SIERRA CLUB V. VIRGINIA ELECTRIC & POWER CO.: HOW A CLEAN WATER ACT MISINTERPRETATION MAY OPEN THE FLOODGATES TO FUTURE GROUNDWATER POLLUTERS

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Author's Note

This Note was written in fall of 2018 while the U.S. Environmental Protection Agency's (EPA) "Waters of the United States" (WOTUS) rule was still in effect. Since the Note was accepted for publication, the EPA and the Department of the Army repealed and replaced the WOTUS rule with the "Navigable Waters Protection Rule" on January 23, 2020, which will, in part, categorically exclude groundwater from the scope of the Clean Water Act.[1] *As of the date of this Note's publication, the Navigable Waters Protection Rule has not yet been published in the Federal Register and will only take effect 60 days after publication in the Federal Register. While the WOTUS rule will soon no longer be in effect, the Note's analysis according to Fourth Circuit precedent and the EPA rule in effect at the time the Fourth Circuit decided Sierra Club v. Virginia Electric & Power Co. may prove useful for citizens or environmental groups seeking to challenge the adequacy of the Navigable Waters Protection Rule. As such, "the new [Navigable Waters Protection Rule] hardly represents the final word on what qualifies as a jurisdictional 'water of the United States.' . . . Lawsuits challenging the 2019 repeal rule and the 2015 Clean Water Rule are both ongoing."*[2] *For example, the Senior Attorney Blanding Holman of the Southern Environmental Law Center (SELC) has stated that should EPA*

1. *The Navigable Waters Protection Rule: Definition of "Waters of the United States" Pre-publication Notice* (Jan. 23, 2020), https://www.epa.gov/sites/production/files/2020-01/documents/navigable_waters_protection_rule_prepbulication.pdf.

2. Marc Bruner et al., *Trump Navigable Waters Rule Bound for Court Challenges* (Jan. 30, 2020), https://www.law360.com/articles/1238927/trump-navigable-waters-rule-bound-for-court-challenges.

finalize the repeal of the 2015 WOTUS rule, the SELC "plan[s] to fight [the EPA and the Department of the Army] with everything [they] have to protect our communities and clean water."[3] *Most notably, a suite of environmental organizations has already filed a notice of intent to sue the EPA for its "2020 Revised Regulatory Definition of 'Waters of the United States'" rule.*[4]

3. *EPA Announces Move to Strip Clean Water Act Protections*, S. ENVTL. L. CTR., https://www.southernenvironment.org/news-and-press/news-feed/white-house-announces-move-to-strip-clean-water-act-protections (last visited Mar. 24, 2020).

4. CTR. FOR BIOLOGICAL DIVERSITY ET AL., FORMAL NOTICE OF INTENT TO SUE FOR VIOLATION OF THE ENDANGERED SPECIES ACT; 2020 REVISED REGULATORY DEFINITION OF "WATER OF THE UNITED STATES" (Jan. 13, 2020).

INTRODUCTION

On September 12, 2018, the United States Court of Appeals for the Fourth Circuit issued a judgment that added another untenable wrinkle in the fabric of groundwater pollution regulation.[5] Since Congress enacted the Federal Water Pollution Control Act (Clean Water Act), federal circuit courts have contemplated the issue of whether groundwater pollution falls under the "navigable water" provision of the Clean Water Act's (CWA)[6]—albeit without tenable guidance. At first blush, groundwater appears distinct from the federally regulated category of navigable waters. Advances in the fields of hydrology and technology, however, have shed significant light on the relationship between groundwater systems[7] and navigable waters.[8] While the traditional definition of navigable waters is itself strained,[9] the Fourth Circuit in *Sierra Club v. Virginia Electric & Power Co.* significantly hindered the rational application of the scope, meaning, and import of the CWA.

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5. Sierra Club v. Va. Elec. & Power Co., 145 F. Supp. 3d 601 (E.D. Va. 2015), aff'd in part, rev'd in part, *Sierra Club v. Va. Elec. & Power Co.*, 903 F.3d 403, 404 (4th Cir. 2018).

6. *Compare* Haw. Wildlife Fund v. Cty. of Maui, 886 F.3d 737, 747 (9th Cir. 2018) (affirming that "an indirect discharge from a point source to a navigable water suffices for CWA liability to attach"), *and* Upstate Forever v. Kinder Morgan Energy Partners, 887 F.3d 637, 651 (4th Cir. 2018) (holding that a "direct hydrological connection between ground water and navigable waters" is necessary to establish a CWA claim), *with* Tenn. Clean Water Network v. Tenn. Valley Auth., 905 F.3d 436, 443–44 (6th Cir. 2018) (rejecting the EPA's hydrological connection theory, specifically finding that groundwater is not governed by the CWA), *and* Ky. Waterways All. v. Ky. Util. Co., 905 F.3d 925, 933 (6th Cir. 2018) (rejecting that the CWA governs pollution from groundwater that reaches surface waters).

