interstate waters to be jurisdictional in 2014: "The language of the CWA is clear that Congress intended the term 'navigable waters' to include interstate waters."⁹³

As recently as last year, the Supreme Court discussed the inevitability of interstate waters being jurisdictional under the CWA: "[The WOTUS] Rule separates waters into three jurisdictional groups — waters that are categorically jurisdictional (*e.g.*, interstate waters); those that require a case-specific showing of their significant nexus to traditionally covered waters (*e.g.*, waters lying in the flood plain of

⁸⁹ MVMA v State Farm, 463 U.S. at 51.

⁹⁰ *Id.* at 52.

⁹¹ *Id*.at 52.

⁹² Greater Boston Television Corp. v. FCC, 444 F.2d 841, 852 (D.C. Cir. 1970) (footnote omitted), cert. denied, 403 U.S. 923 (1971).

⁹³ 79 Fed. Reg. 22254

interstate waters); and those that are categorically excluded from jurisdiction (*e.g.*, swimming pools and puddles)."⁹⁴ The proposed rule gives no indication why they are retreating from this longstanding position, and as such, the retreat is arbitrary. As stated above, water pollution does not know political boundaries, and federal jurisdiction over interstate waters will protect the States, not threaten States' rights.

Policy Issues with the Proposed Rule

Cooperative federalism is not a valid reason for the proposed rule.

The agencies claim that the proposed definition is "intended to strike a balance between Federal and State waters and would carry out Congress' overall objective to restore and maintain the integrity of the nation's waters in a manner that preserves the traditional sovereignty of States over their own land and water resources."⁹⁵ The preamble to the proposed rule claims repeatedly that this new definition is an effort to protect "the primary responsibilities and rights of States to prevent, reduce and eliminate pollution."⁹⁶ And in their supporting documentation, the agencies state, "[t]he proposed rule would preserve the exclusive authority of states and tribes over more waters than under either baseline definition of 'waters of the United States."⁹⁷ However, this claim is disingenuous; the Trump Administration only wants to give the States rights when the States want to *weaken* environmental protections.

For example, on April 10, 2019 – just five days ago - President Trump signed an EO entitled "Executive Order on Promoting Energy Infrastructure and Economic Growth."⁹⁸ This EO claims that:

Section 401 of the Clean Water Act (33 U.S.C. 1341) provides that States and authorized tribes have a direct role in Federal permitting and licensing processes to ensure that activities subject to Federal permitting requirements comply with established water quality requirements. Outdated Federal guidance and regulations regarding section 401 of the Clean Water Act, however, are causing confusion and uncertainty and are hindering the development of energy infrastructure.⁹⁹

Clearly the "development of energy infrastructure" is the real priority. This EO will strip the States' abilities to approve or deny projects that will adversely impact water quality of their waterways. Section 401 is a critical tool that currently gives States the ability to go beyond the federal standards of protection, and to condition or even deny federally-permitted projects if the water quality impacts are deemed unacceptable. Ironically, in its supporting documentation to this proposed rule, the agencies agree: "[m]any states and tribes rely on section 401 certification as their primary tool for ensuring that federal permits or licenses do not cause unacceptable water quality impacts and sufficiently protect

⁹⁴ Nat. Ass'n of Mfrs. v. Dept. of Defense, 138 S. Ct. 617, 626 (2018)

^{95 84} Fed. Reg. 4156.

⁹⁶ Id.

⁹⁷ https://www.epa.gov/sites/production/files/2018-12/documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf at p. 53

 ⁹⁸ <u>https://www.whitehouse.gov/presidential-actions/executive-order-promoting-energy-infrastructure-economic-growth/</u>
 ⁹⁹ Id.

aquatic resources including wetlands."¹⁰⁰ And yet, these rights are being eliminated in order to "avoid duplicative and redundant studies...and increase regulatory certainty."¹⁰¹ The only "regulatory certainty" the agencies want is certainty that there is no regulation. EPA's own website asks the question, "Does Section 401 certification add another layer of bureaucracy or cause delays?"¹⁰² EPA's answer is:

It shouldn't. Instead, Section 401 certification allows States and Tribes to take a more active role in decisions impacting aquatic resources. In most cases, Section 401 certification review is conducted at the same time as the Federal agency review. Many States and Tribes have established joint public notice procedures to ensure this occurs. In addition, the Section 401 review allows for better consideration of State- or Tribe-specific concerns in the federal permitting process.¹⁰³

Clearly, then, the States' 401 water quality certifications are not duplicative, nor do they cause regulatory uncertainty. Nevertheless, the Trump Administration is insisting that the proposed rule is necessary to protect the States' rights when it comes to water, and yet taking away that same right because the States are slowing down the Administration's pet oil and gas projects.

