(GROUND)WATERS OF THE UNITED STATES: UNLAWFULLY EXCLUDING TRIBUTARY GROUNDWATER FROM CLEAN WATER ACT JURISDICTION

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The controversial 2015 federal rule defining "waters of the United States"—the jurisdictional determinant for regulation under the Clean Water Act (CWA), now the subject of numerous lawsuits—has been attacked largely for its alleged federal overreaching. Actually, the rule is underinclusive, for it categorically exempted all groundwater from CWA regulation. We think this exclusion conflicts with the purposes, terms, and judicial interpretations of the statute—including those of the Supreme Court—all of which have consistently interpreted the jurisdictional scope of the statute on the basis of a "significant effects" test, not an unscientific pronouncement based on administrative convenience. We explain the case for inclusion of tributary groundwater in this Article, even though the impending litigation over the rule is unlikely to address the issue.

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"[A]ll water is interrelated and interdependent. If groundwater were red, most streams would be various shades of pink; if groundwater were poisoned, the streams would also be poisoned."[1]

I. INTRODUCTION

Unlike regulation of surface water pollution, no comprehensive legal structure controls pollution of the nation's groundwater. Various federal statutes, such as the Safe Drinking Water Act[2] and the Resource Conservation and Recovery Act,[3] regulate particular activities affecting groundwater, and state laws attempt to govern groundwater pollution to varying degrees.[4] But over four decades after the dawn of the modern environmental movement[5] there is no uniform regulation of pollution affecting hydrologically-connected groundwater.

The Clean Water Act (CWA or Act) could provide the uniform protection necessary to comprehensively control an interconnected hydrologic system.[6] The Act has always had the potential to fill this void in water pollution control law.[7] But the Environmental Protection Agency (EPA) has successfully declined to assert jurisdiction over groundwater

1 Spear T Ranch, Inc. v. Knaub, 269 Neb. 177, 183 (2005) (quoting Richard S. Harnsberger, et al., *Groundwater: From Windmills to Comprehensive Public Management*, 52 NEB. L. REV. 179, 183 (1973)).

2 42 U.S.C. §§ 300f–300j-26 (2012).

3 Resource Conservation and Recovery Act of 1976, 42 U.S.C, §§ 6901–6992k (2012).

4 *See, e.g.*, THOMSON REUTERS, *50 STATE REGULATORY SURVEYS: ENVT'L. LAWS: POLLUTION—PERMITS FOR GROUNDWATER AND SURFACE WATER DISCHARGE* (Apr. 2015) [hereinafter, GROUNDWATER SURVEY]; *see infra* Part II.

5 *See, e.g.*, RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW xi (2004); Chelsea M. Keeton, *Sharing Sustainability: Preventing International Environmental Injustice in an Age of Regulation*, 48 HOUS. L. REV. 1167, 1173–74 (2012) ("Within a single decade, Congress passed a slew of statutes regulating everything from waste disposal to natural resources and species."). There is of course a serious argument that modern environmental law antedated the 1970s. *See* KARL BOYD BROOKS, BEFORE EARTH DAY: THE ORIGINS OF AMERICAN ENVIRONMENTAL LAW, 1945–1970 (2009); Michael C. Blumm, *Debunking the "Divine Conception" Myth: Environmental Law before NEPA*, 37 ECOLOGY L.Q. 269 (2010) (reviewing the Brooks book).

6 Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2012).

7 *See infra* Part III.

pollution,[8] and the agency did so again in its 2015 rule defining "waters of the United States," the key jurisdictional referent in the statute.[9] The new rule, promulgated in conjunction with the U.S. Army Corps of Engineers (Corps) in June 2015,[10] and now the subject of what promises to be tortuous litigation,[11] categorically excluded all groundwater.[12] Groundwater not protected under other laws will therefore remain essentially unregulated.

In the preamble accompanying the 2015 rule, EPA and the Corps explained that its exclusion of groundwater "reflect[s] the agencies' current practice" and "furthers the agencies' goal of providing greater clarity over what waters are and are not protected under the CWA."[13] We think this position is irrational. There is no historical, textual, or functional basis for asserting jurisdiction over surface waters that are tributary to navigable waters while denying jurisdiction over groundwater that is tributary to those same surface waters. We maintain that by categorically excluding groundwater, the agencies jeopardize "the chemical, physical, and biological

8 EPA's resistance to regulatory jurisdiction under the Clean Water Act is not confined to groundwater pollution control. *See* Michael C. Blumm & William Warnock, *Roads Not Taken: EPA vs. Clean Water*, 33 ENVTL. L. 79, 81, 83 (2003) (discussing EPA's exemption of dams from CWA permit requirements and choice not to regulate nonpoint sources).

9 Section 502(7) of the Clean Water Act defines "navigable waters" as "waters of the United States," 33 U.S.C. § 1362(7), but the statute did not attempt to define "waters of the United States." *See generally* 33 U.S.C. § 1362.

10 Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054 (June 29, 2015) [hereinafter 2015 Rule].

11 At least nine lawsuits challenged the agencies' assertion of jurisdiction over some surface waters, and allege violations of procedural requirements. *See*, *e.g.*, North Dakota v. U.S. Envtl. Prot. Agency, No. 3:15-cv-59, 2015 WL 5060744, at *1 (D.N.D. Aug. 27, 2015) (order granting preliminary injunction). None of the lawsuits involve groundwater issues. The U.S. Judicial Panel on Multidistrict Litigation recently denied the federal government's motion to consolidate the cases in the District of the District of Columbia or in the Southern District of Ohio. *In re* Clean Water Rule: Definition of "Waters of the United States," MDL No. 2663, 2015 WL 6080727 (J.P.M.L. Oct. 13, 2015) (order denying transfer). The District of North Dakota enjoined enforcement of the Clean Water Rule in 13 states, *North Dakota*, 2015 WL 5060744 at *8, and the Sixth Circuit issued a similar injunction applicable nationwide. *In re* Envtl. Prot. Agency, 803 F.3d 804, 809 (6th Cir. 2015) (order granting preliminary injunction). In the latter case, oil, construction, and other trade groups have petitioned the Sixth Circuit to reconsider en banc its conclusion that it has original jurisdiction to hear the case. *See* Katerina E. Milenkovski, *Industry Groups Seek En Banc Review of Clean Water Act Ruling*, NAT'L LAW REVIEW, March 2, 2016, http://www.natlawreview.com/article/industry-groups-seek-en-banc-review-clean-water-act-ruling (last visited Apr. 9, 2016). Lawsuits may not be the agencies' only problem, as a recent Government Accountability Office report found that some of EPA's efforts to sell the public on the 2015 Rule constituted illegal "covert propaganda." *See* Eric Lipton & Michael D. Shear, *E.P.A. Broke Law with Social Media Push for Water Rule, Auditor Finds*, N.Y. TIMES, Dec. 14, 2015, http://nyti.ms/1YaOeTX (last visited Apr. 9, 2016). Although unlikely to result in civil or criminal penalties, such stories contribute to the political firestorm surrounding the 2015 Rule. *Id.* The controversy surrounding the rule has also caught the attention of the United States Congress. A January 2016 effort to enact legislation blocking the Clean Water Rule failed to overcome a presidential veto. *See* Timothy Cama, *Senate Fails to Override Obama Veto*, HILL, Jan. 21, 2016, http://thehill.com/policy/energy-environment/266575-senate-fails-to-override-obama-on-water-rule (last visited Apr. 9, 2016).

12 2015 Rule, 80 Fed. Reg. at 37,114 (codified at 40 C.F.R. § 122.2).

13 *Id.* at 37,059.

integrity of the Nation's waters" inconsistent with the fundamental policy of the CWA.[14] Instead of categorically excluding all groundwater from CWA regulation, we contend that courts should insist that the agencies must their jurisdiction over groundwater according to case-specific analyses.[15]

The 1972 amendments to what is now the CWA created a nationwide program for regulating water pollution,[16] employing a system of permit schemes,[17] technological requirements,[18] and discharge limits based on a particular water's uses.[19] The Act extended regulation to "navigable waters," defined as "waters of the United States,"[20] although it did not define the latter terms. EPA and the Corps proceeded to promulgate regulations delineating the scope of "waters of the United States" beginning in 1973.[21] Largely in response to subsequent judicial decisions interpreting the CWA and the agencies' regulations,[22] EPA and the Corps proposed a new definition of "waters of the United States" in April 2014.[23] That new definition, made final in June 2015, placed bodies of water into three different categories: 1) those subject to federal jurisdiction by rule; 2) those that may be jurisdictional based on a case-specific analysis; and 3) those excluded from federal jurisdiction by rule.[24] The agencies put all groundwater into the third category, excluded from the CWA's jurisdiction.[25]

The rule is regrettable—and we think unlawful—because of the important role groundwater plays in human health, the economy, and the environment.[26] Groundwater supplies a third of the public water supply in

14 33 U.S.C. § 1251(a) (2012). *See* Rapanos v. United States, 547 U.S. 715, 780 (2006) (Kennedy, J., concurring) (clarifying that waters not navigable-in-fact are subject to CWA jurisdiction when they "affect the chemical, physical, and biological integrity of [traditional navigable waters]," and the effect is more than "speculative or insubstantial").

15 *See infra* Part VI.

16 33 U.S.C. §§ 1251–1387 (2012).

17 *Id.* §§ 1342, 1344.

18 *See id.* §§ 1311, 1316, 1317.

19 *Id.* § 1313 (requiring states to set water quality standards based on a water's "use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial and other purposes, also taking into consideration their use and value for navigation").

20 *Id.* § 1362(7).

21 38 Fed. Reg. 13,528, 13,529 (May 22, 1973) (codified at 40 C.F.R. § 230.3(s) (1994); 33 C.F.R. § 328.3(a) (1994)).

22 *See infra* notes 248–251 and accompanying text.

23 Definition of "Waters of the United States" Under the Clean Water Act, 79 Fed. Reg. 22,188, 22,188–89 (proposed Apr. 21, 2014).

24 2015 Rule, 80 Fed. Reg. at 37,058–59. The most significant change in the final rule is the addition of specific limitations placed on the definition of "adjacent waters," restricting that term to include only waters within a certain distance of navigable waters. *Id.* at 37,058. The final rule is essentially unchanged from the proposed rule in regards to groundwater. *Compare id.* at 37,059 ("The agencies add exclusions for groundwater and erosional features."), *with* 79 Fed. Reg. 22,218 (proposed Apr. 21, 2014) ("The agencies propose the following are not 'waters of the United States' . . . [g]roundwater, including groundwater drained through subsurface drainage systems.").

25 2015 Rule, 80 Fed. Reg. at 37,059.

26 *See* U.S. Geological Survey, *Water Questions & Answers: How Important is Groundwater?*, http://water.usgs.gov/edu/qa-usage-gw.html (last visited Apr. 9, 2016).

America's cities and a colossal ninety percent of drinking water in rural areas.[27] In addition, groundwater makes up forty-two percent of the water used on the nation's farms and ranches.[28] In addition to its human uses, groundwater plays a critical role in the health of other bodies of water.[29] For example, discharge of groundwater into other ecosystems recharges surface waters, supporting biodiversity of plant and animal species.[30] These effects constitute a "significant nexus" between tributary groundwater and nearby navigable, interstate, or territorial waters under the test that Justice Kennedy endorsed in *Rapanos v. United States (Rapanos)*.[31] We contend that this "significant nexus" test makes the rule's categorical exclusion of groundwater from CWA jurisdiction unlawful.[32]

There is quite a bit of literature on groundwater regulation, or the lack thereof.[33] But this Article argues that, although the agencies' criteria for determining CWA jurisdiction under the new rule are legally and scientifically sound, groundwater that is tributary to surface water satisfies those criteria, and therefore should not be categorically excluded. In this article we explore the inconsistencies and contradictions of the CWA jurisdictional rule as it pertains to groundwater.

On one hand, the agencies maintain that, in order to fulfill their statutory obligation to protect the waters of the United States, "[t]he entire tributary system of the navigable waters has to be subject to the [CWA.]"[34] In addition, for the first time, the rule provides a scientific framework, based on the "significant nexus" test, for placing waters under CWA jurisdiction.[35] As discussed below, this approach to determining the scope of CWA jurisdiction is consistent with both case law interpreting the Act and the latest science regarding the interconnectivity of bodies of water.[36]

On the other hand, however, the agencies proceeded to exclude from jurisdiction groundwater that may be part of a tributary system and may

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27 *Id.*

28 *Id.*

29 *See* Ger Bergkamp & Katharine Cross, *Groundwater and Ecosystem Services: Towards Their Sustainable Use*, INT'L SYMP. ON GROUNDWATER SUSTAINABILITY 177, 178 (2006).

30 *Id.*

31 547 U.S. 715, 767 (2006) (Kennedy, J., concurring); *see infra* Section IV.C.

32 *See infra* Part VI.

33 *See, e.g.*, Philip M. Quatrochi, *Groundwater Jurisdiction Under the Clean Water Act: The Tributary Groundwater Dilemma*, 23 B.C. ENVTL. AFF. L. REV. 603, 639–43 (1996) (arguing, prior to important judicial developments and the latest WOTUS rule, in favor of asserting CWA jurisdiction over tributary groundwater); Jason R. Jones, *The Clean Water Act: Groundwater Regulation and the National Pollutant Discharge Elimination System*, 8 DICK. J. ENVTL. L. & POL'Y 93, 111–19 (1999) (opposing regulation of groundwater under the NPDES system); Thomas L. Casey, III, *Reevaluating "Isolated Waters": Is Hydrologically Connected Groundwater "Navigable Water" Under the Clean Water Act?*, 54 ALA. L. REV. 159, 172–73 (2002) (discussing the status of groundwater under the CWA after the *SWANCC* decision).

34 Bruce Meyers et al., *Will the New Waters of the United States (WOTUS) Rule Float?*, 44 ENVTL. L. REP. 10857, 10861 (2014) (quoting Lance Wood, Assistant Chief Counsel for Environmental Laws and Regulatory Programs at the U.S. Army Corps of Engineers).

35 2015 Rule, 80 Fed. Reg. at 37,060.

36 *See infra* Section V.B.

meet the "significant nexus" standard.[37] This exclusion contradicts both the Act, as interpreted by numerous courts,[38] and the EPA Science Advisory Board's conclusions about the significant effect that groundwater has on the health of surface waters.[39] Consequently, the agencies' decision to categorically exclude all groundwater from CWA regulation is arbitrary and capricious, undermining the agencies' efforts to fulfill the Act's purposes of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters."[40]

This Article examines Congress' intent in enacting the CWA and asserts that the categorical exclusion of groundwater from CWA jurisdiction contradicts that intent. Part II begins by discussing the existing patchwork of laws protecting groundwater. Part III explains the circumstances that led to the CWA, the lower federal courts' jurisprudence addressing the scope of "waters of the United States," and the evolution of the "significant nexus" test. Part IV reviews the Supreme Court's attempts to clarify the scope of the Clean Water Act. Part V describes the new regulatory definition of "waters of the United States" and the agencies' adoption of the "significant nexus" test. In Part VI we conclude that reviewing courts should strike down the rule's categorical exclusion of groundwater from CWA jurisdiction and instead require jurisdictional determinations to be a function of case-specific application of the "significant nexus" test.

II. FEDERAL AND STATE GROUNDWATER REGULATION OTHER THAN THE CWA

Before turning to the CWA, we briefly discuss other federal and state laws regulating the contamination of groundwater. The Safe Drinking Water Act[41] and Resource Conservation and Recovery Act provide the most noteworthy federal regulation of groundwater. Unfortunately, Congress did not intend either of these laws to comprehensively protect groundwater, and they do not.[42] At the state level, regulation varies wildly among jurisdictions.[43] These inconsistent protections fail to prevent groundwater contamination in an interconnected hydrologic system.

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37 2015 Rule, 80 Fed. Reg. at 37,055.

38 *See infra* Part III.C.

39 *See* Letter from David T. Allen, Chair, Sci. Advisory Bd., to Gina McCarthy, Admin., U.S. Envtl. Prot. Agency, Sci. Advisory Bd. (SAB) Consideration of the Adequacy of the Scientific and Technical Basis of the EPA's Proposed Rule Titled "Definition of Waters of the United States Under the Clean Water Act" 3 (Sept. 30, 2014), *available at* http://yosemite.epa.gov/sab/sabproduct.nsf/0/518D4909D94CB6E585257D6300767DD6/$File/EPA-SAB-14-007+unsigned.pdf; *see also infra* note 318 and accompanying text.

40 33 U.S.C. § 1251(a) (2012).

41 Safe Drinking Water Act, 42 U.S.C. § 300f *et seq.* (2012).

42 *See infra* Part II.A (discussing groundwater protections under the Safe Drinking Water Act); Part II.B (discussing groundwater protections under the Resource Conservation and Recovery Act).

43 *See infra* Part II.C (discussing state level regulations).