7. *See* Peter J. Hancock et al., *Aquifers and Hyporheic Zones: Towards an Ecological Understanding of Groundwater*, 13 HYDROGEOLOGY J. 99-102 (2005) (referencing the value provided by advancements in groundwater ecology).

8. Clean Water Act, 33 U.S.C. § 1362(7) (2018).

9. *See generally* United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 133 (1985) ("[T]he evident breadth of congressional concern for protection of water quality and aquatic ecosystems suggests that it is reasonable for the Corps to interpret the term 'waters' to encompass wetlands adjacent to waters as more conventionally defined.").

At the heart of *Sierra Club v. Virginia Electric & Power Co*. is a fundamental misunderstanding of: (1) the inextricable relationship between groundwater and surrounding hydrological systems; (2) the water cycle as an inherent means of conveyance between point- and nonpoint sources of pollution; and (3) the linear connection between solid waste and its hazardous by-products. *Sierra Club v. Virginia Electric & Power Co.* may have a potentially detrimental influence on the evolution of groundwater regulation at both the state and federal level. In Part I, this Note will offer the factual and legal background of *Sierra Club v. Virginia Electric & Power Co*. In Part II, this Note will argue that the Fourth Circuit should not create an exception to the CWA's protection of groundwater that is hydrologically connected to point-source pollution. In Part III, this Note offers alternative solutions to the judicially inefficient interpretation of the CWA by advocating for amended state legislation for the management of groundwater pollution discharges. Finally, this Note concludes with a summary of the Fourth Circuit's improper interpretation and application of both the CWA and Fourth Circuit precedent and the author's proposed solution to amend state pollution discharge permits.

I. BACKGROUND

A. Factual Background

Appellee, Virginia Electric & Power Company (Dominion) owned and operated a coal-fired power plant in Chesapeake, Virginia.[10] As a result of the coal-combustion, the power plant produced coal ash:[11] a substance currently listed as solid, rather than hazardous, waste under Virginia law.[12] The Virginia Department of Environmental Quality ("VDEQ") permitted Dominion to store its coal ash waste in a landfill on site and in settling ponds.[13] Sometime after issuance of its VDEQ permit, Dominion reported to the agency a level of arsenic in the groundwater near its storage sites that exceeded Virginia's groundwater quality standards.[14] The arsenic was a direct byproduct of rain passing through the coal ash stored in the settling ponds and landfill.[15] Further, the Resource Conservation and Recovery Act

10. *Va. Elec. & Power Co.*, 145 F. Supp. 3d at 603.
11. *Id.*
12. 9 VA. ADMIN. CODE § 20-85-40(C)(1) (2020).
13. Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 405-06 (4th Cir. 2018).
14. *Id.* at 415.
15. *Id.* at 414.

(RCRA) lists arsenic as a hazardous waste.[16] Thus, Dominion's coal ash—currently regulated by states as solid waste—was the means through which arsenic was leaching into the groundwater and eventually, the Elizabeth River and Deep Creek.[17] Three years later, Appellee (Sierra Club) filed a citizen-suit in the District Court for the Eastern District of Virginia alleging that Dominion's unauthorized discharge of arsenic into the groundwater violated the CWA.[18]

B. Procedural Background

At the lower court, the Sierra Club alleged that Dominion had violated the CWA on three separate counts and requested comprehensive injunctive relief and civil penalties.[19] First, the Sierra Club asserted "[Dominion's] coal ash storage facilities were point sources and that arsenic leached from them into the groundwater, which was 'hydrologically connected' to the Elizabeth River and Deep Creek. . . ."[20] The lower court ruled in favor of the Sierra Club on this count, reasoning that the CWA indeed included discharges into groundwater that had a "direct hydrological connection" to navigable waters, thus triggering CWA protection.[21] In Counts Two and Three, the Sierra Club asserted that Dominion had violated two specific sections of its CWA discharge permit—issued by VDEQ—based on the same facts.[22] The lower court rejected Counts Two and Three because it deferred to VDEQ's decision that Dominion's discharge permit did not govern the leached arsenic into the groundwater.[23] For relief, the lower court denied civil penalties and granted limited injunction and required "Dominion to implement a plan in coordination with the VDEQ to address the [arsenic] pollution. . . ."[24]

Dominion then filed an appeal to the Fourth Circuit challenging the limited injunction, following which Sierra Club cross-appealed challenging the deference afforded to VDEQ, the denial of comprehensive injunctive relief, and the failure to award civil penalties.[25] The Fourth Circuit claimed to uphold its precedent and legal test from *Upstate Forever v. Kinder Morgan Energy Partners, L.P.* The legal test in *Upstate Forever* states, "the addition

