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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA

STATE OF CALIFORNIA BY AND  
THROUGH ATTORNEY GENERAL  
XAVIER BECERRA AND CALIFORNIA  
STATE WATER RESOURCES CONTROL  
BOARD, STATE OF NEW YORK, STATE  
OF CONNECTICUT, STATE OF ILLINOIS,  
STATE OF MAINE, STATE OF  
MARYLAND, STATE OF MICHIGAN,  
STATE OF NEW JERSEY, STATE OF NEW  
MEXICO, STATE OF NORTH CAROLINA  
*EX REL.* ATTORNEY GENERAL JOSHUA  
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RHODE ISLAND, STATE OF VERMONT,  
STATE OF WASHINGTON, STATE OF  
WISCONSIN, COMMONWEALTHS OF  
MASSACHUSETTS AND VIRGINIA, THE  
NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY, THE  
DISTRICT OF COLUMBIA, AND THE CITY  
OF NEW YORK,

Plaintiffs,

v.

ANDREW R. WHEELER, AS  
ADMINISTRATOR OF THE UNITED  
STATES ENVIRONMENTAL PROTECTION  
AGENCY; UNITED STATES  
ENVIRONMENTAL PROTECTION  
AGENCY; R. D. JAMES, AS ASSISTANT  
SECRETARY OF THE ARMY FOR CIVIL  
WORKS; AND UNITED STATES ARMY  
CORPS OF ENGINEERS,

Defendants.

Case No. 3:20-cv-03005-RS

**BRIEF OF AMERICAN FISHERIES  
SOCIETY, ASSOCIATION FOR THE  
SCIENCES OF LIMNOLOGY AND  
OCEANOGRAPHY, COASTAL AND  
ESTUARINE RESEARCH FEDERATION,  
INTERNATIONAL ASSOCIATION FOR  
GREAT LAKES RESEARCH, NORTH  
AMERICAN LAKE MANAGEMENT  
SOCIETY, PHYCOLOGICAL SOCIETY  
OF AMERICA, SOCIETY FOR  
ECOLOGICAL RESTORATION,  
SOCIETY FOR FRESHWATER SCIENCE,  
AND SOCIETY OF WETLAND  
SCIENTISTS AS *AMICI CURIAE* IN  
SUPPORT OF PLAINTIFFS' MOTION  
FOR A PRELIMINARY INJUNCTION OR  
STAY**

Hearing Date: June 18, 2020  
Time: 1:30 p.m.  
Dept: San Francisco Courthouse,  
Courtroom 03, 17th Floor  
Judge: Honorable Richard Seeborg

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INTEREST OF THE *AMICI CURIAE*<sup>1</sup>

*Amici curiae*<sup>2</sup> are nine national and international scientific societies, all actively involved in research, education, and the conservation and restoration of aquatic ecosystems and resources in the United States. *Amici* have an interest in this case because of its impact on the integrity of those ecosystems, their biodiversity, and resources. As scientific societies, *amici* support the use of the best available scientific information in making decisions on the use and management of aquatic ecosystems and resources.

Justice Breyer observed that “[t]he law must seek decisions that fall within the boundaries of scientifically sound knowledge.” Fed. Judicial Ctr. & Nat’l Research Council, *Reference Manual on Scientific Evidence* 4 (3d ed. 2011). This brief discusses the importance of science in Clean Water Act implementation. It explains that scientific tools and data were available to estimate the impact of the Navigable Waters Protection Rule, and it notes how the U.S. Environmental Protection Agency (“EPA”) and the U.S. Army Corps of Engineers (collectively, the “Agencies”) failed to consider the extent to which their actions would reduce Clean Water Act jurisdiction. The Clean Water Act’s objective can only be achieved by properly considering science when deciding which waters the Clean Water Act protects.

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<sup>1</sup> Plaintiffs and Defendants are not opposed to the filing of this brief. *Amici curiae* state that no counsel for a party authored this brief in whole or in part, that no party or party’s counsel made a monetary contribution intended to fund the preparation or submission of this brief, and that no person—other than *amici curiae*, their members, or their counsel—made a monetary contribution intended to fund the preparation or submission of this brief.

<sup>2</sup> *Amici curiae* are American Fisheries Society, Association for the Sciences of Limnology and Oceanography, Coastal and Estuarine Research Federation, International Association for Great Lakes Research, North American Lake Management Society, Phycological Society of America, Society for Ecological Restoration, Society for Freshwater Science, and Society of Wetland Scientists. Descriptions of the scientific societies are provided in the Appendix to this brief.



## INTRODUCTION

1  
2 In 2015, the Agencies promulgated the Clean Water Rule to clarify the scope of the Clean  
3 Water Act’s coverage. Clean Water Rule: Definition of “Waters of the United States,” 80 Fed.  
4 Reg. 37,054 (June 29, 2015) [hereinafter “2015 Rule”]. In developing the 2015 Rule, the  
5 Agencies reviewed and relied on the “best available peer-reviewed science.” *See id.* at 37,056–57.  
6 The Agencies compiled a considerable scientific record that supported the approach taken in the  
7 2015 Rule, and as part of that rulemaking, the report prepared by EPA’s Office of Research and  
8 Development, *Connectivity of Streams & Wetlands to Downstream Waters: A Review & Synthesis*  
9 *of the Scientific Evidence* (Jan. 2015) [hereinafter “Connectivity Report”], considered over 1,200  
10 peer-reviewed scientific publications on the connections between streams, wetlands, and  
11 downstream waters. 80 Fed. Reg. at 37,057, 37,062. The draft Connectivity Report was peer  
12 reviewed by an expert panel created by EPA’s Science Advisory Board. *Id.* The Science Advisory  
13 Board was highly supportive of the Report’s conclusions. *Id.* at 37,062.