A. Safe Drinking Water Act

Congress enacted the Safe Drinking Water Act (SDWA) "to assure that the water supply systems serving the public meet minimum national standards to protect consumers from harmful contaminants."[44] In addition to authorizing drinking water standards, the SDWA created three programs that do supply some groundwater protection. The first two, the wellhead injection program[45] and the sole source aquifer demonstration program,[46] require states to create plans to prevent contamination of public water systems and aquifers that are the sole or primary source of drinking water for an area. States can then apply for federal funds to share the cost of implementing the plans.[47]

The underground injection control (UIC) program is the third way in which the SDWA protects groundwater.[48] This program allows the federal government or approved states to issue permits for underground injection of fluids consistent with regulations that "contain minimum requirements for effective programs to prevent underground injection which endangers drinking water sources."[49] The protection provided by the UIC program is hardly comprehensive, however. The regulations implementing the program include exceptions for activities that may have significant effects on groundwater. For example, most of the fluids and propping agents used in hydraulic fracking operations related to oil and gas production are expressly exempted from regulation under the program.[50] Further, aquifers that are technologically or economically impractical for current use for drinking water supply are specifically exempted from regulation.[51]

One commentator long ago described the SDWA as the nation's "strongest protection against groundwater contamination."[52] But the protections provided in each of the SDWA's programs are limited to groundwater that supplies a public water system.[53] That narrow focus excludes many groundwater resources from protection, despite the effects they may have on surface waters to which they are connected. In addition, the UIC program's exemption for fracking fluids is increasingly significant, as that method of oil and gas production becomes more widespread.[54]

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44 H.R. REP. NO. 104-632, at 7 (1996), *reprinted in* 1996 U.S.C.C.A.N. 1366, 1370.

45 SDWA, 42 U.S.C. § 300h-7(a) (2012).

46 *Id.* § 300h-6.

47 *Id.* § 300h-6(j).

48 *Id.* § 300h(b)(1); 40 C.F.R. § 146 (2015).

49 42 U.S.C. § 300h(b)(1) (2012).

50 *Id.* § 300h(d)(1)(B).

51 40 C.F.R. § 146.4 (2015).

52 Linda A. Malone, *The Necessary Interrelationship Between Land Use and Preservation of Groundwater Resources*, 9 UCLA J. ENVTL. L. & POL'Y 1, 18 (1990).

53 42 U.S.C. § 300g ("Subject to sections 300g-4 and 300g-5 of this title, national primary drinking water regulations under this part shall apply to each public water system in each State."); *id.* § 300f(4) (defining a "public water system" as one having "at least fifteen service connections" or "regularly serv[ing] at least twenty-five individuals").

54 *See generally* ELIZABETH RIDLINGTON & JOHN RUMPLER, ENV'T AM. RESEARCH & POLICY CENT., FRACKING BY THE NUMBERS: KEY IMPACTS OF DIRTY DRILLING AT THE STATE AND NATIONAL

B. Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) aims to "promote the protection of health and the environment and to conserve valuable material and energy resources."[55] Congress sought to accomplish this goal by regulating the generation, transport and treatment, storage, and disposal of hazardous waste.[56] Generators must determine if their waste is hazardous.[57] Both generators and transporters must track hazardous waste and its movement to a treatment, storage, or disposal facility.[58] In order to operate, such a facility must have a permit from EPA or an authorized state agency.[59]

Facility permits include design standards, operating requirements, closure and post-closure requirements, and groundwater monitoring requirements.[60] If waste from the facility is contaminating groundwater, the owner or operator must take corrective action and monitor the success of those efforts.[61] RCRA plays an important role in preventing groundwater contamination. However, its protections are narrowly focused on hazardous waste as defined in the statute.[62] Unfortunately, RCRA does nothing to protect groundwater from the numerous other types of pollution.

C. State Groundwater Regulation

State regulation of groundwater contamination is a tangled web of statutes and common law providing varying degrees of protection. Most state groundwater regulation focuses on ownership and allocation issues.[63] States that regulate discharges into groundwater often do so as part of the responsibilities delegated to them under the federal SDWA,[64] which focuses

LEVEL (2013), *available at* http://www.environmentamerica.org/sites/environment/files/reports/EA_FrackingNumbers_scrn.pdf (discussing the key impacts of fracking on drinking water contamination).

55 42 U.S.C. § 6902(a) (2012).

56 *Id.* §§ 6922–6924.

57 Standards Applicable to Generators of Hazardous Waste, 40 C.F.R. § 262.11 (2014).

58 40 C.F.R. § 262.20 (2014).

59 42 U.S.C. § 6925 (2012).

60 *See generally* 40 C.F.R. § 264 (2014); *id.* §§ 264.97–264.99 (groundwater monitoring requirements).

61 *Id.* § 264.100.

62 RCRA addresses groundwater monitoring only in the case of a hazardous waste leak. *See id.* § 264.1. Regulated hazardous wastes are listed and described at *id.* §§ 261.31–261.33.

63 In fact, drought-ridden California passed three such laws in 2014 alone, amending numerous sections of the state's Government and Water Codes. Assemb. B. 1739, 2013–2014 Leg. (Cal. 2014); S.B. 1168, 2013–2014 Leg. (Cal. 2014); S.B. 1319, 2013–2014 (Cal. 2014). *See also* Jeremy B. White, *Historic California Groundwater Regulations Head to Gov. Jerry Brown*, SACRAMENTO BEE, Aug. 29, 2014, http://www.sacbee.com/news/politics-government/article2608207.html (last visited Apr. 9, 2016).

64 *See, e.g.*, ALA. ADMIN. CODE r. 335-6-8-.01 (2015) ("[T]he purpose of this Chapter [is] to establish rules and procedures which will enable the State to administer . . . applicable Federal laws," including the SDWA); *see generally* GROUNDWATER SURVEY, *supra* note 4 (finding that state regulations "often mirror federal permitting guidelines" on groundwater or surface water

only on groundwater that is or can be used as a source of municipal drinking water.[65] Some states regulate discharges into groundwater as part of their administration of the CWA's National Pollutant Discharge Elimination System (NPDES).[66] In order for a state to gain approval to manage the NPDES program within its borders, the Act requires, among other things, that the state have "adequate authority . . . [t]o issue permits which . . . control the disposal of pollutants into wells."[67] However, EPA considers this provision satisfied if the state has been approved to administer the SDWA.[68] Unfortunately, groundwater that is unlikely to be used as a public source of drinking water remains unregulated under the SDWA and CWA.

Some states regulate groundwater pollution as part of their NPDES programs in the same manner they regulate surface water pollution.[69] In these states, a pollutant cannot be lawfully discharged into groundwater without a permit requiring compliance with water quality standards and effluent limitations.[70] Most states, however, have chosen to apply NPDES regulations only to "waters of the United States" as defined in the CWA,[71] which, under the new definition of that term, categorically excludes groundwater.[72] A third category of states regulate discharge into groundwater under other state laws.[73] As a result, the extent of groundwater protection in these states varies significantly. Because the hydrologic system

management); SALLY BENJAMIN & DAVID BELLUCK, STATE GROUNDWATER REGULATION: GUIDE TO LAWS, STANDARDS AND RISK ASSESSMENT 188–89 (1994) (identifying Connecticut's groundwater classification standards as subject to "primary and secondary standards of the federal Safe Drinking Water Act"). *See also* 42 U.S.C. § 300g–2 (2012) (providing that if, in the view of the EPA Administrator, a state has met the listed conditions, it will have "primary enforcement responsibility for public water systems").

65 *See supra* note 4 and accompanying text.

66 33 U.S.C. § 1342(b) (2012) (allowing states to gain authority to administer the NPDES program within their jurisdictions). Currently, 45 states are partially or fully authorized. U.S. Envtl. Prot. Agency, *NPDES Program Authorizations*, *available at* http://www.epa.gov/sites/production/files/2015-10/documents/state_npdes_program_status.pdf.

67 33 U.S.C. § 1342(b)(1)(D) (2012).

68 40 C.F.R. § 123.28 (2015) ("State law must provide authority to issue permits to control the disposal of pollutants into wells. . . . A program approved under section 1422 of SDWA satisfies the requirements of this section.")

69 *See, e.g.*, 5 COLO. CODE REGS. 1002-61:61.8(2)(b)(ii) (2015) (Colorado), 7 DEL. ADMIN. CODE 7201-3.0 (Delaware), OR. ADMIN. R. 340-045-0010(20) (2015) (Oregon) (defining permits and discharges of pollutants into groundwater that require permits); *see also* GROUNDWATER SURVEY, *supra* note 4 (comparing the different permit requirements across 50 states for groundwater pollutant discharge).

70 *See generally* 33 U.S.C. § 1342 (2012) (stating requirements for permit approval under the NPDES program); OR. ADMIN. R. 340-045-0015 (2015).

71 *See, e.g.*, ALASKA ADMIN. CODE tit. 18, § 15.120 (2006) (Alaska); CONN. GEN. STAT. §§ 22a-423, 22a-427 (2013) (Connecticut); GA. CODE ANN. § 12-5-22 (2012) (Georgia); *see also* GROUNDWATER SURVEY, *supra* note 4 (showing the various permit requirements for groundwater discharge and listing state statutes that contain NPDES regulations).

72 *See infra* Part V.

73 *See*, *e.g.*, FLA. STAT. § 376.30 (2015) (noting that it is the intent of the statute to "support and complement applicable provisions of the Federal Water Pollution Control Act").

connects groundwater to other waters, a lack of protection in one state may leave other waters vulnerable to contamination.[74]

III. PURPOSES OF THE CWA

In contrast to the narrowly focused federal laws and inconsistent state laws discussed above, Congress intended the CWA to have broad, uniform application.[75] The Act aimed to protect traditional navigable waters and their tributaries, interstate waters, and the territorial seas by regulating discharges into any body that would significantly affect any of those waters.[76] We first provide evidence of Congress's intent by analyzing the context in which it enacted the modern CWA in 1972. Then, we review the early case law that recognized the Act's broad scope before explaining how courts have interpreted the CWA's applicability to groundwater.

A. Rivers and Harbors Act: Precursor to the CWA

The substance of the CWA was greatly influenced by its predecessor, the Rivers and Harbors Act of 1899 (RHA),[77] which directed the Corps to protect navigation.[78] The evolution of the Corps' interpretation of the RHA prior to 1972 provides important background as to Congress's intent in enacting the CWA.[79]

Invoking its authority under the Constitution's Commerce Clause,[80] Congress enacted the nineteenth century RHA in order to prevent obstructions in the nation's navigable waters.[81] Among other provisions, the RHA included section 13, known as the Refuse Act,[82] which prohibited the unpermitted discharge or placement of "any refuse matter of any kind or description whatever" into "any navigable water of the United States, *or into any tributary* of any navigable water from which the same shall float or be

74 NAT'L GROUND WATER ASS'N, GROUNDWATER PROTECTION 1 (2015); Ludwik A. Teclaff, *Principles for Transboundary Groundwater Pollution Control*, 22 NAT. RESOURCES J. 1065, 1066 (1982).

75 118 CONG. REC. 33,757 (1972).

76 *See infra* Part III.B.

77 Rivers and Harbors Appropriations Act of 1899, 33 U.S.C. §§ 401–467n (2012).

78 *Id.*

79 For an in-depth discussion of the RHA's relationship to the CWA, see Sam Kalen, *Commerce to Conservation: The Call for a National Water Policy and the Evolution of Federal Jurisdiction over Wetlands*, 69 N.D. L. REV. 873 (1993). For an explanation of the evolution of federal navigability regulation, see Robert W. Adler, *The* Ancient Mariner *of Constitutional Law: The Historical, Yet Declining Role of Navigability,* 90 WASH. L. REV. 1643, 1651–84 (2013).

80 U.S. CONST. art. I, § 8, cl. 3.

81 *See* Wyandotte Transp. Co. v. United States, 389 U.S. 191, 201 (1967) (explaining that the RHA is "an assertion of the sovereign power of the United States" pursuant to the Commerce Clause).

82 33 U.S.C. § 407 (2012).

washed into such navigable water."[83] As discussed below, the Refuse Act was the model on which Congress based the CWA's discharge regulation.[84]

The Corps originally focused RHA enforcement on preventing activities that would result in physical impediments to the navigational capacity of jurisdictional waters.[85] Beginning in the mid-1960s, however, judicial interpretations of the RHA led the Corps to apply the Refuse Act well beyond regulating obstructions to navigation. For example, in *United States v. Standard Oil Co.*,[86] the Supreme Court ruled that the RHA's prohibition on the discharge of "any *refuse* matter" into the navigable waters of the United States included commercially valuable oil accidently spilled, which expanded the jurisdiction of the statute in two ways.[87] First, the Court broadly construed the term "refuse" to include "anything which has become waste, however useful it may earlier have been."[88] Second, the Court interpreted the legislative history to indicate that Congress meant the Refuse Act to remedy harms "caused in part by obstacles that impeded navigation and in part by *pollution*."[89] After *Standard Oil*, pollution prevention became a basis for regulation and enforcement under the RHA.[90]

That the RHA provides protection against environmental harm was clarified in *Zabel v. Tabb*.[91] There, the Fifth Circuit considered whether the Corps acted consistent with the RHA when it denied a permit to fill a jurisdictional water based solely on ecological concerns.[92] The court concluded that the Corps could deny a fill permit under the RHA based on reasons other than navigability.[93] In fact, the court ruled that the Corps *must*

83 *Id.* (emphasis added).

84 Lester Edelman, Remarks at Utility Executive Roundtable: Effect of the Refuse Act Program on the Clean Water Act of 1972 (Apr. 21, 2013), *available at* http://www.dawsonassociates.com/wp-content/uploads/2013-4-22-EDELMAN-REMARKS.pdf.

85 *See, e.g.*, Sanitary Dist. of Chi. v. United States, 266 U.S. 405, 429 (1925) (concluding that Congress intended the RHA to apply to any activity that obstructed navigable capacity); United States v. Republic Steel Corp., 362 U.S. 482, 485, *reh'g denied*, 363 U.S. 858 (1960) (reversing the Court of Appeals and holding that the discharge of fine particles into a tributary of the Mississippi River, thus raising the river bed, violated the RHA); *Wyandotte Transp. Co.*, 389 U.S. at 200–01 (1967) (affirming the lower court's ruling that the United States may recover costs for removing a negligently sunken ship that obstructed navigation in violation of the RHA).

86 384 U.S. 224 (1966). The Supreme Court considered this case on direct appeal from the Middle District of Florida. *Id.* at 224. The district court had dismissed the indictment of Standard Oil, and the Supreme Court reversed. *Id.* at 225, 230.

87 *Id.* at 226; 33 U.S.C. § 407 (2012) (emphasis added).

88 *Standard Oil Co.*, 384 U.S. at 229 (quoting United States v. Ballard Oil Co., 195 F.2d 369, 371 (2d Cir. 1952)).

89 *Id.* at 228–29 (emphasis added).

90 *See, e.g.*, United States v. Alaska, 503 U.S. 569, 580–81 (1992) (citing 33 C.F.R. § 209.330(a)) (discussing 1968 amendments to Army Corps regulations administering the RHA which called for consideration of the effects of, among other things, pollution when the Secretary issues permits).

91 430 F.2d 199, 201 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971).

92 *Id.* at 203.

93 *Id.* at 214 (reversing the district court).

consider other government policies,[94] including those in the Fish and Wildlife Coordination Act[95] and the National Environmental Policy Act[96] in making regulatory decisions. Thus, as Congress began considering what was to become the CWA, the RHA was the nation's principal water pollution prevention program. In fact, the House Committee on Government Operations praised the Corps for its conservation efforts and urged the agency to take an even stronger position, imposing on permit applicants the burden of showing that proposed fills of waterways would not harm the environment.[97]

In the wake of the *Zabel* decision, President Nixon moved quickly to codify the Corps' policy of weighing environmental interests when considering a dredge or fill application under the RHA.[98] In a 1970 Executive Order issued soon after *Zabel*, the President directed the Corps and EPA to implement a permit program under the RHA "to regulate the discharge of pollutants and other refuse matter into the navigable waters of the United States or their tributaries and the placing of such matter upon their banks."[99] The Corps responded to the order by proposing new rules establishing a permit program to regulate both direct and indirect discharges into navigable waterways and their tributaries.[100]

Mirroring the language of the RHA, the rule allowed the Corps to issue permits for "discharges or deposits into navigable waters of the United States or into *any tributary* from which discharged or deposited matter shall float or be washed into a navigable water."[101] This language reflected the Corps' intention to regulate both navigable and nonnavigable waters. The regulations required the Corps, after consulting with EPA, to base permit decisions on "an evaluation of the impact which the discharge or deposit may have on . . . applicable water quality standards and related water quality considerations" and "fish and wildlife values not reflected in or adequately protected by applicable water quality standards, if any."[102] But before the Corps could implement this rule, a federal court thwarted the Corps' effort.

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94 *Id.* at 211 ("The Secretary must weigh the effect a dredge and fill project will have on conservation before he issues a permit lifting the Congressional ban.").

95 16 U.S.C. §§ 661–666c (2012) (requiring the Corps to consult with the U.S. Fish and Wildlife Service prior to issuing a permit).

96 National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370h (2012) (requiring the Corps to evaluate the environmental effect of a proposed action and consider alternatives prior to issuing a permit).

97 *See* H.R. REP. NO. 91-917, at 2, 6 (1970) (approving the Corps' regulation of water pollution). The *Zabel* court cited this House Report in support of its holding. 430 F.2d at 214 n.28 ("As the Committee views it, not only should the Corps consider conservation, but it should consider conservation to be endangered by every dredge and fill project and place the burden of proving otherwise on the applicant.").

98 Exec. Order No. 11,574, 35 Fed. Reg. 19,627, 19,627–28 (Dec. 25, 1970).

99 *Id.* at 19,627.

100 *See* Permits for Discharges or Deposits into Navigable Waters, 35 Fed. Reg. 20,005 (Dec. 31, 1970) (codified at 33 C.F.R. § 209).

101 Permits for Discharges or Deposits into Navigable Waters, 36 Fed. Reg. 6,564 (Apr. 7, 1971) (emphasis added).

102 *Id.* at 6,566.