In another example, the Trump Administration, in its efforts to roll back fuel economy standards, is trying to revoke the waiver given to California under the Clean Air Act to set auto emissions standards stricter than federal rules.¹⁰⁴ These examples demonstrate that EPA wants to give more power to States that want to weaken environmental protections, while blocking States that want to strengthen protections. Given the modus operandi of EPA Administrator Wheeler to reward states supporting his agenda of weakened environmental protection, it is nonsensical for the agencies to claim that one of the purposes of this proposed rule is to protect States' rights. In fact, the CWA already protects State autonomy in a variety of ways, including the Section 401 water quality certification process.

Reduction in federal jurisdiction will leave a confusing patchwork of protection.

The preamble to the proposed rule argues that the States are the experts in their own waters, and will take up the slack in wetland and water jurisdictional determinations, and, directly flowing from that, their protection. Since every watershed has a mosaic of ephemeral, intermittent, and perennial waters, every watershed in States that have their own water protection statutes will have a confusing patchwork of state and federal protection. Specifically, the agencies claim:

During the extensive pre-proposal outreach to the general public and focused engagement with States and Tribes, the agencies heard from a number of States about their familiarity with waters

¹⁰⁰ <u>https://www.epa.gov/sites/production/files/2018-12/documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf</u> at p. 85.

 $^{^{101}}$ Id.

¹⁰² https://www.epa.gov/cwa-404/overview-section-401-certification-and-focusing-wetlands

¹⁰³ *Id.* (accessed April 11, 2019)

¹⁰⁴ See, e.g., https://www.reuters.com/article/us-autos-emissions-california/trump-administration-ends-california-talks-on-auto-emissions-white-house-idUSKCN1QA2CD

within their borders and their expertise in aquatic resource mapping. As co-implementers of CWA programs, they also emphasized the potential benefit of greater State and tribal involvement in jurisdictional determinations. Several States suggested the agencies consider their knowledge and increase the role of States and Tribes in identifying those waters that are "waters of the United States."¹⁰⁵

This is problematic for a number of reasons. First, many States do not have the resources – money and staff/expertise – to take over jurisdictional determinations and protections. Budget cuts in state Departments of Environmental Protections have led to drops in enforcement inspections, failure to conduct water quality monitoring, and overall degradation of the environment.¹⁰⁶ The expertise in jurisdictional determinations would also vary from State to State, leading to inconsistent decisions.

Second, when States are faced with limited resources, they will not enforce laws within their own borders when the environmental harm is downstream in another State. Pollution does not recognize political boundaries, and as such federal environmental laws are necessary to even the playing field and protect all waters and all people. By lowering the bar and eliminating federal jurisdiction over so many wetlands, streams, lakes and ponds, the proposed rule would result in a patchwork of state protections where downstream states that are more protective of their waters would be the recipient of pollution from upstream states, with no legal recourse.

Third, many of the significant violators of the federal CWA are large national or international companies that operate throughout the United States. Individual states do not have the resources or the ability to challenge these companies, and doing so could lead to disparate enforcement. In addition, EPA has always been the hammer States have used to get companies to comply with environmental laws; if a company cannot resolve a violation with a State, the State had the ability to ask EPA to intervene and take a federal action, an action that was typically stronger. States will no longer have this backup, and as a result, it will be harder for States to take strong enforcement actions.

Finally, it is important to note that a number of States have statutory language prohibiting stricter environmental laws than that of the federal government. In an undated 2019 memo from the Association of Clean Water Administrators (ACWA) Staff to John Goodin and Mindy Eisenberg of the EPA, ACWA responded to the question asked of them: "Does your state have statutory language preventing your state from having more stringent environmental protection regulations than the Federal government?" ACWA surveyed its State members, and received responses from 21 States. Of these 21 respondents, seven had statutory limitations prohibiting environmental protection stronger than what is federally required. Moreover, in 2013, the Environmental Law Institute (ELI) conducted a study entitled, "State Constraints: State-Imposed Limitations on the Authority of Agencies to Regulate Waters Beyond the Scope of the Federal Clean Water Act."¹⁰⁷ In this report, ELI noted that:

Over two-thirds of U.S. states, 36 in all, have laws that could restrict the authority of state agencies or localities to regulate waters left unprotected by the federal Clean Water Act. These