14 In 2018, the Agencies attempted to suspend the 2015 Rule for two years. Definition of  
15 “Waters of the United States”—Addition of an Applicability Date to 2015 Clean Water Rule, 83  
16 Fed. Reg. 5200 (Feb. 6, 2018) [hereinafter “2018 Rule”]. The 2018 Rule was vacated nationwide  
17 because, in part, the Agencies refused to “consider any scientific studies,” including the  
18 Connectivity Report. *S.C. Coastal Conservation League v. Pruitt*, 318 F. Supp. 3d 959, 967  
19 (D.S.C. 2018).

20 In 2019, the Agencies repealed the 2015 Rule, reinstating pre-2015 regulations and  
21 guidance. Definition of “Waters of the United States”—Recodification of Pre-Existing Rules, 84  
22 Fed. Reg. 56,626 (Oct. 22, 2019) [hereinafter “2019 Rule”]. The repeal of the 2015 Rule, and the  
23  
24



1 extent to which the Agencies did not consider the scientific record, is the subject of current  
2 litigation.<sup>3</sup>

3 In April 2020, the Agencies promulgated the Navigable Waters Protection Rule. The  
4 Navigable Waters Protection Rule: Definition of “Waters of the United States,” 85 Fed. Reg.  
5 22,250 (Apr. 21, 2020) [hereinafter “2020 Rule”]. In doing so, the Agencies largely ignored the  
6 scientific record.

### 7 SUMMARY OF ARGUMENT

8 Science is critically important to furthering the goals of the Clean Water Act. Although  
9 the Agencies concede the importance of science, they largely ignored the scientific understanding  
10 of how streams and wetlands contribute to the chemical, physical, and biological integrity of  
11 downstream waters. The Agencies suggest that it is difficult to quantify precisely the number of  
12 waters that the 2020 Rule would remove from Clean Water Act protection, and they thus need not  
13 make any effort to estimate the decline in jurisdiction and, consequently, the resulting loss of  
14 water quality and ecosystem services those waters provide. This brief highlights available data  
15 and a scientific tool that were part of the rulemaking record and demonstrate the negative impact  
16 the 2020 Rule would have on the Nation’s waters. For example, in some western watersheds, the  
17 2020 Rule would likely eliminate Clean Water Act coverage for up to 95% of total stream and  
18 river kilometers and up to 72% of total wetland area. The Agencies acted arbitrarily and  
19 capriciously by failing to inform themselves—and the public—about the 2020 Rule’s significant  
20 negative effects. The 2020 Rule’s reduction of Clean Water Act protection threatens irreparable  
21 harm to every American who benefits from and relies on the integrity of the Nation’s waters.

22 \_\_\_\_\_  
23 <sup>3</sup> See, e.g., Complaint for Declaratory Judgement [sic], *Chesapeake Bay Found., Inc. v. Wheeler*,  
24 No. 1:20-cv-01063-RDB (D. Md. Apr. 27, 2020); Complaint for Declaratory and Injunctive  
Relief, *S.C. Coastal Conservation League v. Wheeler*, No. 2:19-cv-03006-DCN (D.S.C. Oct. 23,  
2019).

## ARGUMENT

**I. The proper use of science is critical to achieving the Clean Water Act’s objective of restoring and maintaining the chemical, physical, and biological integrity of the Nation’s waters.**

Scientific knowledge is the foundation of effective environmental protection. *See generally, e.g.,* William H. Rodgers, Jr., *Giving Voice to Rachel Carson: Putting Science into Environmental Law*, 28 J. Land Use & Envtl. L. 61 (2012). Simply put, “science is the driving force” behind environmental laws. Fred P. Bosselman & A. Dan Tarlock, *The Influence of Ecological Science on American Law: An Introduction*, 69 Chi.-Kent L. Rev. 847, 847 (1994).

EPA’s mission is to “protect human health and the environment.” U.S. EPA, *Our Mission and What We Do*, <https://www.epa.gov/aboutepa/our-mission-and-what-we-do> (last updated Feb. 7, 2018). EPA’s “ability to pursue its mission . . . depends upon the integrity of the science on which it relies. The environmental policies, decisions, guidance, and regulations that impact the lives of all Americans every day must be grounded, at a most fundamental level, in sound, high quality science.” U.S. EPA, *Scientific Integrity Policy 2* (n.d.), [https://www.epa.gov/sites/production/files/2014-02/documents/scientific\\_integrity\\_policy\\_2012.pdf](https://www.epa.gov/sites/production/files/2014-02/documents/scientific_integrity_policy_2012.pdf). Historically, EPA relied on the best available science to support its decisions. *See* U.S. EPA, *Working Together: FY 2018-2022 U.S. EPA Strategic Plan* 42 (2018), <https://www.epa.gov/sites/production/files/2019-09/documents/fy-2018-2022-epa-strategic-plan.pdf>.

The Clean Water Act’s objective is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a) (2018). The U.S. Supreme Court noted that the Clean Water Act’s “objective incorporated a broad, systemic view of the goal of maintaining and improving water quality: as the House Report on the legislation put it, ‘the word “integrity” . . . refers to a condition in which the natural structure and function of ecosystems [are] maintained.’” *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 132 (1985)

1 (citing H.R. Rep. No. 92–911, at 76 (1972)). Science is critically important to making the  
2 necessary empirical determinations about the chemical, physical, and biological integrity of our  
3 waters to achieve the Clean Water Act’s broad objective. Indeed, the *only* way to empirically  
4 assess “water quality” and the “natural structure” or “function” of “ecosystems” is through  
5 science.<sup>4</sup>

6 The Agencies and courts have historically interpreted the Clean Water Act to protect  
7 streams and wetlands with a “significant nexus” to traditional navigable waters as “waters of the  
8 United States.” *See Rapanos v. United States*, 547 U.S. 715, 759 (2006) (Kennedy, J., concurring  
9 in the judgment); *Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng’rs*, 531 U.S.  
10 159, 167 (2001); *see also Riverside Bayview Homes, Inc.*, 474 U.S. at 134–35 & n.9. As clarified  
11 by Justice Kennedy in *Rapanos*, a water has a “significant nexus,” and therefore is jurisdictional,  
12 if it or its functions “significantly affect the chemical, physical, and biological integrity” of  
13 traditional navigable waters. *See Rapanos*, 547 U.S. at 759, 779–80 (Kennedy, J., concurring in  
14 the judgment).