In *Kalur v. Resor*,[103] the federal district court for the District of Columbia considered an environmentalist challenge to the Corps' decision to issue permits allowing deposit of refuse into nonnavigable waterways.[104] The environmentalists claimed that the RHA prohibited the deposit of refuse into both navigable waters and their tributaries, but allowed the Corps to issue permits for deposit only in navigable waters.[105] By issuing permits to deposit refuse in a nonnavigable water, they claimed that the Corps and EPA exceeded their authority under the RHA.[106] The court agreed that the RHA's language limited the Corps' authority to issue permits for discharges into navigable waters.[107] The decision stifled the Corps' efforts to use the RHA as a comprehensive program to control national water pollution and prompted Congress to create an entirely new permit program that would allow the agencies to regulate discharges into tributaries as well as navigable waters.[108]

B. The Broad Scope of the CWA

Congress responded to the Nixon Executive Order, the Corps' 1971 regulations, and their demise in the *Kalur* decision by enacting the landmark 1972 CWA.[109] In doing so, Congress intended the scope of the new law to be at least as broad as the reach of the rule invalidated in *Kalur*, which reached both navigable waters and their nonnavigable tributaries.[110] The first courts to interpret the statute's terms of "navigable waters" and "waters of the United States" recognized this broad purpose, concluding that Congress aimed to protect the traditional navigable waters partly by regulating discharges into other bodies that flowed into and affected those traditional navigable waters.[111] These early jurisdictional interpretations based on

103 335 F. Supp. 1 (D.D.C. 1971).

104 *Id.* at 3–4.

105 *Id.* at 4.

106 *Id.*

107 *Id.* at 10–11 (referencing 33 U.S.C. § 407 (1971) ("[T]he Secretary of the Army 'may permit the deposit of any material above mentioned in *navigable waters*.").

108 *See* Michael C. Blumm & D. Bernard Zaleha, *Federal Wetlands Protection Under the Clean Water Act: Regulatory Ambivalence, Intergovernmental Tension, and a Call for Reform*, 60 U. COLO. L. REV. 695, 702, 702 n. 34–35, 704 (1989); Kalen, *supra* note 79, at 886–88.

109 *See* Blumm & Zaleha, *supra* note 108, at 702, 702 n.34–35; Kalen, *supra* note 79, at 886–87; *see also* CWA, 33 U.S.C. § 1371(b) (2012) ("Discharges of pollutants into the navigable waters subject to the Rivers and Harbors Act of 1910 . . . shall be regulated pursuant to this chapter, and not subject to such Act of 1910 . . . except as to effect on navigation and anchorage.").

110 *See* Blumm & Zaleha, *supra* note 108, at 704.

111 *See, e.g.*, United States v. Ashland Oil & Transp. Co., 504 F.2d 1317, 1329 (6th Cir. 1974) (discussed *infra* notes 115–122 and accompanying text); United States v. Holland, 373 F. Supp. 665, 668 (M.D. Fla. 1974) (discussed *infra* notes 123–24, 126 and accompanying text); United States v. Earth Sci., Inc., 599 F.2d 368, 375 (10th Cir. 1979) (discussed *infra* notes 123, 125–26 and accompanying text); Wyoming v. Hoffman, 437 F. Supp. 114, 117 (D. Wyo. 1977) (agreeing with "[t]he opinions of courts in numerous other cases . . . that Federal jurisdiction under the [CWA] extends beyond waters which meet the traditional tests of navigability"); Weiszmann v. Dist. Eng'r, U.S. Army Corps of Eng'rs, 526 F.2d 1302, 1305 (5th Cir. 1976) (affirming the Corps' assertion of CWA jurisdiction over a canal in part because "it would be impossible to dredge the canal through without causing sediment to enter [a] pre-existing canal. The impact upon

downstream effects would provide the basis for subsequent decisions that recognized CWA jurisdiction over interconnected groundwater,[112] and which later would evolve into the "significant nexus" test adopted by the Supreme Court.[113]

Among the important first-generation CWA cases was *United States v. Ashland Oil & Transportation Co.*,[114] in which the Sixth Circuit decided that the Act's regulation on the discharge of pollutants extended beyond waters that are navigable-in-fact to include nonnavigable tributaries, and that this broad reach was consistent with the Commerce Clause.[115] The *Ashland* court concluded, after analyzing the statutory language, that "Congress' clear intention as revealed in the Act itself was to effect marked improvement in the quality of the total water resources of the United States, *regardless of whether that water was at the point of pollution a part of the navigable stream*."[116] The court gave two reasons that the Act's regulation of nonnavigable tributaries was within Congress' powers under the Commerce and Necessary and Proper Clauses of the U.S. Constitution: 1) pollution of the nation's waters presented a threat to public health and welfare, which were "proper subjects for Congressional attention because of their many impacts upon interstate commerce generally"[117]; and 2) "water pollution is also a direct threat to navigation."[118]

The Sixth Circuit observed that pollution flowing through nonnavigable tributaries to navigable waters can create hazards that threaten commerce.[119] Thus, limiting Congress to regulating only navigable streams would "make a mockery" of the Commerce Clause power, allowing tributaries to "be used as open sewers as far as federal regulation was concerned."[120] In short, the court decided that Congress aimed to protect the health of traditional navigable waters by regulating not only those waters but also other waters that affected navigable waters, and that regulating such nonnavigable waters was not beyond the reach of the Constitution's commerce power.[121]

The *Ashland* court's broad interpretation of the CWA's regulation of "navigable waters" was echoed in ensuing cases,[122] many of which cited legislative history in making their determinations. For example, the Middle District of Florida relied on legislative history to conclude that mangrove

navigable waters through the fact of this connection is sufficient to establish a violation of [the CWA]").

112 *See infra* Part III.C.

113 *See infra* Part IV.

114 504 F.2d 1317 (6th Cir. 1974).

115 *Id.* at 1323, 1330 (upholding the district court's decision that CWA jurisdiction extended to tributaries).

116 *Id.* at 1323 (emphasis added).

117 *Id.* at 1325.

118 *Id.*

119 *Id.* at 1326 (citing as examples fires on rivers in Michigan and Ohio).

120 *Id.*

121 *Id.* at 1322–23, 1325–27.

122 *See, e.g.*, United States v. Holland, 373 F. Supp. 665, 673 (M.D. Fla. 1974); United States v. Earth Sci., Inc., 599 F.2d 368, 375 (10th Cir. 1979).

wetlands, although not navigable-in-fact, were "navigable waters" as defined by the CWA.[123] Similarly, the Tenth Circuit cited legislative history in holding that a small creek that was incapable of transporting people or goods was a "navigable water" subject to regulation under the Act.[124] Both courts noted that Congress changed the early definitions of "navigable waters" to remove a navigability requirement.[125]

In addition to removing the word "navigable" from the definition of "navigable waters," the Senate Public Works Committee interpreted the phrase to include all interconnected waters:

> The control strategy of the Act extends to navigable waters. The definition of this term means the navigable waters of the United States, portions thereof, tributaries thereof, and includes the territorial seas and the Great Lakes. Through a narrow interpretation of the definition of interstate waters the implementation 1965 Act was severely limited. Water moves in hydrologic cycles and it is essential that discharge of pollutants be controlled at the source. Therefore, reference to the control requirements must be made to the navigable waters, portions thereof, and their tributaries.[126]

Although these cases concerned surface tributaries, they established that Congress intended the Act to apply to nonnavigable waters in order to protect the quality of the entire hydrologic cycle.[127] We argue below that a scheme aimed at controlling pollution at its source must regulate groundwater that significantly affects navigable waters.

C. The CWA and Regulation of Discharges into Groundwater

In affirming that a tributary was in fact a "water of the United States," many courts based their decisions on whether the discharged pollutant would make its way through the hydrological cycle into a traditional navigable or interstate water.[128] This connection to those waters, not the type of waterbody into which the initial discharge was made, was the determinant of CWA jurisdiction.[129] The first courts to consider whether "waters of the United States" included groundwater adopted and refined this "downstream effects" analysis.

For example, in *United States v. Phelps Dodge Corp.*,[130] the federal government alleged that the corporation violated the CWA by discharging a pollutant into an arroyo which, when it contained water, flowed into

123 *Holland*, 373 F. Supp. at 667–68, 671–72.

124 *Earth Sci., Inc.*, 599 F.2d at 375.

125 *See Holland*, 373 F. Supp. at 672; *Earth Sci.*, 599 F.2d at 375.

126 S. REP. NO. 92–414, at 77 (1971), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3742–43 (cited with approval in *Ashland Oil*, 504 F.2d at 1329).

127 *Ashland Oil*, 504 F.2d at 1329.

128 *See supra* note 111 and accompanying text.

129 *See supra* note 112 and accompanying text.

130 391 F. Supp. 1181 (D. Ariz. 1975).

groundwater.[131] The federal district court of Arizona decided that "[t]he intention of Congress was to eliminate or to reduce as much as possible *all water pollution* throughout the United States both surface and underground."[132] In order to fulfill this purpose, the court ruled that the definition of "waters of the United States" must include:

> [A]ny waterway within the United States also including normally dry arroyos through which water may flow, *where such water will ultimately end up in public waters* such as a river or stream, tributary to a river or stream, lake, reservoir, bay gulf, sea or ocean either within or adjacent to the United States.[133]

The *Phelps Dodge* court was the first to apply the "downstream effects" test to subsurface water, but it would not be the last.

In *Kentucky ex rel. Hancock v. Train*,[134] the Eastern District of Kentucky applied the "downstream effects" analysis to groundwater, although the court used new terms that presaged the "significant nexus" test adopted in the 2015 rule's definition of "waters of the United States."[135] EPA had revised Kentucky's proposed water quality standards so they would apply to all "waters of the United States" in the state.[136] Rejecting a group of businesses' challenge to the EPA's interpretation, the court held that the CWA

> authorized and *required* the Administrator of the Environmental Protection Agency to promulgate water quality standards for waters of the United States as defined by the [CWA] . . . which includes any subsurface waters having a clear *hydrological nexus* with those waters of the United States specified [in EPA regulations].[137]

Not only did this decision add support for the view that tributary groundwater was jurisdictional under the CWA, the court's use of the term "nexus" would later be embraced by the Supreme Court.[138]

By tying CWA jurisdiction of groundwater to its effect on surface waters, *Phelps Dodge* and *Kentucky* suggested that groundwater *without* a connection to, and thus without a significant effect on, surface waters was *not* a "water of the United States." The Southern District of Texas first addressed this situation in *United States v. GAF Corp.*,[139] where the federal government sought to enjoin GAF from using deep wells for the injection of

131 *See id.* at 1182, 1187.

132 *Id.* at 1187.

133 *Id.* (emphasis added).

134 No. 74–16, 1976 WL 23662 (E.D. Ky. Aug. 31, 1976).

135 *Id.* at *2; *see infra* Part V. The new definition asserted jurisdiction over some waters based on the "significant nexus" analysis developed in later cases, consistent with the reasoning of Justice Kennedy in the *Rapanos* decision. *See infra* notes 230–243 and accompanying text.

136 *Train*, 1976 WL 23662, at *1.

137 *Id.* at *2 (emphases added).

138 *See infra* Part IV.

139 389 F. Supp. 1379 (S.D. Tex. 1975).

organic chemical wastes.[140] The court held that these injections were not a violation of section 301(a) of the CWA's prohibition on "the discharge of any pollutant"[141] because the groundwater at issue "ha[d] not been alleged to flow into or otherwise affect surface waters," and therefore was not a "water of the United States."[142] Later, in *Exxon Corp. v. Train*,[143] the Fifth Circuit reversed an EPA administrative decision, rejecting EPA's attempt to regulate discharges of waste water into 5,000-foot deep wells.[144] Neither party claimed that the groundwater at issue was hydrologically connected to any surface water, and the court explicitly withheld judgment as to EPA jurisdiction over groundwater that was connected.[145] By distinguishing between tributary and isolated groundwater, these courts suggested that their conclusions might have been different had groundwater been hydrologically connected to jurisdictional surface waters.

Other courts have taken a narrower view of "waters of the United States." Instead of adopting the "downstream effects" analysis in the cases discussed above, some decided that the Act did not authorize regulation of discharges into any groundwater, regardless of whether there was a connection to surface waters.[146] These courts relied mainly on snippets of legislative history that conflicted with most of that history and with the purpose of the Act.[147] One piece of widely cited legislative history was a failed amendment proposed by Congressman Aspin of Wisconsin that would have expressly included groundwater within the definition of "waters of the United States."[148]

The Aspin Amendment would have brought "ground water into the subject of the bill, into the enforcement of the bill,"[149] but was ultimately rejected.[150] As the Senate Committee on Public Works explained, Congressman Aspin's amendment and other similar proposals were not adopted "[b]ecause the jurisdiction regarding groundwaters is so complex

140 *Id.* at 1383.

141 33 U.S.C. § 1311(a) (1970).

142 *GAF Corp.*, 389 F. Supp. at 1383.

143 554 F.2d 1310, 1313 (5th Cir. 1977).

144 *Id.* at 1312–13.

145 *Id.* at 1312 n.1 ("EPA has not argued that the wastes disposed of into wells here do, or might, 'migrate' from groundwater back into surface waters that concededly are within its regulatory jurisdiction. We mean to express no opinion on what the result would be if that were the state of the facts.").

146 *See, e.g.*, Kelley *ex rel.* Michigan v. United States, 618 F. Supp. 1103, 1107 (W.D. Mich. 1985).

147 *See, e.g.*, *id.* at 1105–06; Village of Oconomowoc Lake v. Dayton-Hudson Corp., 24 F.3d 962, 965 (7th Cir. 1994) (citing legislative history in affirming the district court's holding that even groundwater with a hydrologic connection to surface "waters of the United States" is not regulable under the CWA).

148 118 CONG. REC. 10,666 (1972), reprinted in A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 589 (1973) (remarks of Rep. Aspin).

149 *Id.*

150 S. REP. NO. 92-414, at 73 (1971) (remarks of Rep. Aspin), reprinted in 1972 U.S.C.C.A.N. 3668, 3739.

and varied from State to State."[151] Instead, the final bill required that each state show in its application to administer the NPDES program that it had authority to impose affirmative controls over the injection of any pollutants into wells that may affect groundwater.[152] Some courts seized on this legislative history to conclude that the CWA rejected regulation of all groundwater.[153]

Courts relying on this legislative history lost sight of the forest for the trees. The failure of the Aspin Amendment does not counter the text of the statute and other legislative history that weighs in favor of federal authority to regulate groundwater if it is hydrologically connected to jurisdictional surface waters.[154] Other considerations likely influenced the members of Congress who voted against the Aspin Amendment, since it would have extended federal authority beyond interconnected groundwater to include groundwater isolated from surface waters.[155] The amendment would have also deleted an exception from the CWA's definition of "pollutant" for gas, water, or other materials injected into wells as part of oil and gas production.[156] The amendment's opponents were likely more concerned with the amendment's effect on isolated groundwater and the oil and gas exception than with tributary groundwater regulation.[157]

Courts that have read the Act and its history to preclude federal regulation of tributary groundwater have ignored Congress's express purpose in enacting the CWA. From the earliest opinions interpreting the scope of "navigable waters" and "waters of the United States," federal courts

151 *Id.*

152 *See supra* note 67 and accompanying text.

153 *See, e.g.*, Kelley *ex rel.* Michigan v. United States, 618 F. Supp. 1103, 1107 (W.D. Mich. 1985) (The "unmistakably clear legislative history" demonstrates that Congress did not intend the CWA to extend federal regulatory authority over groundwater).

154 *See* Schneidewind v. ANR Pipeline Co., 485 U.S. 293, 306 (1988) ("This Court generally is reluctant to draw inferences from Congress' failure to act.").

155 *See* Philip M. Quatrochi, *Groundwater Jurisdiction Under the Clean Water Act: The Tributary Groundwater Dilemma*, 23 B.C. ENVTL. AFF. L. REV. 603, 617 (1996) ("Several commenters have suggested that the oil and gas provisions rather than the inclusion of groundwater caused the Aspin Amendment's demise. Furthermore, members of Congress simply may have assumed that groundwater was implicitly included in the definition of 'navigable water' in section 402, making the Aspin Amendment unnecessary.").

156 *See id.*; *see also* 33 U.S.C. § 1362(6) (2012) (The term "pollutant" does not mean "water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well" if certain conditions are met.).

157 For more discussion of the Aspin Amendment, see U.S. Steel Corp. v. Train, 556 F.2d 822, 853 n.66 (7th Cir. 1977), *overruled in part by* City of W. Chi., Ill. v. U.S. Nuclear Regulatory Comm'n, 701 F.2d 632, 644 (7th Cir. 1983) ("The debate on this amendment clearly demonstrates that it was intended to 'eliminate the inconsistency between the way we treat oil companies in this bill and the way we treat other companies. Oil companies and other industries can pollute ground water, through the operation of what are called 'waste injection wells.'" (quoting Rep. Aspin, 118 CONG. REC. 10,666 (1972))); *see also supra* note 153 and accompanying text (where the *Kelley* court cited the "unmistakably clear legislative history" to show that Congress did not intend the CWA to extend federal regulatory authority over groundwater).

have recognized congressional intent to define the terms broadly.[158] Numerous courts quickly established that hydrologically connected groundwater could be included among jurisdictional waters.[159] Although the case law is not unanimous, the majority of courts considering the text, history, and purposes of the Act concluded that regulation of all interconnected waters is essential to protecting traditional navigable waters.[160] With this substantial body of case law established in the lower courts, in 1985 the Supreme Court began to weigh in with its interpretation of "navigable waters" and "waters of the United States."[161]

IV. THE SUPREME COURT'S INTERPRETATION OF "WATERS OF THE UNITED STATES"

The U.S. Supreme Court has addressed the scope of "navigable waters" in cases that all concerned the statute's application to wetlands.[162] The case analyses, however, are applicable to groundwater because they examine the same statutory language, intent, legislative history, and applicable regulations.[163] This Part reviews the Supreme Court's efforts to determine the meaning of "navigable waters," as intended by Congress. Although the Court has refined the outer limits of CWA jurisdiction, the decisions largely represent the logical development of the existing case law described above, since the "significant nexus" test that emerged bears a striking similarity to the "downstream effects" analysis employed by the first courts to consider the scope of CWA jurisdiction. In short, the Supreme Court's opinions did nothing to undermine the argument that "waters of the United States" includes groundwater having a significant effect on jurisdictional surface water.