¹⁰⁵ 84 Fed. Reg. 4198

¹⁰⁶ See, e.g., https://www.environmentalleague.org/wp-content/uploads/2017/01/Hard-Copy_Green-Budget-

FY2018_FINAL_2.14.17.pdf

¹⁰⁷ https://www.eli.org/sites/default/files/eli-pubs/d23-04.pdf

restrictions take the form of absolute or qualified prohibitions that require state law to be "no more stringent than" federal law; property rights limitations; or a combination of the two. Such provisions constrain, and in some instances eliminate, the authority of state or local regulators to protect aquatic resources whose Clean Water Act coverage has disappeared or been rendered uncertain as a result of the *SWANCC* and *Rapanos* decisions.¹⁰⁸

ELI also states that, "states are not currently 'filling the gap' left by U.S. Supreme Court rulings limiting the Clean Water Act, and face significant obstacles to doing so,"¹⁰⁹ and "it is unrealistic to expect state agencies or localities to comprehensively protect surface waters left outside of federal Clean Water Act coverage in the wake of the U.S. Supreme Court's decisions in *SWANCC* and *Rapanos*."¹¹⁰ Thus, the proposed rule will not only eliminate federal protections of waters and wetlands, but will also have a domino effect into state protections throughout much of the country. And in fact, the agencies acknowledge that they have no idea what will happen at the State level; they admit, "Some states may adjust their current practices in light of a revised definition of "waters of the United States." However, the agencies are not able to predict what changes might result from the proposed rule."¹¹¹

The proposed rule will not lead to regulatory certainty.

The agencies state that the proposed definition of WOTUS would "ensure clarity and predictability for Federal agencies, States, Tribes, the regulated community, and the public."¹¹² In EPA's press release, Administrator Wheeler touts the "straightforward definition that would result in significant cost savings, protect the nation's navigable waters, help sustain economic growth, and reduce barriers to business development."¹¹³ Administrator Wheeler also stated, "Our simpler and clearer definition would help landowners understand whether a project on their property will require a federal permit or not, without spending thousands of dollars on engineering and legal professionals."¹¹⁴

However, it is clear to any scientist reading the proposed rule that the new WOTUS definition will not result in regulatory certainty, nor will farmers be able to "stand on their property and determine whether there is a water without having to hire outside support."¹¹⁵ For example, the agencies propose to define tributaries as "a river, stream, or similar naturally occurring surface water channel that contributes perennial or intermittent flow to a traditional navigable water or territorial sea in a *typical year* either directly or indirectly through other jurisdictional waters…" (emphasis added).¹¹⁶ A "typical year" is defined as "within the normal range of precipitation over a rolling thirty-year period for a particular geographic area."¹¹⁷ And how would your average farmer or landowner determine what is typical for their geographic area? The agencies offer this advice:

¹⁰⁸ *Id.* at 1.

¹⁰⁹ *Id.* at 2.

¹¹⁰ *Id.* at 37.

¹¹¹ <u>https://www.epa.gov/sites/production/files/2018-12/documents/wotus_proposed_step_2_rpa_for_clearance_12-7-18_508c.pdf</u> at p. 57.

¹¹² 84 Fed. Reg. 4156

¹¹³ <u>https://www.epa.gov/newsreleases/epa-and-army-propose-new-waters-united-states-definition</u>

¹¹⁴ Id.

¹¹⁵ Statement by Administrator Wheeler, https://www.sciencemag.org/news/2018/12/trump-releases-plan-reduce-protections-wetlands

¹¹⁶ 84 Fed. Reg 4173.

¹¹⁷ Id.