15 The Agencies must take science into account when promulgating rules under the Clean  
16 Water Act, especially with respect to what waters are protected. EPA recognizes that “[t]he best  
17 available science must serve as the foundation of EPA’s regulatory actions,” *Strengthening  
18 Transparency in Regulatory Science*, 83 Fed. Reg. 18,768, 18,769 (proposed Apr. 30, 2018), yet

19 \_\_\_\_\_  
20 <sup>4</sup> Every aspect of the Clean Water Act’s implementation requires the use of science. For example,  
21 the U.S. Army Corps of Engineers, the agency vested with responsibility to issue Clean Water  
22 Act section 404 permits, relies on scientific manuals in making Clean Water Act jurisdictional  
23 determinations. *See, e.g., Tin Cup, LLC v. U.S. Army Corps of Eng’rs*, No. 4:16-cv-00016-TMB,  
24 2017 WL 6550635, at \*8 (D. Alaska Sept. 26, 2017) (discussing the scientific basis of Clean  
Water Act jurisdictional determinations and noting that the Corps’ supplemental manual for  
Alaska “reflect[s] the benefit of nearly two decades [of] advancement in wetlands research and  
science”). The Corps’ Clean Water Act determinations themselves have been labeled as  
“scientific decision[s].” *Avoyelles Sportsmen’s League, Inc. v. Marsh*, 715 F.2d 897, 906 (5th Cir.  
1983).

1 the Agencies largely ignored science in forming the 2020 Rule. Agencies act arbitrarily and  
2 capriciously when they fail to examine the relevant data or “consider an important aspect of the  
3 problem.” *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43  
4 (1983); *see also Cnty. of Maui v. Haw. Wildlife Fund*, 140 S. Ct. 1462, 1474 (2020) (rejecting  
5 EPA’s Clean Water Act interpretation because it would have allowed “easy evasion of the  
6 statutory provision’s basic purposes”). When agencies disregard science, their judgments deserve  
7 no deference.

8 **II. The Agencies concede the importance of science but largely ignore the vast scientific**  
9 **record relating to which waters should receive Clean Water Act protection.**

10 The Agencies concede that the definition of “waters of the United States” must be  
11 supported by science. *See* 85 Fed. Reg. at 22,261, 22,271, 22,288 (noting how the 2020 Rule was  
12 “informed” by science, including the Connectivity Report); *see also id.* at 22,257 (acknowledging  
13 that the Agencies “relied on the Connectivity Report extensively in establishing the 2015 Rule’s  
14 definition of ‘waters of the United States’”). However, the 2020 Rule contradicts the scientific  
15 principles identified in the Connectivity Report and in reports issued by EPA’s scientific advisors,  
16 and it would remove protections for many waters that have a significant nexus with downstream  
17 waters based on these scientific principles.

18 EPA’s own Science Advisory Board—a group of independent scientists directed by  
19 Congress to provide scientific advice to the agency—criticized the 2020 Rule. The Science  
20 Advisory Board stated that the 2020 Rule “does not present new science to support [its]  
21 definition, thus the [Science Advisory Board] finds that the proposed Rule lacks a scientific  
22 justification, while potentially introducing new risks to human and environmental health.” Letter  
23 from Dr. Michael Honeycutt, Chair, Science Advisory Board, to Andrew R. Wheeler,  
24 Administrator, U.S. EPA, *Commentary on the Proposed Rule Defining the Scope of Waters*

1 *Federally Regulated Under the Clean Water Act* 4 (Feb. 27, 2020) [hereinafter “SAB  
2 Commentary”].

3 As a preliminary (and fundamental) matter, the Agencies failed to identify how many  
4 jurisdictional waters would no longer be protected by the Clean Water Act as a result of the 2020  
5 Rule. The Agencies do acknowledge that some previously protected waters would no longer be  
6 protected under the 2020 Rule. U.S. EPA & Dep’t of the Army, *Resource and Programmatic*  
7 *Assessment for the Navigable Waters Protection Rule: Definition of “Waters of the United*  
8 *States”* 22–29 (Jan. 23, 2020), [https://www.epa.gov/sites/production/files/2020-](https://www.epa.gov/sites/production/files/2020-01/documents/rpa_-_nwpr_.pdf)  
9 [01/documents/rpa\\_-\\_nwpr\\_.pdf](https://www.epa.gov/sites/production/files/2020-01/documents/rpa_-_nwpr_.pdf) [hereinafter “Resource and Programmatic Assessment”]  
10 (discussing streams, adjacent wetlands, relatively permanent waters, non-relatively permanent  
11 waters, and ephemeral lakes and ponds). However, the Agencies claim that they were not able to  
12 assess the extent to which the Clean Water Act would no longer safeguard waters protected by the  
13 2019 Rule or that were previously protected by the 2015 Rule. 85 Fed. Reg. at 22,332; Resource  
14 and Programmatic Assessment, *supra*, at 22 (“unable to quantify the change in jurisdiction for  
15 tributaries”); *id.* at 24 (“unable to quantify” how many lakes and ponds will no longer be  
16 protected); *id.* at 26–27 (“unable to quantify” how many wetlands will no longer be protected).  
17 The Agencies did not create any maps or other tools to help determine how many waters would  
18 no longer be protected under the 2020 Rule. 85 Fed. Reg. at 22,330.

19 The Agencies suggest that it is too difficult to quantify precisely the extent to which the  
20 2020 Rule would narrow Clean Water Act jurisdiction, and thus they refused to take basic steps to  
21 even attempt to estimate which waters would lose protection. The next section provides an  
22 example of just one of the scientific tools and corresponding data, described in comments to the  
23 proposed 2020 Rule, that the Agencies failed to use to inform themselves and the public about the  
24 significant negative effects of the 2020 Rule.