A. United States v. Riverside Bayview Homes

In *United States v. Riverside Bayview Homes, Inc. (Riverside Bayview)*, the Supreme Court attempted for the first time to interpret the limits of "navigable waters" as defined by the CWA.[164] The federal government filed suit after Riverside Bayview began filling a wetland about a mile from the

158 *See supra* note 111 and accompanying text.

159 *See supra* notes 130–145 and accompanying text.

160 *See* discussion *supra* Parts III.B, III.C (showing that "the first courts to interpret the statute's terms of 'navigable waters' and 'waters of the United States' recognized this broad purpose and concluding that Congress aimed to protect the traditional navigable waters partly by regulating discharges into other bodies that flowed into and affected those traditional navigable waters," and that "[t]he intention of Congress was to eliminate or to reduce as much as possible all water pollution throughout the United States both surface and underground").

161 United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 126 (1985).

162 *Riverside Bayview*, 474 U.S. 121; Solid Waste Agency of N. Cook Cnty. v. United States (*SWANCC*), 531 U.S. 159 (2001); *Rapanos*, 547 U.S. 715 (2005) (plurality opinion).

163 *Riverside Bayview*, 474 U.S. at 123–24; *SWANCC*, 531 U.S. at 162–67; *Rapanos*, 547 U.S. at 722–26.

164 474 U.S. at 126.

shore of Michigan's Lake St. Clair.[165] The government alleged that Riverside Bayview's property was a wetland abutting a traditional navigable water—an "adjacent wetland" within the Act's jurisdiction under the Corps' regulations.[166] The district court ruled in favor of the Corps, but the Sixth Circuit reversed, holding that the Corps regulation at issue must be read narrowly to avoid constitutional takings concerns.[167] The Supreme Court unanimously reversed the Sixth Circuit, holding that the Corps' assertion of jurisdiction was a reasonable interpretation of the agency's CWA authority.[168]

The Court's *Riverside Bayview* analysis echoed the approaches of many of the lower courts in the cases discussed above.[169] Instead of asking whether the wetlands were themselves navigable-in-fact, the Court focused on the interaction between the wetlands and the adjacent navigable waters.[170] The Corps had determined that the wetlands at issue "may serve to filter and purify water draining into adjacent bodies of water, and to slow the flow of surface runoff into lakes, rivers, and streams and thus prevent flooding and erosion."[171] Those effects on surface waters showed that the wetlands were "integral parts of the aquatic environment" and "inseparably bound up with the 'waters' of the United States."[172] Based on those connections, the Corps asserted CWA jurisdiction over the Lake St. Clair wetlands.[173] The Court concluded that, in light of Congress's expansive aims for the CWA, the Corps' ecological judgment provided an adequate basis for determining that "adjacent wetlands" were "waters of the United States."[174]

By approving the Corps' ecological-based approach to its jurisdiction, the *Riverside Bayview* opinion could be interpreted to sanction regulation of

165 *Id.* at 124.

166 *Id.*; the Corps rule at issue imposed CWA regulation on wetlands which were "adjacent" to a body of navigable water. *Id.* The Corps defined such wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." *Id.*; 33 C.F.R. § 323.2(c) (1978) (now codified under the 2015 Rule at 33 C.F.R. § 328(c)(4) (2015)).

167 United States v. Riverside Bayview Homes, Inc., 729 F.2d 391, 397–98 (6th Cir. 1984), *rev'd*, 474 U.S. 121 (1985).

168 *Riverside Bayview*, 474 U.S. at 126, 135 ("[W]e cannot say that the Corps' judgment on these matters is unreasonable, and we therefore conclude that a definition of 'waters of the United States' encompassing all wetlands adjacent to other bodies of water over which the Corps has jurisdiction is a permissible interpretation of the Act.").

169 *See supra* Part III.C.

170 *Riverside Bayview*, 474 U.S. at 134.

171 *Id.* (internal citations omitted).

172 *Id.* at 134–35.

173 *Id.* at 130–31. The Lake St. Clair wetlands met both the Corps' definition of "wetlands" and the Corps' definition of "adjacent," because the property was "characterized by the presence of vegetation that requires saturated soil conditions" and was in close proximity to the Lake. *Id.*

174 *Id.* at 134 ("In view of the breadth of federal regulatory authority contemplated by the Act itself and the inherent difficulties of defining precise bounds to regulable waters, the Corps' *ecological judgment* about *the relationship between waters and their adjacent wetlands* provides an adequate basis for a legal judgment that adjacent wetlands may be defined as waters under the Act." (emphasis added)).

groundwater under the CWA. The Court gave significant deference to the Corps' conclusion that the interaction between "adjacent wetlands that form the border of or are in reasonable proximity to other waters of the United States" and the adjacent navigable water justified federal jurisdiction.[175] The basis of the Corps' assertion of jurisdiction was that the wetlands at issue were "adjacent wetlands" due to their ecological relationship to Lake St. Clair, a navigable water, to which they were "in reasonable proximity."[176] Neither the Corps nor the Court suggested that a surface water connection was necessary between the wetland and the adjacent navigable water to produce the requisite ecological relationship to be in reasonable proximity.[177]

After *Riverside Bayview*, numerous courts continued to conclude that groundwater with a sufficient interaction with traditional navigable or interstate waters could be "waters of the United States"[178] and thus jurisdictional under the CWA. For example, in *Inland Steel Co. v. U.S. Environmental Protection Agency*,[179] the Seventh Circuit considered whether a company's discharge of waste into wells required an NPDES permit.[180] Affirming the district court, the Seventh Circuit declined to recognize jurisdiction over the well at issue because it was convinced that "the waters at the bottom of these wells are not connected to surface waters."[181] Similarly, in *Sierra Club v. Colorado Refining Co.*, environmentalists alleged that the company violated the CWA by discharging pollutants into groundwater flowing into a jurisdictional stream without a permit.[182] The federal district court of Colorado concluded that the Act prohibited the unpermitted discharge of pollutants into groundwater that flowed into a traditional navigable or interstate water and ruled in favor of the Sierra

175 *Id.* at 134 (quoting 42 Fed. Reg. 37,128 (July 19, 1977)). Note that, unlike the Corps' broad interpretation due deference in *Riverside Bayview*, the agencies' exclusion of groundwater is not consistent with the CWA's purposes. *See infra* notes 302–04, 370–71 and accompanying text.

176 *Riverside Bayview*, 474 U.S. at 124, 134. For a more detailed discussion of this point, see United States v. Wilson, 133 F.3d 251, 266–69 (4th Cir. 1997) (Payne, J., concurring).

177 *See generally Riverside Bayview*, 474 U.S. at 129 (discussing sufficiency of groundwater saturation to bring an area within the category of wetlands). Although it appears that no court had explicitly required such a connection, some courts had suggested such a condition in dicta. *See, e.g.*, Quivira Mining Co. v. U.S. Envtl. Prot. Agency, 765 F.2d 126, 129 (10th Cir. 1985) (noting that some water soaked into the ground and flowed through aquifers to the navigable water, but holding that another, surface connection was the basis for its decision).

178 *See, e.g.*, Inland Steel Co. v. U.S. Envtl. Prot. Agency, 901 F.2d 1419, 1422 (7th Cir. 1990) ("[T]he legal concept of navigable waters might include ground waters connected to surface waters—though whether it does or not is an unresolved question."); McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1196 (E.D. Cal. 1988), *vacated on other grounds*, 47 F.3d 325 (9th Cir. 1995) (In order to bring groundwater within the NPDES program, plaintiffs "must establish that the groundwater is naturally connected to surface waters that constitute 'navigable waters' under the [CWA]."); Sierra Club v. Colo. Refining Co., 838 F. Supp. 1428, 1434 (D. Colo. 1993) (holding that CWA regulation of discharge of pollutants applied to tributary groundwater).

179 901 F.2d 1419 (7th Cir. 1990).

180 *Id.* at 1421–22.

181 *Id.* at 1423.

182 *Sierra Club*, 838 F. Supp. at 1429.

Club.[183] These courts clearly interpreted *Riverside Bayview* to sanction the exercise of CWA jurisdiction over hydrologically connected groundwater.

B. Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers

Sixteen years after *Riverside Bayview*, the Supreme Court heard a new challenge to the Corps' definition of "waters of the United States." In *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (*SWANCC*),[184] the Court placed limits on the scope of the Corps' authority under the CWA.[185] Yet, as in *Riverside Bayview*, the Court actually did nothing to weaken the argument in favor of regulating tributary groundwater under the CWA.

The Solid Waste Agency of Northern Cook County (SWANCC), a coalition of local governments in suburban Chicago, chose to place a solid waste disposal site at an abandoned sand and gravel pit.[186] The site contained excavation trenches that had evolved into permanent and seasonal ponds that had "developed a natural character."[187] Prior to any fill activity taking place, the Corps asserted jurisdiction over the ponds and denied SWANCC a CWA section 404 permit.[188] The Corps determined that the ponds, although isolated from navigable or interstate waters, were "waters of the United States" by virtue of their use by migratory birds,[189] relying on a "migratory bird rule" it promulgated in 1986.[190] That rule stated that the Corps' authority to regulate under the Act extended to intrastate waters used as habitat by birds protected by the migratory bird treaties,[191] migratory birds which cross state lines, or endangered species.[192]

The Cook County agency challenged this assertion of federal jurisdiction, and the district court ruled in favor of the Corps, deciding that the Commerce Clause allows for regulating wetlands based on the cumulative effects that their degradation could have on migratory birds which affect the commerce of observing, hunting, and trapping those birds.[193] The Seventh Circuit affirmed, agreeing with the district court that harm to

183 *Id.* at 1434 ("[T]he Clean Water Act's preclusion of the discharge of any pollutant into 'navigable waters' includes such discharge which reaches 'navigable waters' through groundwater.").

184 531 U.S. 159 (2001).

185 *Id.* at 167.

186 *Id.* at 162–63.

187 *Id.* at 164.

188 *Id.* at 164–65.

189 *Id.*

190 *Id.* at 164.

191 Such treaties are codified through the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712 (2012).

192 Final Rule for Regulatory Programs of the Corps of Engineers, 51 Fed. Reg. 41,206, 41,217 (Nov. 13, 1986), *quoted in SWANCC*, 531 U.S. at 164. All three types of birds have some sort of federal protection. *Id.*

193 Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Engineers, 998 F. Supp. 946, 952 (N.D. Ill. 1998).

migratory birds was a sufficient basis for CWA jurisdiction under the Commerce Clause.[194] The Seventh Circuit also concluded that the Corps' interpretation conformed to the intent of Congress, which expected the CWA to reach "as many waters as the Commerce Clause allows."[195]

The Supreme Court, however, reversed 5–4, deciding that the ponds at issue were not in fact "waters of the United States," and the Corps' migratory bird rule was "not fairly supported by the CWA."[196] The Court majority, in an opinion by Chief Justice Rehnquist, explained that Congress had not intended the CWA to regulate waters to the full extent of the Commerce Clause powers.[197] Consequently, the agencies implementing the CWA could not regulate an isolated body of water based solely on an attenuated connection to or effect on interstate commerce.[198] Instead, in order for the statutory term "navigable" to have some meaning, the Court thought that Congress meant to base CWA jurisdiction on "its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made."[199] This conclusion was consistent with the majority of courts that have considered the definition of "waters of the United States," including the Supreme Court in *Riverside Bayview*, because it focused the jurisdictional inquiry on the interaction between the waterbody at issue and a connected jurisdictional water.[200]

194 Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Engineers, 191 F.3d 845, 850 (7th Cir. 1999).

195 *Id.* at 851 (citations omitted); *see also* S. REP. NO. 92-1236, at 144 (1972) ("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."); H.R. REP. NO. 92-911, at 131 (1972) ("The Committee fully intends 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.").

196 *SWANCC*, 531 U.S. at 167.

197 *Id.* at 174. In order to reject the Corps' position that its jurisdiction extended to the limits of the Commerce Clause, the Chief Justice had to completely ignore the clear legislative history cited *supra*, note 195, to the contrary (express statements by both the Conference and Senate Committee Reports). Instead, the Court narrowly interpreted the CWA "to avoid the significant constitutional and federalism questions" that would arise if the Corps' position were accepted. *Id.* On the other hand, *SWANCC*'s four-member dissent interpreted "waters of the United States" to dispense with any requirement that a water be actually or potentially navigable. *Id.* at 174 (Stevens, J., dissenting). Thus, CWA jurisdiction could be based on any sufficient connection to interstate commerce, not just a connection to a navigable waterway. *Id.* at 181.

198 *Id.* at 173–74 (majority opinion).

199 *Id.* at 172. The Court explained that, despite downplaying the importance of the word "navigable" in its *Riverside Bayview* opinion, the word "has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." *Id.*

200 Some courts had extended jurisdiction over an isolated water based solely on indirect interstate commerce grounds. *See, e.g.*, United States v. Earth Sci., Inc., 599 F.2d 368, 375 (10th Cir. 1979) (holding that an isolated stream is a "water of the United States" based on its use in irrigation and the presence of trout and beaver). However, most courts based their decisions either wholly or partially on a physical interaction constituting a "significant nexus" between the water feature at issue and a nearby traditional navigable or interstate water. *See, e.g.*, Quivira Mining Co. v. U.S. Envtl. Prot. Agency, 765 F.2d 126, 130 (10th Cir. 1985) (finding

The *SWANCC* majority emphasized that "[i]t was the significant nexus between the wetlands and 'navigable waters' that informed [the Court's] reading of the CWA in *Riverside Bayview Homes*."[201] The Court found such a nexus in its unanimous *Riverside Bayview* opinion because, by draining into jurisdictional waters, the adjacent wetlands may have "serve[d] to filter and purify water," "slow the flow of surface runoff into lakes, rivers, and streams," and "serve significant biological functions."[202] Thus, according to the Court, the adjacent wetlands in *Riverside Bayview* "function[ed] as integral parts of the aquatic environment."[203] But there was no indication that the ponds at issue in *SWANCC* served any ecological functions; thus, they lacked the requisite "significant nexus" to a jurisdictional water to place them within the scope of the CWA.[204] Consequently, the *SWANCC* majority did not disturb the *Riverside Bayview* opinion, and its requirement of a "significant nexus" between the water in question and another nearby jurisdictional water remained the test of CWA jurisdiction.[205]

Some federal courts had already decided that groundwater isolated from jurisdictional surface waters was beyond the reach of the Act.[206] The *SWANCC* majority essentially applied that jurisdictional limitation to surface waters, as the Court rejected the Corps' attempt to regulate based solely on the fact that the isolated wetlands had an effect on interstate commerce.[207] In doing so, the majority reiterated that the nature of a waterbody is not the only determinant of jurisdiction; its effect on and interaction with downstream navigable waters is also a factor. After *SWANCC*, courts continued to apply the "downstream effects" analysis first developed in early cases like *Ashland*[208] and *Phelps Dodge*,[209] and refined by the Supreme Court

jurisdiction over normally-dry arroyos due to the presence of both surface and subsurface connections to a jurisdictional stream); Friends of Santa Fe Cty. v. LAC Minerals, Inc., 892 F. Supp. 1333, 1356 (D.N.M. 1995) ("Plaintiffs must demonstrate that the Arroyo is a tributary of, or at least a conduit of water to, an interstate watercourse, even if only on a sporadic basis.").

201 *SWANCC*, 531 U.S. at 167.

202 *Riverside Bayview*, 474 U.S. 121, 134 (1985).

203 *Id.* at 135.

204 In *SWANCC*, the Corps asserted jurisdiction based on three criteria: "(1) the proposed site had been abandoned as a gravel mining operation; (2) the water areas and spoil piles had developed a natural character; and (3) the water areas are used as habitat by migratory bird [sic] which cross state lines." *See SWANCC*, 531 U.S. at 164–65 (citations omitted).

205 *Id.* at 171.

206 *See, e.g.*, United States v. GAF Corp., 389 F. Supp. 1379, 1383 (S.D. Tex. 1975) ("The disposal of chemical wastes into underground waters which have not been alleged to flow into or otherwise affect surface waters does not constitute a 'discharge of a pollutant' within the meaning of [CWA] § 1311(a)."); Exxon Corp. v. Train, 554 F.2d 1310, 1312 n.1 (5th Cir. 1977) (holding that Congress did not intend to include hydrologically isolated groundwater among the "waters of the United States," but specifically declining to express a jurisdictional opinion where a hydrologic connection allegedly existed). *See* case discussions, *supra* notes 139, 143 and accompanying text; *see also* Wash. Wilderness Coal. v. Hecla Mining Co., 870 F. Supp. 983, 990 (E.D. Wash. 1994) (stating that courts that have considered whether isolated groundwater is included as waters of the United states agree that it is not).

207 *See supra* note 198 and accompanying text.

208 United States v. Ashland Oil & Transp. Co., 504 F.2d 1317, 1326 (6th Cir. 1974); *see* discussion *supra* notes 114–121 and accompanying text.

in *Riverside Bayview*.[210] Some courts considered the status of groundwater and, although not always finding jurisdiction, they applied the "significant nexus" test as they would have for any other type of waterbody.[211] Clearly, these courts did not interpret *SWANCC* to prohibit regulation of hydrologically connected groundwater as "waters of the United States."