To determine whether the year in question is a "typical year," the agencies presently use observed rainfall amount and compare it to tables developed by the Corps using data from the National Oceanic and Atmospheric Administration (NOAA). The agencies consider a year to be "typical" when the observed rainfall from the previous three months falls within the 30th and 70th percentiles established by a 30-year rainfall average generated at NOAA weather stations. A typical year would generally not include times of drought or extreme floods. A rolling 30-year period would account for variability to provide a reliable indicator of the climate in a given geographic area without being confounded by a year or two of unusual climate data for the given area. The geographic area proposed to be used by the agencies would be on a watershed-scale basis to ensure specific climatic data are representative of the landscape in relation to the feature under consideration for meeting the tributary definition. Other potential data sources for obtaining relevant information to determine typical year could include one or several of the following: the Web- based Water-Budget Interactive Modeling Program (WebWIMP) for approximate dates of wet and dry seasons for any terrestrial location based on average monthly precipitation and estimated evapotranspiration (http://climate.geog.udel.edu/~wimp/); WETS tables (or similar tools) which are provided by the NRCS National Water and Climate Center (http://www.wcc.nrcs.usda.gov/climate/ wetlands.html) and are calculated from long-term (30year) weather records gathered at National Weather Service; meteorological stations; or by examining trends in drought indices, such as the Palmer Drought Severity Index (PDSI) (Sprecher and Warne 2000), where time- series plots of PDSI values by month or year are available from the National Climatic Data Center (http://www.ncdc.noaa.gov/oa/climate/ onlineprod/drought/xmgr.html#ds). The agencies are not proposing to codify specific tools or resources in the regulation to determine a "typical year." Sources of information on "snowpack" can be found in the NOAA national snow analyses maps (https://www.nohrsc.noaa.gov/nsa/), Natural Resources Conservation Service sources (https://www.wcc.nrcs.usda.gov/snow/), or by using hydrographs of subject locations as a potential guide to alert the regulated public and regulators as to which regions of the country have to consider snowpack scenarios. In these regions, for example, a hydrograph could indicate a large increase in discharge volume due to the late spring/ early summer thaws of melting snowpack."¹¹⁸

So unless members of the regulated community are standing on their property armed with data from NOAA weather stations, NOAA and NRCS snow analysis maps, and fluent in WebWIMP, WETS tables, or the PDSI, they will most certainly not be able to make this determination without outside support. While we concede that the "significant nexus" test contained in the current WOTUS definition was not always inherently obvious, it relied more on common sense than the proposed definition of a "typical year."

¹¹⁸ *Id.* at 4177.

The proposed definition of WOTUS will have far reaching impacts across many parts of the CWA and other statutes.

The agencies admit in their supporting documentation that the proposed rule would:

- Affect waters assessed under CWA 303(d), together with the number of Total Maximum Daily Load (TMDL) restoration plans;
- Reduce the amount of money available to states for oil spill cleanups;
- Reduce the availability of emergency response by the Pipeline and Hazardous Materials Safety Administration;
- Reduce the availability of Section 401 water quality certifications;
- Sow confusion regarding existing National Pollutant Discharge Elimination System (NPDES) permits if the discharge is suddenly into a non-jurisdictional water (although ironically, the agencies state that under *Rapanos*, a discharge into a non-jurisdictional water may require a NPDES permit anyway, because the discharge will end up in a jurisdictional water);
- Sow confusion in any ongoing Section 404 permit and enforcement cases; and
- Have an unknown effect on public water supplies (PWS).

Although the agencies list all of these as impacts associated with the proposed rule, they are unable to quantify the environmental or economic impacts associated with these changes.

However, with regard to drinking water, it is clear that intermittent and ephemeral streams provide drinking water to many Americans. The Association of State Wetland Managers (ASWM) estimates that this figure is over 111,000,000 Americans, and in fact, that ephemeral and intermittent streams are more important than perennial streams for drinking water in some states (see Table 1, below).¹¹⁹ ASWM notes that these figures are underestimated as it does not include data on tribal lands, does not capture streams less than one mile in length, and because many ephemeral streams are not mapped.¹²⁰

¹¹⁹ https://www.aswm.org/pdf_lib/state_data_request.pdf
¹²⁰ Id

		Streams ¹		Drinking Water ^{2,*}			
				Population Served by SWPAs	# of Systems with SWPAs		
				Receiving Water from Start	Receiving Water from Start		
				Reaches or	Reaches or		
State	% Start Reach	% Intermittent/Ephemeral	% Perennial	Intermittent/Ephemeral Streams	Intermittent/Ephemeral Streams		
AL	61	40	60	2,581,768	76		
AR	52	63	29	911,466	104		
AZ	56	94	3	818,881	45		
CA	46	66	23	14,272,000	667		
CO	52	68	24	3,583,330	230		
	52	8	91	2,223,112	35		
DE	59	20	95	0	0		
FL	29	12	46	916 454	9		
GA	57	33	66	3.810.208	111		
HI	55	46	36	40,084	4		
IA	59	62	36	620,639	29		
ID	51	47	47	242,589	58		
IL	56	55	41	1,623,780	91		
IN	54	34	54	1,668,898	36		
KS	57	81	18	1,372,206	65		
KY	55	29	64	3,097,903	164		
LA	38	36	46	1,071,156	39		
MA	52	10	89	4,733,465	98		
MD	59	19	80	3,690,933	39		
ML	60	13	87	389,174			
MN	40	30	50	298,007	14		
MO		66	29	2 549 622	86		
MS	55	58	37	289,740	3		
MT	54	63	33	341.821	60		
NC	56	23	71	4,297,102	142		
ND	50	84	14	290,800	27		
NE	52	77	19	525,566	5		
NH	55	15	85	474,976	40		
NJ	48	6	87	2,882,025	27		
NM	53	88	8	211,146	37		
NV	51	89	9	0	0		
NY	55	11	87	10,220,056	2/5		
	60	45	51	3,471,892	124		
	53	74	20	2,420,695	210		
PA	53	25	75	7,979,560	203		
PR		20	/0	3,997 772	133		
RI	54	11	89	551.162	10		
SC	53	23	73	1,470.158	52		
SD	55	86	10	341,211	34		
TN	60	18	80	2,963,333	154		
TX	53	75	21	7,284,836	328		
UT	55	79	16	2,003,441	36		
VA	57	30	67	3,317,038	133		
VT	56	10	90	253,213	60		
WA	54	41	54	1,701,824	145		
WVI	53	45	53	199,457	5		
WV	60	36	64	881,596	133		
Notional	53	66	28	177,861	51		
Induonal	53	59	36	111,604,794	4,860		