1 **III. Reliable scientific tools and data were available to the Agencies and demonstrate that**  
2 **the 2020 Rule would substantially reduce the extent of Clean Water Act protection.**

3 Scientific tools and data are readily available to help estimate the extent to which certain  
4 waters would lose protection under the 2020 Rule. The Agencies could have used a widely  
5 publicized model developed by GeoSpatial Services (“GSS”) of Saint Mary’s University of  
6 Minnesota, or they could have created their own model to estimate the changes resulting from the  
7 2020 Rule. They did neither.

8 In January 2019, GSS developed a Geographic Information System (“GIS”)-based model,  
9 called the “CWA Jurisdictional Scenario Model,” that compares and contrasts the extent of Clean  
10 Water Act protection for aquatic ecosystems under different regulatory scenarios.<sup>5</sup> The CWA  
11 Jurisdictional Scenario Model was developed in collaboration with an advisory group composed  
12 of “experts who have a working understanding of the [Clean Water Act and its regulations],  
13 wetland functional assessment, and spatial analysis techniques.”<sup>6</sup>

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18 <sup>5</sup> Roger Meyer & Andrew Robertson, *Clean Water Rule Spatial Analysis: A GIS-based Scenario*  
19 *Model for Comparative Analysis of the Potential Spatial Extent of Jurisdictional and Non-*  
20 *Jurisdictional Wetlands* ix, 1 (2019), [https://static1.squarespace.com/static/](https://static1.squarespace.com/static/578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett_report_Final.pdf)  
21 [578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett\\_report\\_](https://static1.squarespace.com/static/578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett_report_Final.pdf)  
22 [Final.pdf](https://static1.squarespace.com/static/578f93e4cd0f68cb49ba90e1/t/5c50c0e988251bc68fe33388/1548796144041/Hewlett_report_Final.pdf) [hereinafter “GSS Report”]. GIS is a conceptualized, computerized framework  
23 commonly used by researchers since the 1990s to capture and analyze spatial and geographic  
24 data. See Nigel Waters, *History of GIS*, in *The International Encyclopedia of Geography: People,*  
25 *the Earth, Environment, and Technology* 2978, 2985–86 (Douglas Richardson et al. eds., 2017).

<sup>6</sup> GSS Report, *supra*, at 6. The model uses ArcGIS ModelBuilder, a standard software system used to model hydrological interactions in the GIS environment. *Id.* at 7. As the GSS Report notes, “ModelBuilder is a visual programming interface that can be used for building geoprocessing workflows or models. These geoprocessing models automate and document the spatial analysis process, providing a transparent and effective way to document and distribute processing methods.” *Id.*

1 The CWA Jurisdictional Scenario Model uses nationally available GIS datasets, including  
 2 the National Hydrography Dataset (“NHD”),<sup>7</sup> National Wetlands Inventory (“NWI”),<sup>8</sup> and Soil  
 3 Survey Geographic Database (“SSURGO”),<sup>9</sup> and allows users to compare potential jurisdiction of  
 4 aquatic ecosystems for different regulatory scenarios. GSS Report, *supra*, at ix–x, 11. The model  
 5 provides a user interface for modifying model input parameters for exploratory analysis; it is  
 6 “easily transferable to other geographic areas and watersheds.” *Id.* at 11. Additionally, the model  
 7 captures factors such as “hydrologic connectivity to traditional navigable waters [and] hydrologic

8  
 9 <sup>7</sup> The U.S. Geological Survey (“USGS”) produces the NHD, which provides digital vector GIS  
 10 data from across the nation to “define the spatial locations of surface waters” at medium  
 11 resolution (1:100,000 scale) or high resolution (1:24,000 scale or better). USGS, *What Is the*  
 12 *National Hydrography Dataset (NHD)?*, [https://www.usgs.gov/faqs/what-national-hydrography-](https://www.usgs.gov/faqs/what-national-hydrography-dataset-nhd?qt-news_science_products=0#qt-news_science_products)  
 13 *dataset-nhd?qt-news\_science\_products=0#qt-news\_science\_products* (last visited May 20, 2020);  
 14 USGS, *National Hydrography, National Hydrography Dataset*, [https://www.usgs.gov/core-](https://www.usgs.gov/core-science-systems/ngp/national-hydrography/national-hydrography-dataset?qt-science_support_page_related_con=0#qt-science_support_page_related_con)  
 15 *science-systems/ngp/national-hydrography/national-hydrography-dataset?qt-science\_support\_*  
 16 *page\_related\_con=0#qt-science\_support\_page\_related\_con* (last visited May 19, 2020). The  
 17 National Map Download viewer allows users to access NHD data by state or hydrologic unit code  
 18 subbasin. USGS, *NHD View (V1.0)*, [https://viewer.nationalmap.gov/basic/?basemap=b1&](https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View)  
 19 *category=nhd&title=NHD%20View* (last visited May 20, 2020). High-resolution NHD is the best  
 20 nationally available source for surface water data. *See* GSS Report, *supra*, at 11; *see also* 85 Fed.  
 21 Reg. at 22,329.

22 <sup>8</sup> The U.S. Fish and Wildlife Service manages the NWI dataset, which “is a publicly available  
 23 resource that provides detailed information on the abundance, characteristics, and distribution of  
 24 US wetlands.” U.S. Fish & Wildlife Serv., *National Wetlands Inventory*,  
<https://www.fws.gov/wetlands/> (last updated May 11, 2020). The NWI Wetlands Mapper  
 application allows users to download the NWI data. *See* U.S. Fish & Wildlife Serv., *National*  
*Wetlands Inventory, Wetlands Mapper*, <https://www.fws.gov/wetlands/data/Mapper.html> (last  
 updated May 4, 2020). NWI is the best nationally available source for wetland data. *See* Qiusheng  
 Wu, *GIS and Remote Sensing Applications in Wetland Mapping and Monitoring*, in  
*Comprehensive Geographic Information Systems* 140, 147 (2018); *see also* 85 Fed. Reg. at  
 22,329.