C. Rapanos v. United States

Five years after deciding *SWANCC*, the Court took up the limits of CWA jurisdiction again in *Rapanos v. United States*, two consolidated cases involving wetlands over which the Corps' asserted CWA jurisdiction.[212] Without first obtaining a permit, the *Rapanos* plaintiffs backfilled the lands—referred to by Justice Scalia in his plurality opinion as "saturated fields"[213]—and the United States filed enforcement proceedings.[214] The plaintiffs in both cases claimed that the Corps lacked jurisdiction, but the district court ruled in favor of the agency,[215] and the Sixth Circuit affirmed.[216] The Supreme Court granted certiorari and reversed the Sixth Circuit in three splintered opinions.[217]

The Court's opinions—Justice Scalia for a four-member plurality, Justice Kennedy concurring in the result, and Justice Stevens for four dissenters—reflected quite different understandings of the "significant nexus" analysis that emerged from the *Riverside Bayview* and *SWANCC* decisions. Each opinion drew dramatically different conclusions about their scope of regulatory authority under the Act.[218] Under any of the approaches, however, the agencies must regulate the discharge of pollutants into tributary groundwater.

For the plurality, the "significant nexus" that justified regulation of the wetlands in *Riverside Bayview* required a "continuous surface connection" that prevented the Corps from distinguishing between the wetlands and the

209 United States v. Phelps Dodge Corp., 391 F. Supp. 1181, 1187 (D. Ariz. 1975); *see* discussion *supra* notes 130–133 and accompanying text.

210 474 U.S. 121, 134 (1985) (discussed *supra* note 168–174 and accompanying text).

211 *See, e.g.*, Rice v. Harken Exploration Co., 250 F.3d 264, 270–72 (5th Cir. 2001) (applying a significant nexus-type analysis but finding the nexus insufficient to assert jurisdiction over the groundwater); N. Cal. River Watch v. City of Healdsburg, No. C01-04686WHA, 2004 WL 201502, at *12 (N.D. Cal. Jan. 23, 2004) (applying a significant nexus-like analysis and concluding that the aquifer at issue was sufficiently connected to a navigable river to be a tributary of that river); Idaho Rural Council v. Bosma, 143 F. Supp. 2d 1169, 1178–79 (D. Idaho 2001) (ruling that allegations of discharges into groundwater that migrate to surface waters were sufficient to support a CWA citizen suit).

212 547 U.S. 715, 729 (2006) (plurality opinion).

213 *Id.* at 719–20.

214 *Id.* at 721–22.

215 Carabell v. U.S. Army Corps of Eng'rs, 257 F. Supp. 2d 917, 918, 921 (E.D. Mich. 2003).

216 United States v. Rapanos, 376 F.3d 629, 631 (6th Cir. 2004); Carabell v. U.S. Army Corps of Eng'rs, 391 F.3d 704, 705 (6th Cir. 2004).

217 *Rapanos*, 547 U.S. at 718, 730 (plurality opinion).

218 *Id.* at 746–51, 753–57; *id.* at 759 (Kennedy, J., concurring); *id.* at 787 (Stevens, J., dissenting).

adjacent navigable waters.[219] Justice Scalia interpreted the result in *Riverside Bayview* as turning on the Corps' difficulty in determining the exact point where waters ended and land began.[220] According to Scalia, the ambiguity between land and water in *Riverside Bayview* was a necessary part of a "significant nexus,"[221] and that ambiguity was a function of a continuous surface connection between the wetlands at issue and abutting waters.[222] Therefore, a wetland is subject to CWA regulation only where there exists a continuous surface connection that blurs the line between the wetland and a truly navigable water or its tributary.[223]

The Court remanded the case to the lower court to determine whether the wetlands at issue satisfied this test.[224] The plurality opinion might appear to undermine the argument that hydrologically connected groundwater must be regulated under the Act. A definition of "significant nexus" requiring a "continuous *surface* connection" could perhaps preclude regulation of groundwater.[225] However, as we discuss below, other courts and the agencies have rightly embraced Justice Kennedy's *Rapanos* concurrence, while mostly rejecting the plurality's suggestion that a surface water connection was the exclusive means of determining CWA jurisdiction.[226]

In contrast to the plurality's focus on a continuous surface connection, Justice Kennedy interpreted the results in *Riverside Bayview* and *SWANCC* as a function of whether there was a sufficient ecological link between a wetland and a navigable water.[227] He agreed that the Sixth Circuit's ruling should be vacated, but disagreed as to the applicable test.[228] In Justice

219 *Id.* at 742.

220 *Id.* at 740 ("The difficulty of delineating the boundary between water and land was central to our reasoning in [*Riverside Bayview*].").

221 *Id.* at 742 ("Wetlands with only an intermittent, physically remote hydrologic connection to 'waters of the United States' do not implicate the boundary-drawing problem of *Riverside Bayview*, and thus lack the necessary connection to covered waters that we described as a 'significant nexus' in *SWANCC*.").

222 *Id.* at 740.

223 *Id.* at 742 ("Therefore, *only* those wetlands with a continuous surface connection to bodies that are 'waters of the United States' in their own right, so that there is no clear demarcation between 'waters' and wetlands, are 'adjacent to' such waters and covered by the Act." (emphasis in original)).

224 *Id.* at 757.

225 *Id.* at 742. Worth noting is that Justice Scalia's opinion offered a novel distinction between the waters regulated by the Act's 402 program and the 404 program. *Id.* at 744 n.11. Although dicta, the distinction suggested that the plurality might come to a different conclusion where groundwater and section 402 are involved. *Id.* According to Justice Scalia, dredged and fill material regulated under section 404 "does not normally wash downstream," and can only reach "navigable waters" via direct discharge. *Id.* at 744. Consequently, there is no basis to regulate the discharge of dredged or fill material into waters that are neither themselves navigable nor intertwined with a navigable water such that it is difficult to distinguish between the two. *Id.* Section 402, on the other hand, regulates the discharge of pollutants that are often capable of being carried downstream with the current. *Id.* at 744, n.11. Thus, the Court seemed to approve of an assertion of CWA jurisdiction over discharges of pollutants that are made indirectly into the navigable surface waters. *Id.* at 743.

226 *See infra* notes 273–289 and accompanying text.

227 *Rapanos*, 547 U.S. at 767 (Kennedy, J., concurring).

228 *Id.* at 759.

Kennedy's view, the "significant nexus" test embraced and unified the various iterations of the "downstream effects" analysis.[229] He rejected the plurality's insistence that the basis of the *Riverside Bayview* decision was the difficulty in delineating the point at which the river stopped and the wetland began.[230] Instead, Kennedy interpreted *Riverside Bayview* to hinge on "the Corps' ecological judgment about the relationship between waters and their adjacent wetlands."[231] This relationship "provide[d] an adequate basis for a legal judgment that adjacent wetlands may be defined as waters under the Act."[232] In fact, the Court applied this interpretation of *Riverside Bayview* in *SWANCC*.[233] According to Kennedy, the *SWANCC* Court rejected the Corps' assertion over isolated ponds not simply because there was no surface connection, but because the isolated ponds had no significant nexus to a jurisdictional water, unlike the connection present in *Riverside Bayvie*w.[234]

Kennedy proceeded to explain that the "significant nexus" necessary for CWA jurisdiction was a function of the statute's goals and purposes: to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[235] In his view, wetlands are subject to CWA regulation if they "either alone or in combination with similarly situated [wet]lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.'"[236] Those effects must be more than merely "speculative or insubstantial."[237] Consistent with the "downstream effects" approach to determining CWA jurisdiction, Kennedy's test turns on the effect that a discharge will have on a traditional navigable or interstate water. A surface connection may be part of that analysis, but it is not necessary.

Like Justice Kennedy, the four-member dissent rejected the plurality's claim that the *Riverside Bayview* opinion required a continuous surface connection between a wetland and a navigable water or its tributary in order to be jurisdictional.[238] The dissent chided both the plurality and Justice Kennedy for failing to give the Corps the proper level of deference in its interpretation of the CWA.[239] In the dissent's view, the Corps' decision to treat wetlands adjacent to navigable waters and their tributaries as "waters

229 *Id.* at 770 (indicating that the CWA is "a statute concerned with downstream water quality"). The search for nexus is a hallmark of Justice Kennedy's jurisprudence. *See generally* Michael C. Blumm & Sherry Bosse, *Justice Kennedy and the Environment: Property, States' Rights, and a Persistent Search for Nexus*, 82 WASH. L. REV. 667 (2007) (examining Justice Kennedy's opinion in all environmental cases in which he wrote).

230 *Rapanos*, 547 U.S. at 772–73 (Kennedy, J., concurring).

231 *Id.* at 766 (quoting *Riverside Bayview*, 474 U.S. 121, 134 (1985)).

232 *Id.* at 766.

233 *See supra* Part IV.B.

234 *Rapanos*, 547 U.S at 767 (Kennedy, J., concurring).

235 *Id.* at 779 (quoting 33 U.S.C. § 1251(a) (2000)).

236 *Id.* at 780.

237 *Id.*

238 *Id.* at 793 (Stevens, J., dissenting).

239 *Id.* at 788.

of the United States" was "a quintessential example of the Executive's reasonable interpretation of a statutory provision."[240] Therefore, the Corps' interpretation was due the high level of deference called for by *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*[241] Employing that deferential approach, the dissent would uphold CWA jurisdiction over all wetlands adjacent to navigable waters or their tributaries, including the subset of adjacent wetlands satisfying Justice Kennedy's "significant nexus" test.[242]

After *Rapanos*, most courts have ruled that hydrologically connected groundwater is subject to CWA regulation.[243] For example, in *Hawaii Wildlife Fund v. County of Maui*,[244] the district court of Hawaii decided that the county violated the CWA by disposing municipal wastewater into wells.[245] Although deciding the case on other grounds, the court recognized that groundwater with a "substantial nexus with navigable-in-fact water" may be a "water of the United States," even if it does not act as a conduit through which pollution flows into surface waters.[246] Similarly, the Eastern District of California applied Justice Kennedy's test in deciding that groundwater is subject to CWA regulation when it affects nearby surface waters of the United States to a significant extent.[247] As these decisions reflect, lower federal courts have not interpreted *Rapanos* to reject CWA jurisdiction over groundwater satisfying the "significant nexus" test. In fact, both the plurality opinion and Justice Kennedy's opinion provided support for regulating tributary groundwater under the Act.

V. THE 2015 REGULATORY DEFINITION OF "WATERS OF THE UNITED STATES"

The fractured opinions in *Rapanos* failed to supply clear guidance to EPA and the Corps concerning the limits on their authority.[248] Under the

240 *Id.*

241 467 U.S. 837, 844 (1984) (Where a gap or ambiguity exists in a statute, "a court may not substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency. We have long recognized that considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to administer[.]"); *Rapanos*, 547 U.S. at 788 (Stevens, J., dissenting).

242 *Rapanos*, 547 U.S. at 809 ("[I]t seems likely that evidence would support [significant nexus] findings as to most (if not all) wetlands adjacent to tributaries of navigable waters.").

243 *See, e.g.*, Coldani v. Hamm, No. Civ. S-07-660 RRB EFB, 2007 WL 2345016, at *7–8 (E.D. Cal. Aug. 16, 2007); Hernandez v. Esso Standard Oil Co., 599 F. Supp. 2d 175, 181 (D.P.R. 2009); Haw. Wildlife Fund v. County of Maui, 24 F. Supp. 3d 980, 998 (D. Haw. 2014). *But see* Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc., 25 F. Supp. 3d 798, 810 (E.D. N.C. 2014) (noting that the CWA was not intended to cover groundwater, even where hydrologically connected to navigable waters).

244 24 F. Supp. 3d 980 (D. Haw. 2014).

245 *Id.* at 1005.

246 *Id.* at 998.

247 *Coldani*, 2007 WL 2345016, at *7–8.

248 In fact, both Chief Justice Roberts and Justice Breyer urged the agencies to promulgate a clarifying rule. *Rapanos*, 547 U.S. at 757; *id.* at 812 (Breyer, J., dissenting). In his *Rapanos* concurrence, Roberts chided the Corps for failing to provide an interpretive rule, and lamented

approaches of either the plurality or Justice Kennedy's concurrence, jurisdictional determinations for many bodies of water must be made on case-specific bases.[249] This requirement is costly and time-consuming, and it often leaves both regulated entities and the public uncertain about the statute's jurisdictional reach.[250] Attempting to provide clarity and consistency, in 2015 the agencies promulgated a new definition of "waters of the United States" aimed at implementing the ambiguous *Rapanos* opinions.[251]

A. The New Regulations

On June 29, 2015, EPA and the Corps jointly promulgated a definition of "waters of the United States."[252] The rule created three categories of jurisdictional waters: 1) those that are always "waters of the United States," including traditional navigable waters, interstate waters, territorial seas, and their tributaries (which we call "Category 1 waters"); 2) other waters for which jurisdiction may be established on a case-specific basis, depending on the presence or lack of a "significant nexus" to a Category 1 water ("other waters"); and 3) those waters, like groundwater, that are always excluded from jurisdiction, regardless of any "significant nexus" to a Category 1 water.[253] We think the unmooring of the latter waters from the "significant nexus" test is unlawful. Under the rule, for the first time, the federal government formally denied CWA jurisdiction over tributary groundwater with significant effects on jurisdictional waters.[254]

The rule established seven groups of waters that are subject to regulation as "waters of the United States."[255] The first six are jurisdictional under any circumstance.[256] These include 1) traditional navigable waters, 2) interstate waters, 3) the territorial seas, 4) impoundments of "waters of the United States," 5) tributaries to any of these waters, and 6) all waters

the fact that "[l]ower courts and regulated entities will now have to feel their way on a case-by-case basis," with no majority opinion to guide them. *Id.* at 757–58 (Roberts, J., concurring). Justice Breyer anticipated future confusion in his *Rapanos* dissent, and called on the Army Corps to draft new regulations, "and speedily so." *Id.* at 812 (Breyer, J., dissenting).

249 Definition of "Waters of the United States" Under the Clean Water Act, 79 Fed. Reg. 22,188, 22,188 (proposed April 21, 2014) ("The *SWANCC* and *Rapanos* decisions resulted in the agencies evaluating the jurisdiction of waters on a case-specific basis far more frequently than is best for clear and efficient implementation of the CWA.").

250 *Id.* ("This [case-specific] approach results in confusion and uncertainty to the regulated public . . .").

251 2015 Rule, 80 Fed. Reg. at 37,057 ("In this final rule, the agencies are responding to those requests . . . to make the process of identifying waters protected under the CWA easier to understand, more predictable, and more consistent with the law and peer-reviewed science.").

252 2015 Rule, 80 Fed. Reg. at 37,054. The rule quickly became the subject of at least nine lawsuits brought by state governments and industry. *See supra* note 11.

253 2015 Rule, 80 Fed. Reg. at 37,058–59.

254 *See infra* note 336 and accompanying text (discussing the lack of previous EPA or Corps policies regarding groundwater regulation under the CWA).

255 2015 Rule, 80 Fed. Reg. at 37,073.

256 *Id.*

adjacent[257] to any of these waters.[258] Traditional navigable waters, interstate waters, and the territorial seas are within Congress's traditional Commerce Clause authority to regulate navigation.[259] The agencies included the latter three categories based on their "determination that the nexus [to the waters in the first three categories], alone or in combination with other of these covered tributaries or covered adjacent waters in the watershed, is significant."[260] To make that determination, the agencies explicitly adopted and applied Justice Kennedy's "significant nexus" test.[261]

EPA and the Corps also applied Kennedy's "significant nexus" test to a seventh group of waters.[262] These "other waters" do not fit within any of the groups that are always jurisdictional,[263] but the agencies included them as potential jurisdictional waters "where a case-specific determination has found a significant nexus between the water and traditional navigable waters, interstate waters, or the territorial seas."[264] These case-by-case determinations will be a function of the effects that these "other waters" have on the chemical, physical, and biological integrity of a downstream Category 1 water.[265]

The problem with the regulations lies in the third class of waters—those that are categorically excluded from CWA regulation under all

257 *Id.* The agencies defined "adjacent" to mean "bordering, contiguous, or neighboring." *Id.* at 37,080. "Neighboring," in turn, included all waters both within the 100-year floodplain of a Category 1 water and wholly or partially within 1,500 feet of the ordinary high water mark of that Category 1 water. *Id.* at 37,081. These spatial criteria were not included in the agencies' proposed rule, and their addition is among the bases for suits challenging the Clean Water Rule. *See* the cases cited *supra* note 11.

258 2015 Rule, 80 Fed. Reg. at 37,080.

259 *See generally* Gibbons v. Ogden, 22 U.S. 1, 193 (1824) (establishing that the Commerce Clause power includes the power to regulate navigable waters); The Daniel Ball, 77 U.S. 557, 563–64 (1870) (holding that navigable waters subject to Commerce Clause regulation are those that are "navigable in fact"—meaning, they are capable of being used as part of a "continued highway for commerce . . . with other States and with foreign countries").

260 2015 Rule, 80 Fed. Reg. at 37,073.

261 *Id.* at 37,075 (both impoundments and tributaries of Category 1 waters "affect the chemical, physical, [and] biological integrity of downstream traditional navigable waters, interstate waters, [or] the territorial seas"); *id.* at 37,084 ("adjacent" waters "are integrally linked to the chemical, physical, or biological function of waters to which they are adjacent[.]"); *see also supra* notes 235–237 and accompanying text (describing Kennedy's view of the "significant nexus" test).

262 2015 Rule, 80 Fed. Reg. at 37,087.