Table 1: State-by-State NHD Analyses of Stream Categories and Drinking Water Data

According to EPA, "[i]n the continental United States, about 117 million people, over one third of the total U.S. population, get some or all of their drinking water from public drinking water systems that rely at least in part on intermittent, ephemeral, or headwater streams."¹²¹ Common sense dictates, then, that destruction of, or discharging pollutants into these streams would adversely affect drinking water for these 117 million Americans. Scientific studies support this contention: when headwater streams are destroyed, it results in "decreased travel time and reduced potential for in-stream retention and processing of contaminants."¹²² In addition, the alterations to headwater streams "entails significant

¹²¹ <u>https://www.epa.gov/cwa-404/geographic-information-systems-analysis-surface-drinking-water-provided-intermittent</u>

¹²² Elmore, A.J., and S.S. Kaushal, Disappearing Headwaters: Patterns of Stream Burial Due to Urbanization, *Frontiers in Ecology and the Environment*, 3018-312, at 311 (January, 2008)

water quality changes beyond those caused by the physical alteration of the headwater channels."¹²³ Excess nutrients, fecal coliform, domestic animal waste, sewer leaks, and pesticides increase downstream when headwater streams are destroyed.¹²⁴ If the proposed WOTUS rule is finalized, any unregulated discharges into headwater streams will result in these contaminants flowing downstream. In other words, the "chemistry observed at downstream sites represents the mix from all upstream activities."¹²⁵ Because headwater riparian areas have an important impact on downstream water quality, the drinking water of millions of Americans could be impacted by lifting federal CWA jurisdiction from these streams. Moreover, Americans who get their drinking water from perennial streams would also be adversely impacted, as contaminants from upstream will reach these larger downstream waters.

The agencies' failure to even attempt to quantify the impacts to drinking water may be, in part, to their sentiment "that states may actually be in a better position than the federal government to regulate local environmental public goods (e.g., water quality)."¹²⁶ Given this Administration's track record on drinking water protection, this may be the case; however, that is not a reason to abdicate their responsibilities.

The economic analysis is wholly insufficient.

Given that the agencies were unable to quantify the environmental impacts of the proposed rule, it is literally impossible to quantify the economic impacts. Setting that aside, the economic analysis fails to assign values to the lost functions and values of wetlands and waters that will be lost (e.g., flood control, water purification, groundwater recharge, fisheries and wildlife habitat, etc.). Moreover, because the agencies are unable to quantify the effects on states, public health, or pollution, let alone increased costs associated with artificial flood control, water filtration, and oil spill clean-up, etc., the so-called "analysis" is meaningless.

The economic analysis is also rife with claims of insufficient data and unknowns:

- the agencies are *unable to parse* out how many of these [wetland] determinations may have been for [TNWs] (p. 10);
- The agencies are *unable to quantify* the potential change in jurisdiction under the proposed rule relative to the 2015 Rule or pre-2015 practice with respect to interstate waters, because interstate waters are not identified as a distinct category in publicly available data sets or ORM2 (p. 10);
- The agencies are *unable to quantify* what the change in jurisdiction for tributaries would be as compared to the 2015 Rule or pre-2015 practice on a national scale due to the lack of information on the extent of ephemeral streams (p. 12);
- The agencies are *unable to quantify* what the change in jurisdiction for tributaries would be as compared to the 2015 Rule or pre-2015 practice on a national scale due to the lack of information on the extent of ephemeral streams (p. 12);

 ¹²³ Freeman, M.C., C.M. Pringle, and C.R. Jackson, Hydrologic Connectivity And The Contribution Of Stream headwaters To Ecological Integrity At Regional Scales, *J Am Water Resour Ass'n* 43: 5–14 at 8 (2007)
 ¹²⁴ Id.