25 <sup>9</sup> The Natural Resources Conservation Service produces the SSURGO, which is a digital soils  
 26 database that “is intended for natural resource planning and management.” Natural Res.  
 27 Conservation Serv., *Description of SSURGO Database*, [https://www.nrcs.usda.gov/wps/portal/](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_053627)  
 28 *nrcs/detail/soils/survey/?cid=nrcs142p2\_053627* (last visited May 20, 2020). The SSURGO  
 29 Downloader application, which is provided by Esri, allows users to download soils data. *See* Esri,  
 30 *SSURGO Downloader*, [https://www.arcgis.com/home/item.html?id=](https://www.arcgis.com/home/item.html?id=c49bd63ea54dd2977f3f2853e07fff)  
 31 *c49bd63ea54dd2977f3f2853e07fff* (last visited May 20, 2020). SSURGO is the best nationally  
 32 available source for soils data. *See* NOAA Office for Coastal Mgmt., *Soil Survey Geographic*  
 33 *Database*, <https://coast.noaa.gov/digitalcoast/data/ssurgo.html> (last updated Dec. 4, 2019).



1 permanence using stream classification,” as well as a “proximity analysis to determine adjacency  
2 and possibly significant nexus.” *Id.* at 5. Ultimately, the CWA Jurisdictional Scenario Model uses  
3 the input data and model criteria to generate results regarding the extent of protection of aquatic  
4 ecosystems under each scenario. During the public comment period for the 2020 Rule, many  
5 commenters—including States that are parties to this litigation—alerted the Agencies to the CWA  
6 Jurisdictional Scenario Model and the 2019 GSS Study and their utility for estimating the 2020  
7 Rule’s effect on Clean Water Act jurisdiction, but the Agencies ignored this tool.<sup>10</sup>

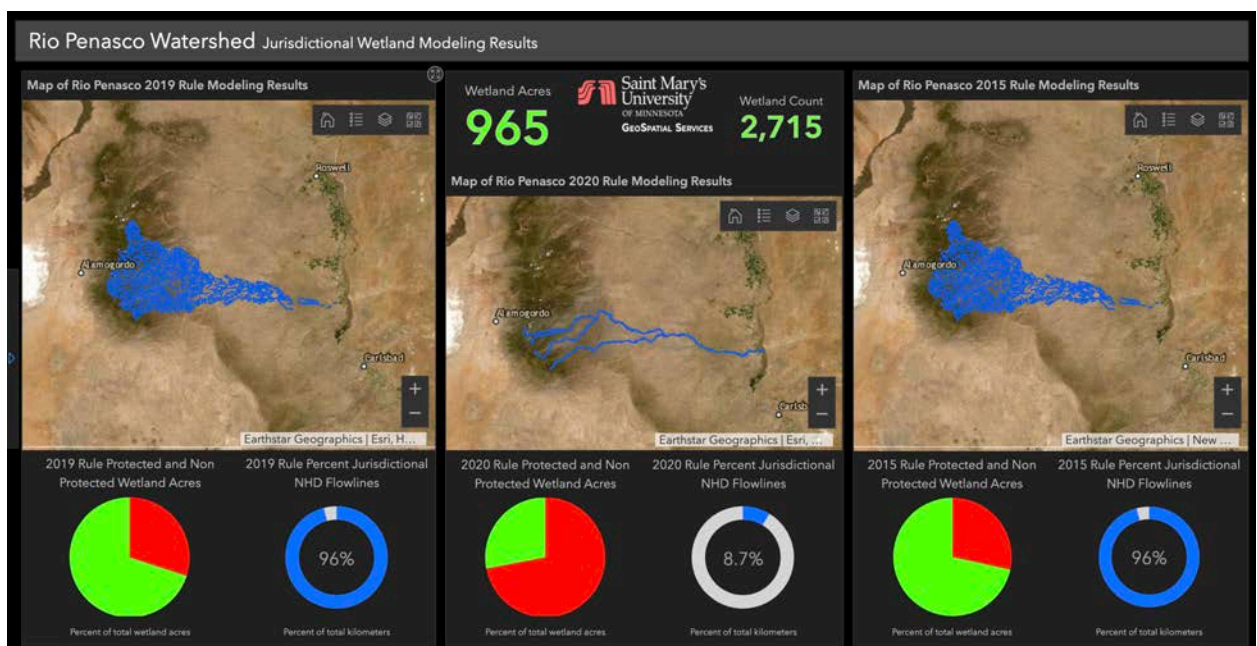
8           The CWA Jurisdictional Scenario Model and scenarios were recently updated to reflect  
9 the 2020 Rule. Three federal regulatory scenarios are modeled: (1) a scenario based on criteria  
10 interpreted from new information released with publication of the 2020 Rule; (2) a scenario based  
11 on interpretation of criteria used in the 2019 Rule; and (3) a scenario based on interpretation of  
12 criteria provided in the 2015 Rule. *See* Ex. E, Decl. of Andrew G. Robertson, May 22, 2020  
13 (attached to and in support of this brief) [hereinafter “Robertson Decl.”] (containing a table  
14 comparing the model criteria used for these three regulatory scenarios).

15           As an example, the model results show that the 2020 Rule would have a significant  
16 negative impact in the more arid regions of the western United States, where there are higher  
17 proportions of ephemeral streams. Several watersheds were analyzed using the updated model

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19 <sup>10</sup> Multiple comments referred to and/or attached the GSS Report. *See, e.g.*, Comment submitted  
20 by Barbara D. Underwood, Attorney General of New York, et al., attachment A at 21 (Apr. 15,  
21 2019); Comment submitted by Jared Polis, Governor, State of Colorado, and Philip J. Weiser,  
22 Attorney General, State of Colorado, 2 n.2 (Apr. 15, 2019); Comment submitted by Jan Goldman-  
23 Carter, Senior Counsel, Wetlands and Water Resources, National Wildlife Federation, 78 nn.122–  
24 123, attachment 2 (Apr. 15, 2019); Comment submitted by Jennifer Chavez, Staff Attorney, Earth  
Justice, et al., on behalf of Aaron Isherwood, Phillip S. Berry Managing Attorney, Sierra Club, et  
al., 26–27 & n.44, 49 & nn.71–72, exhibit G-25 (Apr. 15, 2019); Comment submitted by Jon  
Devine, Senior Attorney & Director of Federal Water Policy, Nature Program, Natural Resources  
Defense Council, 37 & n.91, app. A – pt. 5 (Apr. 15, 2019). The comments may be viewed in the  
rulemaking docket for the 2020 Rule, which is available at  
<https://www.regulations.gov/docket?D=EPA-HQ-OW-2018-0149>.