263 The proposed rule would have included in this group all waters not among the waters categorically included or excluded from CWA jurisdiction. *Id.* at 37,086. The final rule, however, limited "other waters" to 1) five subcategories of waters that are deemed "similarly situated," and so should be subject to a significant nexus assessment "in combination with all waters of the same subcategory in the region[,]" or 2) waters "located within the 100-year floodplain of a [Category 1 water] . . . *or* within 4,000 feet of the high tide line or ordinary high water mark of a [Category 1 water]." *Id.* at 37,087 (emphasis added). The final rule's addition of these two limitations on "other waters" is among the bases for the ongoing lawsuits challenging the Clean Water Rule. *See supra* note 11.

264 2015 Rule, 80 Fed. Reg. at 37,073.

265 *Id.* at 37,086.

circumstances.[266] The regulations prevent the agencies from asserting CWA jurisdiction over these waters, even where there exists a significant nexus to a Category 1 water that would justify regulating a wetland or any other water.[267] Some subcategories of these waters were effectively excluded from CWA jurisdiction in agency guidance documents, like prior converted cropland, waste treatment systems, and many normal farming practices.[268] The 2015 rule explicitly excluded these waters from regulation, including all groundwater.[269]

B. The Adoption of the "Significant Nexus" Test

The agencies wisely chose to adopt Justice Kennedy's version of the "significant nexus" test to determine whether they have CWA jurisdiction over tributaries to Category 1 waters, waters adjacent to Category 1 waters, and "other waters."[270] The Supreme Court provided some advice to lower courts grappling with decisions like *Rapanos* in *Marks v. United States*,[271] where the Court stated, "[w]hen 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.'"[272] This small bit of direction has been at the heart of other courts' attempts to make sense of the splintered *Rapanos* decision.

In deciding how to apply the *Rapanos* opinions, most courts have either employed the Supreme Court's advice in *Marks* and concluded that Justice Kennedy's test prevails, or decided that *Marks* is inapplicable, and thus either the plurality's or Justice Kennedy's tests can provide a basis for CWA jurisdiction. For example, the Fifth Circuit took the former approach in *United States v. Gerke Excavating, Inc.*,[273] deciding that the "narrowest grounds" were the ones least restrictive of federal authority to regulate.[274] Because Justice Kennedy's approach allowed the agencies to continue to assert jurisdiction over more waters than would the plurality's, Kennedy's

266 *Id.* at 37,073.

267 *Id.* at 37,096 ("[A]ll waters and features identified in paragraph (b) as excluded will not be 'waters of the United States,' even if they otherwise fall within one of the categories in paragraphs (a)(4) through (a)(8).").

268 *Id.*

269 *Id.*; *see also infra* note 337 and accompanying text (discussing the lack of any official EPA or Corps policy regarding groundwater regulation).

270 2015 Rule, 80 Fed. Reg. at 37,056 ("An important element of the agencies' interpretation of the CWA is the significant nexus standard" developed in *Riverside Bayview* and *SWANCC*, "and refined in Justice Kennedy's opinion in *Rapanos*."); *id.* at 37,091 ("Paragraph (c)(5) of the rule defines the term 'significant nexus' to mean a significant effect (more than speculative or insubstantial) on the chemical, physical, or biological integrity of a traditional navigable water, interstate water, or the territorial seas."); *see also supra* note 227–237 and accompanying text (discussing Justice Kennedy's definition of "significant nexus").

271 430 U.S. 188 (1977).

272 *Id.* at 193 (quoting Gregg v. Georgia, 428 U.S. 153, 169 n.15 (1976)).

273 464 F.3d 723 (7th Cir. 2006).

274 *Id.* at 724.

test was therefore "narrower," and thus should control.[275] Other circuits have adopted similar reasoning and reached similar conclusions.[276]

The latter approach—that the agencies can establish jurisdiction over waters by meeting either *Rapanos* standard—has also been adopted by a number of courts.[277] Most courts confronting the issue have recognized Kennedy's test as a sufficient basis for CWA jurisdiction, whether alone or under the plurality's test. The First Circuit's inquiry in *United States v. Johnson* is representative.[278] The Corps filed suit against a cranberry farmer, who allegedly violated the CWA by discharging pollutants into wetlands without a permit.[279] The district court ruled in favor of the government,[280] applying the *Marks* approach, which required determining which *Rapanos* opinion represented the "narrowest grounds" of the decision.[281] The court observed that *Marks* "makes the most sense when two opinions reach the same result in a given case, but one opinion reaches that result for less sweeping reasons than the other."[282] But the "narrowest grounds" rule is a poor fit for situations like *Rapanos*, where neither the plurality opinion nor Kennedy's concurrence is a subset of the other.[283]

The First Circuit decided that since Justice Kennedy's position would almost always command a majority of the Supreme Court,[284] this factor weighed in favor of using Kennedy's test except in the "bizarre" situation in which there was a continuous surface connection but no nexus significant enough to meet Kennedy's standard.[285] In such an unlikely case, the *Rapanos* dissent would join the plurality to vote 8–to–1 to uphold the agencies'

275 *Id.* at 724–25.

276 *See*, *e.g.*, N. Cal. River Watch v. City of Healdsburg, 496 F.3d 993, 995 (9th Cir. 2007) (deciding, with little analysis, that "the controlling opinion is that of Justice Kennedy"); United States v. Robison, 505 F.3d 1208, 1221–22 (11th Cir. 2007) (concluding that Kennedy's opinion represents the "narrowest grounds" because it is the "less far-reaching common ground." Thus, "Justice Kennedy's 'significant nexus' test provides the governing rule of *Rapanos*.").

277 *See, e.g.*, United States v. Evans, No. 3:05 CR 159 J 32HTS, 2006 WL 2221629, at *19 (M.D. Fla. Aug. 2, 2006) ("[B]ecause both [Justice Kennedy and the plurality] articulated different standards to be applied on remand, it is not clear which standard is now controlling. . . . Accordingly, consistent with Justice Stevens' opinion, this Court will consider the jurisdictional requirement for 'waters of the United States' to be met if the affidavits satisfy either [*Rapanos* test]."); United States v. Johnson, 467 F.3d 56, 66 (1st Cir. 2006) ("The federal government can establish jurisdiction over [wetlands] if it can meet either [*Rapanos* standard]."); United States v. Bailey, 571 F.3d 791, 799 (8th Cir. 2009) ("[T]he Corps has jurisdiction over wetlands that satisfy either the plurality or Justice Kennedy's test."); *see also* United States v. Cundiff, 555 F.3d 200, 209–10 (6th Cir. 2009) (observing, like the other courts mentioned in this note, that the *Marks* test is inapplicable to the *Rapanos* opinions because no *Rapanos* opinion is a logical subset of another. However, the court declined to decide which test controls because either approach justified jurisdiction in that case.).

278 *Johnson*, 467 F.3d at 66.

279 *Id.* at 58.

280 *Id.*

281 *Id.* at 64. *See supra* note 272 and accompanying text for the *Marks* test.

282 *Johnson*, 467 F.3d at 64.

283 *Id.*

284 *Id.* ("If Justice Kennedy's test is satisfied, then at least Justice Kennedy plus the four dissenters would support jurisdiction.").

285 *Id.*

jurisdiction.[286] To avoid such a result, the First Circuit chose to allow the agencies to demonstrate jurisdiction over wetlands based on either *Rapanos* standard.[287] That dual-test approach "ensures that lower courts will find jurisdiction in all cases where a majority of the [Supreme] Court would support such a finding."[288] The court remanded the case to allow the trial court to apply this new directive.[289]

In light of the substantial jurisprudence using Justice Kennedy's approach, EPA and the Corps seem justified in basing their definition of "waters of the United States" on his "significant nexus" standard.[290] The *Rapanos* plurality required that, in order for a nonnavigable waterbody to be jurisdictional, it must be relatively permanent and have a continuous surface connection to a traditional navigable or interstate water.[291] Justice Kennedy's ground for concurring in the reversal of the Sixth Circuit required jurisdictional waters to have a significant effect on the chemical, physical, and biological integrity of traditional navigable and interstate waters.[292]

Kennedy's test will almost always include waters having a continuous surface connection to a Category 1 water but can also include waters without a surface connection with a significant nexus to traditional navigable and interstate waters.[293] Where Justice Kennedy would uphold CWA jurisdiction, his position would enjoy the support of the four *Rapanos* dissenters.[294] Conversely, almost any waterbody failing Kennedy's significant nexus test would also fail to satisfy the *Rapanos* plurality's surface connection test.[295] Thus, Kennedy's opinion will almost always enjoy the support of at least five Justices, and the agencies' codification of it was quite appropriate.

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286 *Id.*

287 *Id.*

288 *Id.*

289 *Id.* at 66.

290 The agencies referenced these cases in support of for their decision to adopt Justice Kennedy's standard. *See* 2015 Rule, 80 Fed. Reg. at 37,056 ("The analysis used by the agencies has been supported by all nine of the United States Courts of Appeals that have considered the issue."). *But see* United States v. Chevron Pipe Line Co., 437 F. Supp. 2d 605, 613 (N.D. Tex. 2006) (relying on Fifth Circuit precedent because the *Rapanos* Court failed to reach consensus, and Justice Kennedy "failed to elaborate on the 'significant nexus' required" by his test).

291 *Rapanos*, 547 U.S. 715, 742 (2006) (plurality opinion).

292 *Id.* at 780 (Kennedy, J., concurring).

293 *Id.* at 772–73 (concluding that the *Riverside Bayview* and *SWANCC* opinions did not require a surface-water connection).

294 The *Rapanos* dissent rejected the notion that CWA jurisdiction required a continuous surface-water connection with "adjacent" wetlands. *Id.* at 804 (Stevens, J., dissenting). In fact, the dissent would have upheld the Corps' assertion of jurisdiction based on the agency's "reasonable" conclusion that all adjacent wetlands have a significant nexus to the adjacent waterbody. *Id.* at 805. This expansive view of CWA jurisdiction would necessarily include waters meeting Justice Kennedy's version of the significant nexus test. *See supra* note 242 and accompanying text.

295 There may be rare circumstances in which an adjacent water with a surface connection to a jurisdictional water had no significant effect, as required under Kennedy's significant nexus test. *See supra* Section IV.C. In such a case, the *Rapanos* dissenters would most likely join with the *Rapanos* plurality in validating CWA jurisdiction. *See supra* Section IV.C.

VI. THE GROUNDWATER EXCLUSION AND JUDICIAL REVIEW

By adopting Justice Kennedy's "significant nexus" test, the agencies embraced a long line of cases determining jurisdiction on the basis of the effect that a water has on downstream waters.[296] Many of those cases applied the downstream effects analysis to groundwater, and either held or suggested that tributary groundwater—that is, groundwater with a hydrological connection to other covered waters—is subject to CWA regulation.[297] The Supreme Court's decisions did not undermine those opinions, and in fact refined the "downstream effects" analysis to base it on the ecological interaction between nonnavigable waters and downstream waters.[298] Yet the agencies chose to categorically exclude all groundwater from CWA regulation.[299] We believe that this decision is vulnerable to legal challenge.

A. The Arbitrary Exclusion of Groundwater

No final agency action under the CWA can be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[300] To decide whether an EPA action is arbitrary, a reviewing court must "determine whether the [agency] has considered the relevant factors and articulated a rational connection between the facts found and the choice made."[301] We think that EPA and the Corps failed to show that their decision to categorically exclude all groundwater from CWA regulation satisfied this requirement.

First, the agencies ignored the significant body of case law requiring them to construe the CWA broadly so as to fulfill the Act's purpose. As discussed above, the lower courts have overwhelmingly supported an

296 *See* cases cited *supra* note 111 (citing opinions in which courts recognized or denied CWA jurisdiction based on the presence or absence of downstream effects).

297 *See, e.g.*, Kentucky *ex rel.* Hancock v. Train, No. 74–16, 1976 WL 23662, at *2 (E.D. Ky. Aug. 31, 1976) ("Waters of the United States. . . includes any subsurface waters having a clear hydrological nexus with those waters of the United States specified [in EPA regulations]."); United States v. Phelps Dodge Corp., 391 F. Supp. 1181, 1187 (D. Ariz. 1975) ("Waters of the United States" includes any waterway whose water "will ultimately end up in public waters."); United States v. GAF Corp., 389 F. Supp. 1379, 1383 (S.D. Tex. 1975) (denying jurisdiction where groundwater "ha[d] not been alleged to flow into or otherwise affect surface waters"); Exxon Corp. v. Train, 554 F.2d 1310, 1312 n.1 (5th Cir. 1977) (rejecting the Corps' assertion of jurisdiction over isolated groundwater, but explicitly withholding judgment as to connected groundwater).

298 *See*, *e.g.*, *Rapanos*, 547 U.S. at 767, 779 (Kennedy, J., concurring) (explaining that the *SWANCC* decision rested on the lack of a "significant nexus," and arguing the "significant nexus" analysis should be made in consideration of the CWA's goals and purposes).

299 *See supra* notes 261–269 and accompanying text.

300 Administrative Procedure Act, 5 U.S.C. § 706(2)(A) (2012).

301 Baltimore Gas & Elec. Co. v. Natural Resources Def. Council, Inc., 462 U.S. 87, 105–06 (1983) (paraphrasing Bowman Trans., Inc. v. Ark.-Best Freight Sys., Inc., 419 U.S. 281, 285–86 (1974)) (upholding the Nuclear Regulatory Commission's decision to exclude the effects of storage of nuclear waste from the environmental analysis on a decision to license a nuclear power plant).

expansive interpretation of CWA jurisdiction.[302] On the basis of the statutory text and its legislative history, those courts concluded that Congress intended to protect navigable and interstate waters by regulating the discharge of pollutants into waters that feed into them.[303] The Supreme Court validated those conclusions in *Riverside Bayview*, relying on the "breadth of federal regulatory authority contemplated by the Act" to rule that the Corps' "ecological judgment about the relationship between waters and their adjacent wetlands" provided an adequate basis for including adjacent wetlands among the "waters of the United States."[304] By categorically excluding all groundwater from CWA regulation, the agencies' 2015 rule applied a narrow interpretation of the Act's reach that conflicts with this line of cases and the Court's reasoning in *Riverside Bayview*.

Second, despite wisely choosing to adopt Justice Kennedy's "significant nexus" test for jurisdiction, the agencies ignored Kennedy's directive that the nexus be "assessed in terms of the statute's goals and purposes."[305] Those purposes—"to restore and maintain the chemical, physical, and biological integrity of the Nation's waters"[306]—seem to require the agencies to regulate discharges into waters that "significantly affect the chemical, physical, and biological integrity of waters considered to be traditionally 'navigable.'"[307] Justice Kennedy's *Rapanos* concurrence concluded that "functions such as pollutant trapping, flood control, and runoff storage" sufficiently affected the integrity of the nation's waters to justify the Corps' assertion of jurisdiction over adjacent wetlands.[308] Scientific studies have overwhelmingly shown that groundwater often performs these same functions to the benefit of jurisdictional surface waters.

For example, numerous reports have demonstrated that subsurface bodies of water can perform functions similar to those of wetlands.[309] Effective methods exist to measure the amount of interaction between groundwater and surface water and to observe the related effects,[310] and researchers have demonstrated extensive interactions between ground and

302 *See supra* Section III.B.

303 *See supra* notes 111, 121 and accompanying text.

304 *Riverside Bayview*, 474 U.S. 121, 134 (1985).

305 *Rapanos*, 547 U.S. 715, 779 (2006) (Kennedy, J., concurring).

306 CWA, 33 U.S.C. § 1251(a) (2012).

307 *Rapanos*, 547 U.S. at 780 (Kennedy, J., concurring).

308 *Id.* at 779–80 (Kennedy, J., concurring).

309 *See, e.g.*, Geoscience Australia, *Groundwater–Surface Water Connectivity*, http://www.ga.gov.au/scientific-topics/water/groundwater/understanding-groundwater-resources/groundwater-surface-water-connectivity (last visited Apr. 9, 2016); Bergkamp & Cross, *supra* note 29, at 178 (discussing the important role groundwater plays in maintaining ecosystem services).

310 Geoscience Australia, *supra* note 309 ("Assessing groundwater–surface water interactions is complex and difficult. However, a range of tools are available to assess the level of connectivity and understand the processes which control the movement of water from surface to sub-surface storages."); *see also* Ron Aggs, *Stream and Groundwater "Connectivity" Analyzed*, AGRIC. TODAY, May 2010, http://www.dpi.nsw.gov.au/archive/agriculture-today-stories/ag-today-archives/may-2010/stream-and-groundwater-connectivity-analysed (last visited Apr. 9, 2016) (recommending the use of heat as a tracer "to determine which direction water is moving [between surface and groundwater]").

surface waters.[311] For instance, pollution discharged into groundwater can and does migrate into connected surface waters.[312] In fact, according to California's Department of Water Resources, "[u]nder natural conditions, prior to the pumping of groundwater from wells, streams are the primary discharge outlet for groundwater. . . . Groundwater discharge to streams provides the baseflow of streams and is often *a primary component of the total streamflow*."[313] Little wonder, then, that groundwater "can influence the ecological properties of [a] stream" and "can alter components of the stream water—the chemicals it carries, flow regime and dissolved oxygen content."[314] When groundwater performs these functions, it "significantly affect[s] the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.'"[315] Whether caused by a surface tributary or a subsurface one, the effect on the receiving water is the same.