 ¹²⁵ Johnson, B. et al., Spatial Convergence in Major Dissolved Ion Concentrations and Implications of Headwater Mining for Downstream Water Quality, *Journal Of The American Water Resources Association*, Vol. 55. No. 1 at 247 (2019)
 ¹²⁶ https://www.epa.gov/sites/production/files/2018-12/documents/wotusproposedrule ea final 2018-12-14.pdf at xii.

- The agencies are *unable to approximate* what percentage of currently jurisdictional non-RPWs are ephemeral streams and therefore would no longer be jurisdictional under the proposed definition of "waters of the United States" (p. 12);
- The agencies are *unable to estimate* the potential change in jurisdiction for ditches using either the ORM2 data or the NHD and NWI data (p. 14);
- The agencies are also *unable to quantify* how many lakes and ponds are connected to TNWs through ephemeral reaches that would render those lakes and ponds non-jurisdictional under the proposed rule (p. 15);
- The agencies are *unable to quantify* the proposed rule's reduction in jurisdiction of adjacent wetlands compared to the 2015 Rule (p. 16);
- The agencies are *not able to further parse* out which of these non-RPWs were intermittent or ephemeral or to parse out which adjacent wetlands are abutting. Thus, the agencies are *unable to quantify* what the change in jurisdiction would be for this category of wetlands as compared to the proposed rule (p. 18).

PEER cannot list all of the data shortcomings; rather, it is sufficient to note that this list of unknowns is less than 8% of the 213 page document.

Despite all of these uncertainties, the agencies conducted three case studies in the Ohio River Basin, the Lower Missouri River Basin, and the Rio Grande River Basin. In the first two case studies, the agencies claim that they had no ephemeral streams in the Ohio River Basin, and only two miles in the Lower Missouri: "The small number of miles of ephemeral streams within the two watersheds ... is due to the lack of specific flow regime categorization in the high resolution NHD data rather than the absence of such streams."¹²⁷ The agencies concede, "Case study locations do not include watersheds predicted to see the largest changes in wetland areas or ephemeral streams and may therefore not be representative of impacts of the proposed rule across the United States."¹²⁸ It is meaningless for the agencies to conduct an economic analysis on areas where they claim there are no ephemeral streams noted.

The economic analysis is also insufficient due to the agencies' failure to monetize the impacts from the loss of these wetlands and waters. Indeed, that is the purpose of an economic analysis. While they acknowledge that impacts will occur, they do not assign monetary costs to them. For example, they state:

...water quality in rivers, streams, and lakes may degrade as a result of pollutant loading from newly non-jurisdictional waters; loss of wetlands and streams without corresponding mitigation; or loss of impact reduction, minimization, and other requirements previously provided under section 404 program. Water quality degradation may adversely affect species habitat, costs of drinking water treatment and reservoir maintenance, as well as human uses of downstream water resources (e.g., fishing). Loss of wetland area may also increase downstream flood risk.¹²⁹

and:

¹²⁷ Id. at 136.

¹²⁸ Id. at 196.

¹²⁹ Id. at 134.

Oil spills present a risk to ecological and human health. Less stringent regulatory requirements for spill prevention and preparedness may lead to more frequent or larger oil spills and reduce the effectiveness of immediate response actions following a spill (e.g., by delaying the response). Several oil components are toxic to humans. Consequences of an oil discharge include direct costs for cleanup and remediation and environmental damages such as loss of wildlife and habitats. These damages depend on the type of oil, size of the spill, prevailing conditions and spill circumstances, and affected environments.¹³⁰

and

Narrowing the scope of federal jurisdiction under the CWA may result in a reduction in the ecosystem services provided by some waters, such as less habitat, increased flood risk, and higher pollutant loads. As a result, both public and private entities that rely on these ecosystem services may be adversely impacted, albeit indirectly. For example, loss of wetlands can increase the risk of property damage due to flooding.¹³¹

By not including these impacts to the costs associated with the proposed rule, the economic analysis is unfairly skewed toward the benefits. Moreover, the agencies repeated the same mistake they made in the previous economic analysis, calculating willingness to pay (WTP) instead of lost functions and values. The "foregone benefits" enumerated by the agencies appears to be limited to "reductions in mitigation requirements."¹³² The agencies state, "Without mitigation requirements on certain waters, the agencies anticipate a decline in total non-abutting wetland acreage, ephemeral stream miles and the riparian areas associated with ephemeral streams. The decline in water resources would result in a decline in the services that these resources provide, including fauna and flora support, flood control, water filtration, and recreation."¹³³ Since wetland mitigation rarely replaces the functions and values of lost wetlands, the economic loss associated with destroyed wetlands and waters would be higher than that obtained through mitigation.