1 and modeling scenarios and were uploaded to Operation Dashboard applications, including  
 2 (1) Rio Penasco Watershed, New Mexico; (2) Rio Salado Watershed, New Mexico;  
 3 (3) Roanwood Creek Watershed, Montana; and (4) South Platte Watershed, Colorado. (See  
 4 Figure 1 for the model output display for the Rio Penasco watershed.) The 2020 Rule scenario  
 5 model results for the South Platte, Roanwood Creek, Rio Penasco, and Rio Salado watersheds in  
 6 the western United States show significant impacts in the total kilometers of protected streams  
 7 and rivers in the watershed, with 45, 74, 81, and 95 percent unprotected, respectively. There tend  
 8 to be fewer wetlands in these more arid regions, but the model results also indicate the 2020 Rule  
 9 would have significant impacts on protection of these rare wetland habitats. The 2020 Rule  
 10 scenario model results indicate that for the South Platte, Rio Salado, Roanwood Creek, and Rio  
 11 Penasco watersheds, 12, 49, 53, and 72 percent of total wetland acres would not be protected,  
 12 respectively. Exs. A–D, Robertson Decl.



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**Figure 1. Graphic showing model output displayed in an Esri Operation Dashboard web application for the Rio Penasco Watershed, New Mexico. Source: GSS, *Rio Penasco Watershed Jurisdictional Wetland Modeling Results*, <https://smumn.maps.arcgis.com/apps/opsdashboard/index.html#/0e4ef75cf3134bd3a8a78244772d1502> (last visited May 20, 2020).**

1           These results are qualified, as they often are in scientific research. *See* GSS Report, *supra*,  
2 at 33–34 (explaining that appropriate use of the CWA Jurisdictional Scenario Model includes  
3 “[b]road-scale evaluation of environmental impact” but not delineations of individual wetlands);  
4 *cf.* Fed. Judicial Ctr. & Nat’l Research Council, *supra*, at 51–52. Because the jurisdictional  
5 criteria are not always clear or available, the modeling scenarios focused on the unambiguous  
6 differences between the various rules. One of the clear and major differences between the  
7 regulatory scenarios that can be explicitly modeled is the 2020 Rule’s exclusion of ephemeral  
8 waters. The modeling scenarios focus on these types of clearly defined criteria, and they offered  
9 decisionmakers a benchmark for understanding the reduction of jurisdictional scope that would  
10 result from the 2020 Rule.

11           The CWA Jurisdictional Scenario Model is just one of the scientific tools and data that  
12 were available to the Agencies to estimate the likely magnitude of the reduction of Clean Water  
13 Act protection under the 2020 Rule. In promulgating the 2020 Rule, however, the Agencies  
14 largely ignored the available scientific tools and data.

15 **IV. The Agencies’ refusal to consider the scientific record is arbitrary and capricious.**

16           The overall goal of the Clean Water Act is translucently clear: to restore and maintain the  
17 chemical, physical, and biological integrity of the Nation’s waters. *See Cnty. of Maui*, 140 S. Ct.  
18 at 1468. This objective can only be achieved if the definition of “waters of the United States” is  
19 grounded in sound science. The 2015 Rule, the revocation of which is currently being challenged,  
20 reflected the best available science about the connectivity and mechanisms by which streams and  
21 wetlands affect the chemical, physical, and biological integrity of downstream waters. The  
22 extensive scientific analysis in the Connectivity Report, based on a review of over 1,200 peer-  
23 reviewed publications and supported by EPA’s Science Advisory Board, provided much of the  
24 technical basis for the 2015 Rule. *See* 80 Fed. Reg. at 37,057.

1 In contrast, the preamble and supporting documents to the 2020 Rule provide only  
2 conclusory statements about how the proposed rule *might* contribute to the Clean Water Act’s  
3 overall goals. The Agencies offer no explanation about how removing ephemeral streams from  
4 the definition of “waters of the United States” will restore and maintain the chemical, physical,  
5 and biological integrity of the Nation’s waters. The Agencies also offer no explanation about how  
6 removing protection from millions of acres of wetlands,<sup>11</sup> even those hydrologically connected to  
7 traditional navigable waters, will restore and maintain the chemical, physical, and biological  
8 integrity of the Nation’s waters. It is clear that the Agencies consciously disregarded the effect the  
9 2020 Rule would have on water quality.

10 The Agencies’ failure to consider the scientific record is arbitrary and capricious, and their  
11 refusal to take a hard look (or even a cursory glance) at the scientific record is inconsistent with  
12 their National Environmental Policy Act (“NEPA”) obligations. While Clean Water Act section  
13 511 exempts EPA from having to perform an environmental impact statement (“EIS”), other  
14 NEPA requirements still apply. In particular, NEPA requires agencies to “study, develop, and  
15 describe appropriate alternatives” to a proposed rule. 42 U.S.C. § 4332(E) (2018); *see also Bob*  
16 *Marshall All. v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988) (explaining that “the consideration of  
17 alternatives requirement is both independent of, and broader than, the EIS requirement”). In  
18 *Municipality of Anchorage v. United States*, the U.S. Court of Appeals for the Ninth Circuit  
19 observed that EPA should not be completely exempted from NEPA because “‘it cannot be  
20 assumed that EPA will always be the good guy.’” 980 F.2d 1320, 1328 (9th Cir. 1992).  
21 Furthermore, EPA’s own NEPA regulations expressly state that EPA’s “development and  
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24 <sup>11</sup> *See* Decl. of Dr. S. Mažeika Patricio Sulliván 14, May 18, 2020, No. 3:20-cv-03005-RS.