Comments during the rulemaking and from the agencies' scientific advisory body made clear the important role that groundwater can play in the health of surface waters. EPA asked its Science Advisory Board (SAB)[316] to review the scientific support for its proposed rule and, in September 2014, the SAB issued a report endorsing most of the technical and scientific basis "for key components of the proposed rule," including EPA's intention to

311 *See, e.g.*, OFFICE OF RESEARCH & DEV., U.S. ENVTL. PROT. AGENCY, CONNECTIVITY OF STREAMS AND WETLANDS TO DOWNSTREAM WATERS: A REVIEW AND SYNTHESIS OF THE SCIENTIFIC EVIDENCE 2-14 (2015) (describing hydrological connection between non-floodplain wetlands and groundwater under dry and wet conditions). In fact, the interconnectivity of ground and surface waters has been widely accepted in the context of water rights allocation. *See, e.g.*, Restatement (Second) of Torts, § 845, cmt. b (1979) ("Most ground water is moving in the hydrologic cycle. It originates from infiltration of precipitation and inflow of streams; it discharges into springs, streams, lakes and oceans. Some ground water is sidetracked from the cycle in closed basins where geologic formations isolate it from recharge or discharge."); *see also* Bd. of Cty. Comm'rs v. Park Cty. Sportsmen's Ranch, 45 P.3d 693, 702 (Colo. 2002) ("Colorado law contains a presumption that all ground water is tributary to the surface stream unless proved or provided by statute otherwise." (citing Safranek v. Town of Limon, 228 P.2d 975, 977 (Colo. 1951))).

312 Government of Canada, *Groundwater Contamination*, https://www.ec.gc.ca/eau-water/default.asp?lang=En&n=6A7FB7B2-1 (last visited Apr. 9, 2016) ("Several studies have documented the migration of contaminants from disposal or spill sites to nearby lakes and rivers as this groundwater passes through the hydrologic cycle[.] . . . Once contaminants are in the groundwater, they eventually reach rivers and lakes.").

313 Cal. Dep't of Water Res., *Water Interaction*, http://www.water.ca.gov/groundwater/groundwater_basics/gw_sw_interaction.cfm (last visited Apr. 9, 2016) (emphasis added).

314 Aggs, *supra* note 310; *see also* Louise Heathwaite et al., Abstract of *Implications of Groundwater Surface Water Connectivity for Nitrogen Transformations in the Hyporheic Zone*, LANCASTER UNIV., http://www.research.lancs.ac.uk/portal/en/projects/implications-of-groundwater-surface-water-connectivity-for-nitrogen-transformations-in-the-hyporheic-zone%2886f4b701-ecf2-4ef4-b1c0-5e18ebe5b98f%29.html (last visited Apr. 9, 2016) (noting the "pollutant attenuating properties" ascribed by some to the area where surface and subsurface waters meet).

315 *Rapanos*, 547 U.S. 715, 780 (2006) (Kennedy, J., concurring).

316 Congress established the Science Advisory Board in the Environmental Research, Development, and Demonstration Authorization Act of 1978, 42 U.S.C. § 4365 (2012), to "provide such scientific advice as may be requested by the Administrator [or Congressional science and environment committees]." *Id.* § 4365(a).

include all adjacent waters and wetlands as "waters of the United States."[317] Moreover, the SAB approved EPA's application of the "significant nexus" test to "other waters," because those waters "can influence downstream waters, particularly when considered in aggregate."[318] However, the SAB challenged the exclusion of groundwater from the proposed rule, concluding that the exclusion "do[es] not have scientific justification."[319] To the contrary, the report maintained that groundwater may connect waters and wetlands in unseen ways and "can be critical in supporting the hydrology and biogeochemical functions of wetlands and other waters."[320] Public comments on the proposed rule echoed the SAB's concerns,[321] and numerous commenters took issue with the categorical exclusion of groundwater, some referencing a good deal of the case law discussed in this Article.[322]

Notably, the agencies also recognized the important role groundwater can play in hydrologic connectivity. The rule repeatedly justified regulating particular types of surface waters by relying on their subsurface connections to Category 1 waters.[323] Yet, despite the concerns clearly expressed by the SAB and the public, and the agencies' apparent recognition of the important role groundwater can play in the health of surface waters,[324] they failed to provide a meaningful explanation for categorically excluding all groundwater. Of course, the agencies need not adopt the advice of commenters or their science advisors.[325] However, the agencies do have an obligation to respond to relevant comments and explain why they chose not to reject reasonable suggestions.[326]

317 SCIENCE ADVISORY BD., U.S. ENVTL. PROT. AGENCY, SCIENCE ADVISORY BOARD (SAB) CONSIDERATION OF THE ADEQUACY OF THE SCIENTIFIC AND TECHNICAL BASIS OF THE EPA'S PROPOSED RULE TITLED "DEFINITION OF WATERS OF THE UNITED STATES UNDER THE CLEAN WATER ACT" 1–2 (2014) [hereinafter SAB REPORT].

318 *Id.* at 3.

319 *Id.*

320 *Id.*

321 U.S. ENVTL. PROT. AGENCY, RESPONSE TO COMMENTS FOR THE CLEAN WATER RULE: DEFINITION OF "WATERS OF THE UNITED STATES"–TOPIC 7: FEATURES AND WATERS NOT JURISDICTIONAL 223–67 (2014) [hereinafter RESPONSE TO COMMENTS].

322 *See, e.g.*, *id.* at 251, 259 (comments from the Center for Environmental Law and Policy in opposition to the categorical exclusion of groundwater).

323 *See, e.g.*, 2015 Rule, 80 Fed. Reg. 37,054, 37,085 (June 29, 2015) (justifying the categorical inclusion of certain waters within 100 feet of a jurisdictional water based, in part, on the "shallow subsurface hydrology to the water to which they are adjacent"); *id.* at 37,086 (justifying the categorical inclusion of certain waters within 1,500 feet of the Great Lakes based, in part, on the "physical[] connect[ion] to [the Great Lakes] by surface and shallow subsurface flow"); *see also* RESPONSE TO COMMENTS, *supra* note 321, at 224 ("[W]hile exclusions are not 'waters of the United States,' they can serve as a hydrologic, nonjurisdictional connection that agencies would consider when making case-specific significant nexus determinations.").

324 *See generally* RESPONSE TO COMMENTS, *supra* note 321 (explaining the scientific and legal basis for regulating groundwater).

325 *See* H.R. REP. NO. 95-722, at 16 (1977), *reprinted in* 1977 U.S.C.C.A.N. 3283, 3295 (The SAB "is intended to be advisory only. The Administrator will still have the responsibility for making the decisions required of him by law.").

326 Administrative Procedure Act, 5 U.S.C. § 553(c) (2012) ("[T]he agency shall give interested persons an opportunity to participate in the rulemaking through submission of

In the Clean Water Rule and its accompanying documentation, the agencies provided only conclusory, boilerplate responses to groundwater comments, repeatedly stating that the exclusion reflects the agencies' current practice and supplies clarity.[327] The meager support the agencies offered for this "longstanding practice" was in a technical support document on the rule[328] in which the agencies erroneously claimed that "[t]he courts which have considered the issue generally agree that 'waters of the United States' do not include groundwater."[329] The one case the document cited in support of this assertion was a district court decision, *Idaho Rural Council v. Bosma*.[330] This case, years before *Rapanos*, hardly overcomes the substantial body of case law supporting inclusion of groundwater with a significant nexus to jurisdictional surface waters as "waters of the United States."[331] Not only have numerous federal courts suggested that a groundwater tributary to a jurisdictional water is a "water of the United States,"[332] but the agencies seem to misunderstand the *Bosma* decision. Far from supporting the exclusion of all groundwater from the "waters of the United States," the *Bosma* court merely came to the "unremarkable" conclusion that *isolated* groundwater was not jurisdictional, while observing that "discharges into hydrologically connected groundwater which adversely affect surface water" were within the scope of the Act.[333]

In addition to *Bosma*, the technical support document cited legislative history of Congressman Aspin's failed attempt to amend the Act to bring "ground water into the subject of the bill."[334] But, as discussed above, the

[comments]. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose.").

327 *See, e.g.*, 2015 Rule, 80 Fed. Reg. at 37,059 ("These exclusions reflect the agencies' current practice, and . . . further[] the agencies' goal of providing greater clarity over what waters are and are not protected under the CWA."); *id.* at 37,073 ("The rule excludes . . . groundwater, which the agencies have never interpreted to be a 'water of the United States' under the CWA. Codifying these longstanding practices supports the agencies' goals of providing greater clarity, certainty, and predictability for the regulated public and regulators, and makes rule implementation clear and practical."); *see also* RESPONSE TO COMMENTS, *supra* note 321, at 223–67 (responding to comments concerning the exclusion of groundwater from CWA jurisdiction); U.S. ENVTL. PROT. AGENCY, TECHNICAL SUPPORT DOCUMENT FOR THE CLEAN WATER RULE: DEFINITION OF WATERS OF THE UNITED STATES (May 27, 2015) at 16, *available at* http://www.epa.gov/sites/production/files/2015-05/documents/technical_support_document_for_the_clean_water_rule_1.pdf [hereinafter TECHNICAL SUPPORT DOCUMENT] ("EPA has never interpreted 'waters of the United States' to include groundwater.").

328 TECHNICAL SUPPORT DOCUMENT, *supra* note 327, at 17.

329 *Id.* at 16.

330 *Id.* (citing Idaho Rural Council v. Bosma, 143 F. Supp. 2d 1169 (D. Idaho 2001)).

331 *See supra* note 297 (providing examples of opinions tying groundwater jurisdiction to downstream effects); *see also supra* Part III.C (explaining *Rapanos* and its importance).

332 *See supra* Part III.B.

333 *Bosma*, 143 F. Supp. 2d at 1180 ("[T]he interpretive history of the CWA only supports the unremarkable proposition with which all courts agree—that the CWA does not regulate 'isolated/nontributary groundwater' which has no effect on surface water. It does not suggest that Congress intended to exclude from regulation discharges into hydrologically connected groundwater which adversely affect surface water.").

334 TECHNICAL SUPPORT DOCUMENT, *supra* note 327, at 16–17; *supra* note 148 and accompanying text (citing to the remarks of Senator Aspin).

failure of proposed legislation hardly overcomes the substantial support for including groundwater with a significant nexus to jurisdictional waters as "water of the United States."[335] Nowhere did the agencies explain why they chose to cherry-pick the *Bosma* opinion and the legislative history on Aspin amendment, while ignoring the considerable body of law contrary to their position on groundwater.

The agencies' claim that the exclusion of groundwater reflected longstanding policy is quite questionable. Neither EPA nor the Corps has ever promulgated a formal policy on groundwater jurisdiction.[336] Moreover, the unofficial statements on groundwater made by the agencies relied on conflicting policies. For example, EPA has taken the position in litigation that it does not have authority to "regulate subsurface disposal directly,"[337] but in a rulemaking it has implied that tributary groundwater is subject to CWA regulation.[338] Such conflicting expressions do not demonstrate that the agencies have adopted and abided by a consistent groundwater policy.

Although EPA and the Corps asserted that all groundwater was categorically excluded from the "waters of the United States," they also claimed that the discharge of pollutants into groundwater that is hydrologically connected to jurisdictional surface waters *does* require a CWA permit.[339] Citing only a district court decision, *Hawaii Wildlife Fund v. County of Maui*, the agencies maintained that, although groundwater is not subject to the "significant nexus" test and therefore cannot be a "water of the United States," discharges into groundwater *can* be regulated under Sections 402 and 404 of the Act where the groundwater has a "direct hydrologic connection" to jurisdictional surface waters.[340] This bifurcated

335 *See supra* note 154 and accompanying text.

336 *See* Umatilla Water Quality Protective Ass'n, Inc. v. Smith Frozen Foods, Inc., 962 F. Supp. 1312, 1317 (D. Or. 1997) ("EPA itself has never promulgated a formal regulation nor issued formal guidance interpreting the CWA to include regulation of groundwater.").

337 Exxon Corp. v. Train, 554 F.2d 1310, 1319 (5th Cir. 1977).

338 National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990, 47,997 (Nov. 16, 1990) ("[T]his rulemaking only addresses discharges to waters of United States, consequently discharges to ground waters are not covered by this rulemaking (*unless there is a hydrological connection between the ground water and a nearby surface water body*[])." (emphasis added)).

339 TECHNICAL SUPPORT DOCUMENT, *supra* note 327, at 17 ("[It is] agency interpretation that discharges of pollutants to 'waters of the United States' via groundwater with a direct hydrologic connection to surface waters [are] to be subject to the CWA.").

340 TECHNICAL SUPPORT DOCUMENT, *supra* note 327, at 17 (citing Haw. Wildlife Fund v. Cty. of Maui, 24 F. Supp. 3d 980 (D. Haw. 2014), discussed *supra* note 244 and accompanying text). Some courts have suggested that tributary groundwater is a "point source" as defined by the CWA. *See, e.g.*, Sierra Club v. Va. Elec. & Power Co., No. 2:15cv112, 2015 WL 6830301, at *9 (E.D. Va. 2015) (rejecting defendant's motion to dismiss and suggesting that tributary groundwater meets the statutory definition of "point source"). *See also* CWA, 33 U.S.C. § 1311(a) (2012) (prohibiting "the discharge of any pollutant" without a permit); *id.* § 1362(12) (defining "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source"). In *Hawaii Wildlife Fund*, the court concluded that discharges into groundwater required a CWA permit where the groundwater acted as a "conduit" through which pollution flowed into the ocean. 24 F. Supp. 3d at 994–95. However, that court also concluded that groundwater "with a substantial nexus with navigable-in-fact water may itself be protected

interpretation of the scope of CWA jurisdiction had no basis in the text of the Act and completely ignores the Supreme Court's opinions in *Rapanos*.

Nowhere in the Clean Water Rule, the accompanying technical support document, or the response to public comments did the agencies cite any support in the Act or the case law for this dichotomous interpretation of CWA jurisdiction. The CWA makes waters subject to section 402 and 404 regulation only when they are "waters of the United States."[341] As the Supreme Court has made clear, a waterbody is a "water of the United States" when it has a "significant nexus" to a traditionally navigable water or interstate water.[342] Justice Kennedy's "significant nexus" test did not base CWA jurisdiction on the mere presence of a hydrologic connection. Instead, it asked whether the water at issue "significantly affect[s] the chemical, physical, and biological integrity" of Category 1 waters,[343] and a majority of the Court rejected the plurality's requirement of a surface water connection.[344] Post-*Rapanos,* there are just two approaches to determine CWA jurisdiction: 1) by satisfying Justice Kennedy's "significant nexus" test or 2) by satisfying the *Rapanos* plurality's "significant nexus" test.[345] The agencies clearly understood the requirements of Justice Kennedy's test, applying those standards to adjacent waters, tributaries, and "other waters."[346] Yet they chose to treat groundwater differently from other potentially jurisdictional waters, and they failed to explain the reasoning for this seemingly arbitrary distinction.

EPA and the Corps' failure to adequately respond to comments critical of their exclusion of groundwater supports our contention that the exclusion was arbitrary and capricious. A rule is arbitrary and capricious under the Administrative Procedure Act[347] if the agency has not "considered the relevant factors and articulated a rational connection between the facts

under the Clean Water Act even if it is not necessarily a conduit for pollutants." *Id.* at 998. Far from providing support for the exclusion of groundwater, the District of Hawaii recognized that groundwater is subject to the "significant nexus" test, like any other waterbody. *Id.* The agencies failed to explain why they chose to cite only one portion of the *Hawaii Wildlife Fund* opinion, while ignoring the portion that contradicts their position. *See supra* notes 244–246 and accompanying text.

341 33 U.S.C. § 1362(7) (2012).

342 *Rapanos*, 547 U.S. 715, 755 (2006) (plurality opinion). The *Rapanos* plurality and Justice Kennedy agreed that the "significant nexus" test controls. *Id.* The plurality explained that "[w]etlands are 'waters of the United States' if they bear the 'significant nexus' of physical connection, which makes them as a practical matter *indistinguishable* from waters of the United States." *Id.* at 755 (emphasis in original). Justice Kennedy explained that "to constitute 'navigable waters' under the Act, a water or wetland must possess a 'significant nexus' to waters that are or were navigable in fact or that could reasonably be so made." *Id.* at 759 (Kennedy, J., concurring) (citing *SWANCC*, 531 U.S. 159, 167, 172 (2001). The two opinions disagreed as to what constituted such a nexus. *Id.*

343 *Id.* at 780; *see supra* notes 236–237 and accompanying text.

344 *See supra* note 238 and accompanying text.

345 *See supra* notes 273–289 and accompanying text (discussing lower courts' interpretations of *Rapanos*).

346 *See supra* Section V.B.

347 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344, 4301, 5335, 5372, 7521 (2012).

found and the choice made."[348] Failing to adequately respond to relevant and significant comments shows that "the agency's decision was not based on a consideration of the relevant factors."[349] An adequate agency response must "explain how the agency resolved any significant problems raised by the comments, and . . . show how that resolution led the agency to the ultimate rule."[350] Simply stating that in the past the agencies have never considered groundwater to be a "water of the United States," and offering only a confusing, manufactured distinction between groundwater and surface waters hardly shows that the agencies seriously considered either the public comments or the implications of the Supreme Court's decisions in *Riverside Bayview*, *SWANCC*, and *Rapanos*.