The agencies also are disingenuous with regard to potential economic impacts. For example, they state that drinking water should remain clean because, "Public drinking water system intakes are expected to draw from perennial streams which are expected to remain within scope of the CWA."¹³⁴ They do add, "The agencies note, however, that an oil discharge *may* also affect drinking water systems if it contaminates the sources that feed those intakes, *perhaps* including features the jurisdiction of which may be affected by the proposed rule" (emphasis added).¹³⁵ Indeed, if an oil discharge occurs in an ephemeral stream leading to a perennial stream that provides drinking water, there will be an adverse impact. And this is precisely why the proposed rule is contrary to the purpose and intent of the CWA; it will not maintain the integrity of our nation's waters.

The agencies also focus on damages to specific businesses. For example, they state:

¹³⁰ Id.

¹³¹ *Id.* at 211-212.

¹³² See, e.g., *Id.* at 146.

¹³³ Id.

¹³⁴ *Id.* at 112. ¹³⁵ *Id.*

Increases in flood risk are likely to be specific to the watersheds where the wetland losses occur and are not expected to impact a specific group or business sector... Businesses that serve hunters or anglers, localities that collect admission fees or licenses, and non-profit organizations that focus on recreating within or preserving natural habitats are examples of sectors that could be affected by habitat loss, many of which could be categorized as small. Changes in water quality can also impact recreational activities and by extension those businesses and localities that support these activities."¹³⁶

The agencies must also examine economic impacts to individual citizens, not just businesses.

Other errors in the economic analysis include a reiteration of their misstatement that the SAB "found perennial and intermittent streams have a greater probability to impact downstream waters compared to ephemeral streams;"¹³⁷ the fact that they "assumed projects permitted under the 404 program during the period of 2011-2015 are representative of projects that may be permitted over the next 20 years,"¹³⁸ and the fact that "[t]he analysis omits impacts on isolated (non-abutting) wetlands."¹³⁹

GIWs and ephemeral streams are economically valuable. One recent study estimates that 2.9 million km (over 1.8 million stream miles) of vulnerable streams in the conterminous United States and Hawaii provide \$15.7 trillion/year in economic benefit, and 6.59 million hectares (over 16.2 million acres) of wetlands outside of floodplains (GIWs) in the conterminous United States provide \$673 billion/year in economic benefit.¹⁴⁰ In addition, a global meta-analysis showed that the smallest wetlands provide the most economic benefit per unit area.¹⁴¹

The agencies conclude from this fatally flawed economic "analysis" that the economic impacts from the proposed rule will be minimal. PEER disagrees, and offers an alternative case study, below.

Case study: how the proposed rule would impact waters in Florida.

According to Trout Unlimited, current mapping¹⁴² performed by NOAA, USGS and EPA shows that most of Florida's land mass is, to varying degrees, comprised of a significant number of intermittent and ephemeral streams. Consequently, the proposed rule would result in Federal jurisdiction being lost over many waterways and connected wetlands. An example of the negative consequences of this rule is found in the area just south of Tampa/St. Petersburg in Sarasota County, Florida. Sarasota County has a resident population of 417,442, ¹⁴³ while the City of Venice (Venice) has an estimated population of 23,020.¹⁴⁴ These numbers do not include the significant number of visitors that frequent the area annually. This entire area also has an exceedingly high number of currently jurisdictional intermittent

¹³⁶ *Id.* at 212.

¹³⁷ *Id.* at 195.

¹³⁸ Id. at 197.

¹³⁹ Id. at 198.

¹⁴⁰ Creed, I. F., et al., 2017. Enhancing protection for vulnerable waters. Nature Geoscience 10:809–815.

¹⁴¹ Id.

¹⁴² https://standup.tu.org/stand-up-for-clean-water/

¹⁴³ https://www.scgov.net/government/planning-and-development-services/planning-and-zoning/demographics

¹⁴⁴ http://worldpopulationreview.com/us-cities/venice-fl-population/

and ephemeral streams that are affected by stormwater and agricultural runoff, as well as pollutants being discharged into the area from other sources that can ultimately reach these streams.