1 issuance of regulations” are proposed actions subject to NEPA and Council on Environmental  
2 Quality (CEQ) regulations. 40 C.F.R. § 6.101 (2019).

3 EPA’s regulations call for an environmental assessment when a proposed action involves  
4 “extraordinary circumstances.” 40 C.F.R. § 6.204(d). EPA specifically identifies impacts to  
5 “environmentally important natural resource areas such as wetlands, floodplains, significant  
6 agricultural lands, aquifer recharge zones, coastal zones, barrier islands, wild and scenic rivers,  
7 and significant fish or wildlife habitat” as an extraordinary circumstance. *Id.* § 6.204(b)(5).  
8 Another listed extraordinary circumstance occurs when “[t]he proposed action is known or  
9 expected to have potentially significant environmental impacts on the quality of the human  
10 environment either individually or cumulatively over time.” *Id.* § 6.204(b)(1). EPA must discuss  
11 “[t]he environmental impacts of the proposed action and alternatives.” *Id.* § 6.205(e)(iv); *see also*  
12 40 C.F.R. § 1508.9(b) (CEQ regulations that EPA also has adopted).

13 By removing Clean Water Act protection from many aquatic resources, the 2020 Rule  
14 threatens irreparable harm. As explained in the Plaintiffs’ motion for a preliminary injunction or  
15 stay, the 2020 Rule will adversely affect streams, wetlands, floodplains, aquifer recharge zones,  
16 coastal zones, and fish and wildlife habitat. Pls.’ Notice of Mot. & Mot. for a Prelim. Inj. or Stay;  
17 Mem. of Points & Authorities 30–38, May 18, 2020, No. 3:20-cv-03005-RS. The Connectivity  
18 Report observed that the evidence showing the “connectivity and downstream effects of  
19 ephemeral streams was strong and compelling.” Connectivity Report, *supra*, at ES-7. By  
20 categorically excluding ephemeral streams from Clean Water Act protection, the 2020 Rule  
21 contradicts the scientific record and ignores the guidance of EPA’s Science Advisory Board. *See*  
22 SAB Commentary, *supra*, at 4 (noting “the [2020 Rule] excludes ground water, ephemeral  
23 streams, and wetlands which connect to navigable waters below the surface. The [2020 Rule]  
24 does not present new science to support this definition, thus the SAB finds that the [2020 Rule]

1 lacks a scientific justification, while potentially introducing new risks to human and  
2 environmental health.”).

3 The Science Advisory Board also found the 2020 Rule’s treatment of wetlands to be  
4 scientifically unjustified. *Id.* at 3. As the Connectivity Report concluded, “[w]etlands and open  
5 waters in non-floodplain landscape settings . . . provide numerous functions that benefit  
6 downstream water integrity”—including “storage of floodwater; recharge of ground water that  
7 sustains river baseflow; retention and transformation of nutrients, metals, and pesticides; export  
8 of organisms or reproductive propagules to downstream waters; and habitats needed for stream  
9 species.” Connectivity Report, *supra*, at ES-3. The Agencies’ supporting documentation for the  
10 2020 Rule fails to address the environmental impact of reducing Clean Water Act jurisdiction.

11 The Agencies attempt to evade the obligation to fully consider the 2020 Rule’s impacts by  
12 questioning the usefulness of the National Hydrology Dataset (“NHD”) and National Wetlands  
13 Inventory (“NWI”). *See* 85 Fed. Reg. at 22,329. The Agencies acknowledge, however, that “the  
14 NHD and NWI are the most comprehensive hydrogeographic datasets mapping waters and  
15 wetlands in the United States and are useful resources for a variety of Federal programs,  
16 including CWA programs.” *Id.* Indeed, EPA promotes the use of the NHD “for assigning reach  
17 addresses or catchment identifiers to water quality related entities, such as dischargers, drinking  
18 water supplies, streams [a]ffected by fish consumption advisories, wild and scenic rivers, Clean  
19 Water Act Section 305(b) and 303(d) waterbodies, Designated Uses, etc.” *See* U.S. EPA,  
20 *NHDPlus in WATERS*, <https://www.epa.gov/waterdata/nhdplus-waters> (last updated Mar. 11,  
21 2019). The U.S. Army Corps of Engineers uses the NHD as a supporting source to make  
22 jurisdictional determinations. *See* U.S. Army Corps of Engineers, *Approved Jurisdictional*  
23 *Determination Form* (n.d.), [https://www.regulations.gov/document?D=EPA-HQ-OW-2018-0149-](https://www.regulations.gov/document?D=EPA-HQ-OW-2018-0149-11699)  
24 11699. Moreover, the U.S. Fish and Wildlife Service relies on the NHD to designate critical



1 habitat under the Endangered Species Act.<sup>12</sup> Yet the Agencies refused to even consider this  
2 scientific data as part of the rulemaking for the 2020 Rule. Their refusal here is inconsistent with  
3 their use of the data in other contexts and is arbitrary and capricious.

4 Agencies may revise their regulations, but as the U.S. Supreme Court has repeatedly  
5 emphasized, when doing so agencies must “articulate a satisfactory explanation for [their]  
6 action[s],” provide a “reasoned analysis” for their decisions, consider all “relevant factors” in  
7 reaching their decisions, and explore “alternative way[s] of achieving” the purpose of their rules.  
8 *Motor Vehicle Mfrs. Ass’n of U.S.*, 463 U.S. at 42, 43, 48, 57. The Agencies’ conclusory  
9 statements that ignore scientific information in the rulemaking record do not substitute for a  
10 satisfactory explanation or reasoned analysis. Accordingly, the Agencies have acted arbitrarily  
11 and capriciously.