B. The Groundwater Exclusion and Chevron *Deference*

To show that the exclusion of groundwater under the Clean Water Rule is arbitrary and capricious, a challenger will have to overcome the substantial deference that a reviewing court may give to the agencies' rule. In the leading case of *Chevron U.S.A., Inc. v. Natural Resources Defense Council* (*Chevron*),[351] the Supreme Court held that when an agency interprets a statute that Congress tasked it with administering, a reviewing court must first determine whether the relevant statutory provision is ambiguous and, if so, whether the agency's interpretation of that provision "is based on a permissible construction of the statute."[352] So long as the agency's interpretation of an ambiguous statute is a reasonable one, the court is not to disturb the agency's decision, even if the court disagrees with it.[353]

Although a good deal of *Chevron* analysis has focused on the ambiguity of the statute (Step One) and the reasonableness of the agency's interpretation (Step Two), a growing body of case law has asked a threshold question often referred to as *Chevron* Step Zero.[354] The foundation of

348 Balt. Gas & Elec. Co. v. Nat. Res. Def. Council, Inc., 462 U.S. 87, 105 (1983) (quoting Bowman Transp., Inc. v. Ark.-Best Freight Sys., Inc., 419 U.S. 281, 285–86 (1974)).

349 Lilliputian Sys., Inc. v. Pipeline & Hazardous Materials Safety Admin., 741 F.3d 1309, 1312 (D.C. Cir. 2014) (internal quotation omitted) (remanding to allow the defendant agency to remedy its failure to adequately respond to comments); *see also* Am. Mining Cong. v. U.S. Envtl. Prot. Agency, 965 F.2d 759, 771 (9th Cir. 1992) ("The failure to respond to comments is grounds for reversal only if it reveals that the agency's decision was not based on consideration of the relevant factors.").

350 State of Mich. v. Thomas, 805 F.2d 176, 186 (6th Cir. 1986) (quoting Action on Smoking & Health v. C.A.B., 699 F.2d 1209, 1216 (D.C. Cir. 1983)).

351 467 U.S. 837 (1984).

352 *Id.* at 842–43.

353 *Id.* at 844 (explaining that where a statutory provision is ambiguous, "a court may not substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency"). For Justice Scalia's discussion of the development of the *Chevron* doctrine, see Antonin Scalia, *Judicial Deference to Administrative Interpretations of Law*, 1989 DUKE L.J. 511 (1989). *See also* Thomas W. Merrill & Kristin E. Hickman, Chevron*'s Domain*, 89 GEO. L.J. 833 (2001) (discussing in great depth the principles that emerged from the *Chevron* decision and its effect on the post-*Chevron* world).

354 Cass R. Sunstein, Chevron *Step Zero*, 92 VA. L. REV. 187, 191 (2006).

Chevron deference is the concept of delegation: an agency may use rulemaking only to "fill in the gaps" of a statute if Congress has delegated that authority to the agency.[355] But *Chevron* recognized that Congress may expressly or implicitly delegate interpretive authority to an agency.[356] At *Chevron* Step Zero, a reviewing court asks whether Congress has indeed delegated to the agency the authority to interpret the provision at issue, and thus whether the *Chevron* framework applies to the dispute.[357]

One important Step Zero inquiry requires courts to ask whether a "fundamental issue" is involved, suggesting that Congress did not intend to delegate to the agency the authority to apply its own interpretation of an ambiguous statutory phrase.[358] The Supreme Court has long hinted at this

355 *See, e.g.*, City of Arlington v. Fed. Commc'ns Comm'n, 133 S. Ct. 1863, 1868 (2013) ("*Chevron* is rooted in a background presumption of congressional intent: namely, that Congress, when it left ambiguity in a statute administered by an agency, understood that the ambiguity would be resolved, first and foremost, by the agency, and desired the agency (rather than the courts) to possess whatever discretion the ambiguity allows.") (internal quotations omitted).

356 *Chevron*, 467 U.S. at 844 ("Sometimes the legislative delegation to an agency on a particular question is implicit rather than explicit.").

357 *See, e.g.*, Sunstein, *supra* note 354, at 191. ("[I]n the last period, the most important and confusing questions have involved neither step [one or two]. Instead they involve *Chevron* Step Zero—the initial inquiry into whether the *Chevron* framework applies at all."); Thomas W. Merrill, *Step Zero After* City of Arlington, 83 FORDHAM L. REV. 753, 759 (2014) (Step Zero developed in response to judicial "suggest[ions] that any time Congress has left a gap or ambiguity in a statute administered by an agency this should be viewed as an 'implied delegation' of interpretative authority to the agency, and that this entitles the agency to deference.").

358 Commenters and courts have increasingly discussed another Step Zero inquiry, which asks whether Congress intended to delegate to the agency the authority to promulgate regulations with the force of law. *See, e.g.*, Sunstein, *supra* note 354, at 193; Mary Holper, *The New Moral Turpitude Test: Failing* Chevron *Step Zero*, 76 BROOK. L. REV. 1241, 1242 (2011) (arguing that a U.S. Department of Justice ruling should not receive *Chevron* deference because it was not made "with the force of law"); Nathan Alexander Sales & Jonathan H. Adler, *The Rest is Silence:* Chevron *Deference, Agency Jurisdiction, and Statutory Silences*, 2009 U. ILL. L. REV. 1497 (discussing the evolution of the *Chevron* doctrine, including the emergence of the "force of law" factor). *Chevron* Steps One and Two burden only regulations adopted pursuant to such law-making authority. *See, e.g.*, Christensen v. Harris Cty., 529 U.S. 576, 587 (2000) ("Interpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*-style deference."); United States v. Mead Corp., 533 U.S. 218, 226–27 (2001) ("We hold that administrative implementation of a particular statutory provision qualifies for *Chevron* deference when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority."). The Supreme Court has said that Congress has delegated such authority where it authorizes agency rulemaking through notice-and-comment procedures. *Id.* at 230 ("It is fair to assume generally that Congress contemplates administrative action with the effect of law when it provides for a relatively formal administrative procedure tending to foster the fairness and deliberation that should underlie a pronouncement of such force. Thus, the overwhelming number of our cases applying *Chevron* deference have reviewed the fruits of notice-and-comment rulemaking or formal adjudication." (internal citations omitted)). The Clean Water Rule, promulgated through notice-and-comment rulemaking, is therefore clearly subject to *Chevron* analysis.

threshold question,[359] but recent opinions have discussed this prerequisite in more explicit terms, arguably establishing Step Zero as an essential part of the *Chevron* doctrine.[360] In those cases, the Court declined to defer to an agency's interpretation of a statute where the interpretation involved questions of "deep economic and political significance" that are "central to [the] statutory scheme," like the continued viability of a national health care law.[361] The Clean Water Rule, on the other hand, does not appear to rise to the same level of significance, either economically and politically, or in terms of its centrality to the statutory scheme of the CWA.[362] Consequently, the agencies' decision to exclude all groundwater from CWA regulation will likely be subject to *Chevron* Steps One and Two.

The statutory phrase "waters of the United States" is almost certainly ambiguous.[363] The amount of debate about the meaning of the phrase in

359 *See, e.g.*, MCI Telecomm. Corp. v. AT&T Co., 512 U.S. 218, 234 (1994), *superseded by statute*, Family Smoking Prevention & Tobacco Control Act, Pub. L. No. 111–31, 123 Stat. 1776 (2009) (affirming the D.C. Circuit's rejection of a Federal Communications Commission rule that exempted all carriers but AT&T from rate-filing requirements). At first glance, the opinion appeared to be a typical Step 1 decision, but the Court suggested that Congress would not delegate to an agency the authority to make such dramatic changes to an important aspect of the relevant statute. *Id.* at 231. It is "highly unlikely," Justice Scalia wrote for a 6–3 majority, "that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to agency discretion[.]" *Id. See also* Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 160 (2000) (rejecting the Food and Drug Administration's attempt to regulate tobacco under the Food, Drug & Cosmetic Act based, at least in part, on the fact that the Court was "confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion").

360 For the most recent example, see *King v. Burwell*, 135 S. Ct. 2480, 2483 (2015) (foregoing *Chevron* analysis and instead upholding the Internal Revenue Service's policy of providing tax credits to customers who purchase insurance through the Affordable Care Act's federal exchange, based on the Court's own interpretation of the provision at issue); *see also supra* note 355 and accompanying text (citing City of Arlington v. Fed. Commc'ns Comm'n, 133 S. Ct. 1863, 1868 (2013)).

361 *King*, 135 S. Ct. at 2489 ("Whether [the ACA's tax] credits are available on Federal Exchanges is thus a question of deep economic and political significance that is central to this statutory scheme; had Congress wished to assign that question to an agency, it surely would have done so expressly." (internal quotations omitted)).

362 Unlike the rule at issue in *King v. Burwell*, for example, the agencies' view on their jurisdiction over tributary groundwater would not unravel the entire CWA statutory structure. *See id.* at 2484.

363 *See, e.g.*, Thomas L. Casey, *Reevaluating "Isolated Waters": Is Hydrologically Connected Groundwater "Navigable Water" Under the Clean Water Act?*, 54 ALA. L. REV. 159, 160 (2002) ("Since its enactment in 1972, courts have struggled with determining the proper interpretation of 'navigable waters' under the Clean Water Act."); Jonathan H. Adler, *Reckoning With* Rapanos*: Revisiting "Waters of the United States" and the Limits of Federal Wetland Regulation*, 14 MO. ENVTL. L. & POL'Y REV. 1, 1 (2006) ("*Rapanos v. United States* is the latest episode in the serial effort to identify the precise meaning of 'waters of the United States.'"); Scott Snyder, Comment, *The Waste Treatment Exclusion and the Dubious Legal Foundation for the EPA's Definition of "Waters of the United States*," 21 N.Y.U. ENVTL. L.J. 504, 504 (2014) ("The precise scope of 'waters of the United States' is constantly in flux, as environmentalists advance a more expansive view, while industry interests support a narrower interpretation."). Thus, the Supreme Court has typically considered the lawfulness of agency interpretations of "waters of the United States" in the context of the *Chevron* doctrine. *See*, *e.g.*, *Riverside Bayview*, 474 U.S.

courts and law review commentary makes the ambiguity abundantly clear.[364] In *Chevron*, after establishing that the statutory text was ambiguous, the Court sought unsuccessfully to find clarity in the Clean Air Act's[365] legislative history.[366] As in *Chevron*, an inquiry into the CWA's legislative history is unlikely to resolve the ambiguity of "waters of the United States." As discussed above, the legislative history regarding groundwater regulation is inconclusive.[367] Consequently, a court is likely to go beyond *Chevron* Step One in its review of the Clean Water Rule.

A challenge to the Clean Water Rule at the *Chevron* Step Two stage will most likely succeed. The agencies' failure to consider the case law recognizing CWA jurisdiction over tributary groundwater,[368] their inconsistent application of Justice Kennedy's "significant nexus" test,[369] and their cursory explanation for excluding groundwater,[370] all suggest that their interpretation of "waters of the United States" is unreasonable, and thus should receive no judicial deference. Moreover, the interpretation is contrary to the purposes of the CWA.[371] Although the Clean Air Act's legislative history failed to resolve the ambiguity in the statutory text, the *Chevron* Court took note of what the history showed of the policy concerns "that motivated the enactment" of the Clean Air Act and assessed the agency's interpretation of the statute in that context.[372] In reviewing the Clean Water Rule, a court should make that same inquiry and find the interpretation to be unreasonable.

The *Chevron* Court concluded that Congress's two purposes in passing the Clean Air Act were 1) the prevention of significant economic harm resulting from regulations that are imposed too quickly, and 2) the swift

121, 131 (1985) ("[O]ur review is limited to the question whether it is reasonable, in light of the language, policies, and legislative history of the Act for the Corps to exercise jurisdiction over" the wetlands at issue.); *Rapanos*, 547 U.S. 715, 716 (2006) (plurality opinion) (applying *Chevron* doctrine, but finding the Corps' interpretation unreasonable); *id.* at 717 (Kennedy, J., concurring) (necessarily implying that "waters of the United States" is ambiguous by concluding that his "significant nexus" test was the way to resolve that ambiguity).

364 *See, e.g.*, *Rapanos*, 547 U.S. at 716, 717 (plurality opinion); *see also supra* note 33 (citing examples of articles debating the CWA's application to groundwater).

365 Clean Air Act, 42 U.S.C. §§ 7401–7671q (2012).

366 U.S.A. Chevron, Inc. v. Nat. Res. Def. Council, 467 U.S. 837, 862 (1984) (discussing the Clean Air Act's legislative history and "agree[ing] with the Court of Appeals that it is unilluminating").

367 *See, e.g.*, *supra* notes 110, 195 and accompanying text (discussing legislative history in the form of committee report language supporting a broad interpretation of CWA jurisdiction). *But see supra* text accompanying note 149 (discussing legislative history—specifically the failed Aspin Amendment—suggesting that Congress intended not to include groundwater in the "waters of the United States").

368 *See supra* notes 302–304 and accompanying text.

369 *See supra* notes 305–307 and accompanying text.

370 *See supra* notes 327–329 and accompanying text.

371 *See* 33 U.S.C. § 1251(a) (2012) (providing that the CWA's goal is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters"); *see also supra* note 14 and accompanying text (noting that by excluding groundwater, the agency jeopardizes the integrity of the nation's waters).

372 U.S.A. Chevron, Inc. v. Nat. Res. Def. Council, 467 U.S. 837, 863 (1984).

reduction of air pollution and its harmful environmental and societal effects.[373] In Step Two of the analysis, the Court decided that EPA's "bubble rule"[374] was consistent with the first of those concerns, and consequently accepted EPA's "reasonable explanation for its conclusion that the regulations serve the environmental objectives as well."[375] As with the Clean Air Act in *Chevron*, the CWA's legislative history does not resolve the text's ambiguous definition of "navigable waters" as "waters of the United States."[376] Unlike *Chevron*, however, the policy concerns that motivated Congress to enact the CWA are not served by—and in fact, undermine—the agencies' categorical exclusion of groundwater from regulation.

As discussed above, Congress's goal in enacting the Act was "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[377] The justifications provided by the agencies for the 2015 Clean Water Rule fail to explain how the complete exclusion of groundwater from CWA regulation serves the environmental objectives of the statute. We think this lack of explanation makes the agencies' interpretation of "waters of the United States" unreasonable and the Clean Water Rule arbitrary and capricious.

VII. CONCLUSION

Groundwater and surface water are functionally interdependent parts of the hydrologic cycle.[378] They are not separate natural resources. Congress

373 *Id.* at 851–52.

374 In areas not meeting ambient air quality standards, the Clean Air Act prohibits new construction or modifications to major sources of air pollution without a permit. 42 U.S.C. § 7502(c)(5) (2012). The Act defines a major source as one emitting at least 100 tons per year of any air pollutant. *Id.* § 7602(j). (EPA had interpreted that definition to allow for multiple sources of pollution at a single facility to be grouped within the same "bubble.") *See Chevron*, 467 U.S. at 840. Under the agency's "bubble" approach, a facility can modify a particular source among many in a larger facility without receiving a permit as long as the facility's total emissions do not increase. *Id.*

375 *Chevron*, 467 U.S. at 863 ("[T]he plantwide definition is fully consistent with one of those concerns—the allowance of reasonable economic growth—and, whether or not we believe it most effectively implements the other, we must recognize that the EPA has advanced a reasonable explanation for its conclusion that the regulations serve the environmental objectives as well.").

376 *See supra* notes 147–157 and accompanying text.

377 33 U.S.C. § 1251(a) (2012); *see also* United States v. Ashland Oil & Transp. Co., 504 F.2d 1371, 1321 (6th Cir. 1974) ("The intention of Congress to eliminate or drastically reduce water pollution throughout the waters of the United States is made clear in many provisions of the Act[.]").

378 *See, e.g.*, Cal. Dep't of Water Res., *Water Interaction*, http://www.water.ca.gov/groundwater/groundwater_basics/gw_sw_interaction.cfm (last visited Apr. 9, 2016) ("Groundwater and surface water are essentially one resource, physically connected by the hydrologic cycle."); SAB REPORT, *supra* note 317, at 3 ("The available science . . . shows that groundwater connections, particularly via shallow flow paths in unconfined aquifers, can be critical in supporting the hydrology and biogeochemical functions of wetlands and other waters. Groundwater also can connect waters and wetlands that have no visible surface connections.").

recognized the interconnected nature of water when it enacted the CWA.[379] Almost immediately thereafter, federal courts interpreted the Act's broad purpose to apply to waters beyond those that are traditionally navigable, including groundwater.[380] Those early cases employed a jurisdictional test that focused on the effect that a nonnavigable water had on downstream navigable or interstate waters.[381] This same "downstream effects" test was later embraced and refined into the "significant nexus" test by the Supreme Court in cases like *Riverside Bayview*,[382] *SWANCC*,[383] and *Rapanos*.[384]

In the 2015 "waters of the United States" regulations, EPA and the Corps embraced this test to determine the jurisdictional status of surface waters that are not interstate or navigable-in-fact.[385] But the agencies chose to contradict both the text of CWA and the case law by not employing this well-established test to determine the jurisdictional status of groundwater. Because this dichotomy is contrary to the statute, its legislative history, and relevant case law, reviewing courts should demand that the agencies revise their regulations. To fulfill the purpose of the CWA, the agencies must protect the quality of the nation's waters by including groundwater among those waters whose jurisdiction is dependent upon a case-specific analysis of their nexus to other jurisdictional waters.

379 S. REP. NO. 92-414, at 77 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3742, 3743 ("Water moves in hydrologic cycles and it is essential that discharge of pollutants be controlled at the source."); *see supra* note 127 and accompanying text.

380 *See supra* note 111 and accompanying text (discussing early broad judicial interpretations of CWA jurisdiction); *see also supra* notes 122, 124 and accompanying text (discussing early judicial interpretations applying CWA regulation to tributary groundwater).

381 *See supra* Part III.C.

382 *See supra* notes 167–172 and accompanying text.

383 *See supra* notes 187–189 and accompanying text.

384 *See supra* notes 216–226 and accompanying text.

385 *See supra* notes 261–265 and accompanying text.