In 2018, Sarasota County was one of several Florida counties plagued with high concentrations of red tide, that had been worsened by an equally devastating outbreak of blue-green algae. Both of these forms of algae thrive on nutrients such as phosphorus and nitrogen. The red tide particularly affected Sarasota County. Meanwhile, Venice which is bounded on the Gulf of Mexico on the west, and agricultural lands to the east also saw devastating impacts. Thus, the entire area is particularly at risk of impacts from these types of outbreaks. However, nutrient enrichment is not the only source of pollution experienced by residents and tourists to the area. Venice's wastewater treatment system, which has National Pollutant Discharge Elimination System (NPDES) permit number FL0035335, has a documented history of not complying with its permit conditions. The history is so extensive that on October 29, 2018, PEER filed an overfile petition with the EPA asking the EPA to intervene and exercise its jurisdiction to administer and enforce the permit.¹⁴⁵ The discharges from this plant include high levels of Chlorodibromomethane and Dichlorobromomethane. The plant has also failed to demonstrate to the Florida Department of Environmental Protection (FDEP) that it is not contributing to nutrient enrichment. Finally, it has experienced at least 42 sanitary sewer overflows since 2014. All these violations have failed to result in enforcement being taken by the FDEP, thus prompting PEER's overfile petition.

The EPA currently authorizes the FDEP to administer the Clean Water Act's NPDES program for the State of Florida. Notwithstanding its legal obligations, history has shown us that this is an agency that is entirely opposed to enforcing the NPDES laws entrusted to it by the EPA. In a report issued in July 2018, we found that wastewater assessments alone have fallen 78% in this program since 2010.¹⁴⁶ Thus, the streams currently protected by the Clean Water Act are already receiving only modest protection (at best) from the FDEP. Should some of these waters lose these protections entirely, there is every reason to believe that their conditions in Florida would only worsen because the EPA would be unable to require Florida to ensure their health and vitality. The likely impact to residents and tourists in places like Sarasota County and Venice would be an increase in the occurrence of algae outbreaks, as well as higher levels of other contaminates being discharged into their environment. All of these environmental impacts would result in a devastating environmental and economic impact to Florida.

Conclusion

The proposed rule lacks the necessary standards of scientific rigor and unbiased legal analysis to become a final rule. The agencies neglected to examine the latest scientific studies, rejected the EPA's own scientific conclusions, and failed to assess the environmental or economic impacts of its proposed action. Moreover, the EPA and the Army have failed to give a reasoned analysis for the proposed WOTUS redefinition, and as such, the proposed rule is arbitrary and capricious.

The bottom line is that the proposed rule is based on a faulty premise: that "isolated" streams and wetlands provide little to no value. However, "most, if not all, wetland scientists would agree that there

¹⁴⁵ https://www.peer.org/news/press-releases/venice-epitomizes-florida-water-pollution-crisis.html ¹⁴⁶ https://www.peer.org/assets/docs/fl/7 23 18 Report on 2017 Enforcement.pdf, p. 46.

is no such thing as an isolated wetland from an ecological standpoint."¹⁴⁷ A 2017 paper written by seven EPA scientists and one USFWS scientist, along with numerous other university researchers, concluded that vulnerable water, such as wetlands outside of floodplains (GIWs), and ephemeral and intermittent streams, are the most susceptible to degradation and destruction.¹⁴⁸ However, these vulnerable waters are "important elements of healthy watersheds, providing hydrological, chemical and biological functions integral to sustaining both ecological and human well-being...Clear and unambiguous protection is required to ensure vulnerable waters continue to support these important watershed functions."¹⁴⁹

The 2015 Connectivity Report was exhaustive and based on the best available science. Since its publication, even more studies support its conclusions that *all* waters, including ephemeral streams and GIWs, physically, chemically and biologically integrated with downstream waters. While "the loss of a single vulnerable water may well be undetectable, thresholds exist above which cumulative loss or degradation of these waters will have impacts that are probably irreversible."¹⁵⁰ The agencies erred when they rejected the 2015 Connectivity Report and substituted their deeply flawed analysis in its place.

The agencies must withdraw this proposed rule; to do otherwise is to contravene the intent and spirit of the federal CWA.

Thank you for the opportunity to comment.

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Juinty White

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¹⁴⁷ Tiner, R.W. 2003. "Geographically Isolated Wetlands of the United States." Wetlands 23: 494–516.

¹⁴⁸ Creed, I. F., et al., 2017. Enhancing protection for vulnerable waters. Nature Geoscience 10:809–815. ¹⁴⁹ *Id.*

 $^{^{150}}$ Id.