## 12 CONCLUSION

13 The 2020 Rule would eliminate Clean Water Act protection for many aquatic ecosystems  
14 and thus will cause irreparable harm to all Americans who benefit from and rely on the integrity  
15 of the Nation’s waters. The Agencies failed to consider the extent to which their actions would  
16 reduce Clean Water Act jurisdiction by ignoring available scientific tools and data. Their actions  
17 were thus arbitrary and capricious. As such, and for the foregoing reasons, *amici curiae*  
18 respectfully request that this Court grant Plaintiffs’ motion for a preliminary injunction or stay.  
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22 <sup>12</sup> See, e.g., Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for  
23 the Zuni Bluehead Sucker, 81 Fed. Reg. 36,762, 36,784 (June 7, 2016); Endangered and  
24 Threatened Wildlife and Plants; Designation of Critical Habitat for Sharpnose Shiner and  
Smalleye Shiner, 79 Fed. Reg. 45,242, 45,255, 45,263, 45,271 (Aug. 4, 2014); Endangered and  
Threatened Wildlife and Plants; Designation of Critical Habitat for the Diamond Darter  
(*Crystallaria cincotta*), 78 Fed. Reg. 52,364, 52,377, 52,385 (Aug. 22, 2013).



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## APPENDIX

### Descriptions of *Amici Curiae*

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3 The **American Fisheries Society (AFS)** is the world's oldest and largest organization  
4 dedicated to strengthening the fisheries profession, advancing fisheries science, and conserving  
5 fisheries resources. AFS has over 8,000 members from around the world, including fisheries  
6 managers, biologists, professors, ecologists, aquaculturists, economists, engineers, geneticists,  
7 and social scientists. AFS promotes scientific research and sustainable management of fisheries  
8 resources. The organization publishes five of the world's leading fish journals and many  
9 renowned books, organizes scientific meetings, and encourages comprehensive education and  
10 professional development for fisheries professionals.

11 The **Association for the Sciences of Limnology and Oceanography (ASLO)** has been  
12 the leading professional organization for researchers and educators in the field of aquatic science  
13 for more than 60 years. ASLO's purpose is to foster a diverse, international scientific community  
14 that creates, integrates, and communicates knowledge across the full spectrum of aquatic  
15 sciences, advances public awareness and education about aquatic resources and research, and  
16 promotes scientific stewardship of aquatic resources for the public interest.

17 The **Coastal and Estuarine Research Federation (CERF)** is a multidisciplinary  
18 organization of individuals who study and manage the structure and functions of estuaries and the  
19 effects of human activities on these environments. CERF's members are dedicated to advancing  
20 human understanding and appreciation of estuaries and coasts worldwide, to the wise stewardship  
21 of these ecosystems, and to making the results of their research and management actions available  
22 to their colleagues and to the public.

23 The **International Association for Great Lakes Research (IAGLR)** is a scientific  
24 organization made up of researchers with a mission to advance understanding of the world's great

1 lake ecosystems. IAGLR promotes all aspects of large lakes research and communicates research  
2 findings through publications and meetings. Its members encompass all scientific disciplines with  
3 a common interest in the management of large lake ecosystems on many levels. IAGLR's *Journal*  
4 *of Great Lakes Research* is a peer-reviewed publication with broad distribution.

5         **The North American Lake Management Society (NALMS)** is a non-profit organization  
6 of professionals and citizens. Founded in 1980, its mission is to forge partnerships among  
7 citizens, scientists, and professionals to foster the management and protection of lakes and  
8 reservoirs for today and tomorrow. NALMS seeks to identify needs and encourage research on  
9 lake ecology and watershed management, facilitate the exchange of information on aspects of  
10 managing lakes and their watersheds, promote public awareness of and encourage public support  
11 for management of lake ecosystems, offer guidance to agencies involved in management  
12 activities for lakes and their watersheds, and provide a forum for professional development and  
13 training.

14         **The Phycological Society of America (PSA)** was founded in 1946 to promote research  
15 and teaching in all fields of phycology. PSA publishes the *Journal of Phycology*, the premier  
16 journal of research on phycology, and the *Phycological Newsletter*. PSA holds annual meetings,  
17 often jointly with other national or international societies of mutual member interest. The society  
18 also provides grants and fellowships to graduate student members.

19         **The Society for Ecological Restoration (SER)** is a leading international organization  
20 working to advance the science, practice, and policy of ecological restoration. Founded in 1988,  
21 SER works at the international, regional, and national levels, partnering with government  
22 agencies, intergovernmental organizations, NGOs, and the private sector to advance the science,  
23 practice, and policy of ecological restoration for the benefit of biodiversity, ecosystems, and  
24 humans. SER publishes the peer-reviewed bimonthly journal *Restoration Ecology*, as well as

1 other resources and guidance regarding ecological restoration. SER has more than 3,000 members  
2 across the world including researchers, practitioners, decision-makers, indigenous people, and  
3 community leaders; its members are actively engaged in the ecologically sensitive repair and  
4 recovery of degraded ecosystems, including wetlands, rivers, and all types of freshwater and  
5 marine ecosystems.

6       The **Society for Freshwater Science (SFS)** is an international organization whose  
7 purpose is to promote further understanding of freshwater ecosystems (rivers, streams, lakes,  
8 reservoirs, and estuaries) and ecosystems at the interface between aquatic and terrestrial habitats  
9 (wetlands, bogs, fens, riparian forests, and grasslands). Its members study freshwater organisms,  
10 biotic communities, physical processes that affect ecosystem function, linkages between  
11 freshwater ecosystems and surrounding landscapes, habitat and water quality assessment, and  
12 conservation and restoration. SFS fosters the exchange of scientific information among its  
13 membership and with other professional societies, resource managers, policymakers, educators,  
14 and the public. The organization advocates for the use of best available science in policymaking  
15 and management of freshwater ecosystems.

16       The **Society of Wetland Scientists (SWS)** is a leading professional association of wetland  
17 and aquatic scientists around the world, including the United States. Established in 1980, SWS  
18 advances scientific and educational objectives related to wetland science and encourages  
19 professional standards in all activities related to wetland science. The society has over 3,000  
20 members and publishes a peer-reviewed quarterly journal, *Wetlands*, concerned with all aspects  
21 of wetland biology, ecology, hydrology, water chemistry, soil, and sediment characteristics. SWS  
22 supports the use of the best available scientific information in making decisions on the use and  
23 management of wetland and aquatic resources.

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