16. *See* 42 U.S.C. § 6924(d)(2)(B)(i) (2018) (defining concentrations of arsenic and other compounds that create liquid hazardous wastes).
17. *Va. Elec. & Power Co.*, 903 F.3d at 406.
18. *Id.*
19. Sierra Club v. Va. Elec. & Power Co., 145 F. Supp. 3d 601, 603-04 (E.D. Va. 2015).
20. *Va. Elec. & Power Co.*, 903 F.3d at 406.
21. *Id.* at 408.
22. *Va. Elec. & Power Co.*, 145 F. Supp. 3d at 603-04.
23. *Va. Elec. & Power Co.*, 903 F.3d at 409.
24. *Id*.
25. *Id*.

of a pollutant into navigable waters via groundwater can violate [the CWA] if the plaintiff can show a 'direct hydrological connection between [the] groundwater and navigable waters.' "[26]

After affirming the lower court's factual finding in support of the Sierra Club on this issue, the Fourth Circuit then swiftly narrowed *Upstate Forever's* holding by reasoning that "the simple causal link [between groundwater and navigable water] does not fulfill the [CWA] requirement that the discharge be from a point source."[27] The Fourth Circuit then analyzed the CWA's defined terms in application to the facts of the present case. In relying on unrefined dictionary definitions, dispositive case law in other jurisdictions, and binding precedent in direct opposition to its holding, the Fourth Circuit ultimately held that Dominion was not in violation of the CWA because its storage facilities were not conveying arsenic to navigable waters.[28] Last, the Fourth Circuit then affirmed the lower court's denial of civil penalties and issuance of partial injunctive relief on behalf of the Sierra Club.[29]

C. Clean Water Act and Resource Conservation and Recovery Act Jurisdiction

Here, the true disputed pollutant is arsenic. This pollutant is postured at a unique intersection because it derives from coal ash—a substance states, including Virginia, regulate as a solid waste.[30] Further, the CWA governs the regulation of arsenic generally as a hazardous pollutant.[31] As result, the state of Virginia has had the authority to regulate: (1) coal ash leachate—arsenic—as solid wastes that (2) discharge from nonpoint sources of pollution:[32] storage facilities. The distinction the Fourth Circuit established between arsenic and coal ash-derived arsenic thus creates a perverse result.

Facially, Dominion's storage facilities are nonpoint sources of pollution to navigable waters. However, the natural hydrological system of rainfall conveyed the pollutant into the underlying groundwater. The lower court in *Virginia Electric & Power Co*. determined, as a matter of fact, that this groundwater was directly hydrologically connected to the Elizabeth River

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26. *Id.* (quoting Upstate Forever v. Kinder Morgan Energy Partners, 887 F.3d 637, 638 (4th Cir. 2018)).
27. *Id.* at 410.
28. *Id.* at 413.
29. *Id.* at 415.
30. 9 VA. ADMIN. CODE § 20-85-40(C)(1) (2020).
31. 42 U.S.C. § 6921(b)(3)(A) (2018).
32. *Va. Elec. & Power Co.*, 903 F.3d at 407.

and Deep Creek.[33] Together, coal ash-derived arsenic leached into the underlying groundwater, which ultimately discharged into navigable waters.

While Dominion properly submitted a RCRA permit through VDEQ for the discharge of non-hazardous solid waste (e.g. coal ash), Dominion should have been required to stricter regulation under the CWA given that the operative pollutant is arsenic. To illustrate this point, the Agency for Toxic Substances and Disease Registry has ranked arsenic as the top priority pollutant at Superfund sites on the National Priorities List since 1997.[34] Superfund sites are areas within the U.S. that are contaminated "due to hazardous waste being dumped, left out in the open, or otherwise improperly managed."[35] The top priority substances are determined "based on a combination of their frequency, toxicity, and potential for human exposure."[36] While Dominion's power plant is not a Superfund site, the power plant facility is located less than five miles from a Superfund site.[37] Thus, proper permitting systems and judicial interpretation of the CWA are imperative given the degree of severity that arsenic poses to human and environmental health, especially within the Chesapeake, Virginia area.

33. *Id.* at 408.

34. *See ATSDR's Substance Priority List*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, https://www.atsdr.cdc.gov/spl/index.html#2019spl (last visited Mar.15, 2020) (listing, in order of priority, substances that most threaten human health according to the substances' known or suspected toxicity).

35. *What is Superfund*?, https://www.epa.gov/superfund/what-superfund (last visited Feb. 3, 2019).

36. *ATSDR's Substance Priority List*, *supra* note 34.

37. *See generally St. Juliens Creek Annex (U.S. Navy) Chesapeake, VA*, https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=0302852#bkground (last visited Feb. 2, 2020) (summarizing the historical backdrop, clean-up activities, and current status of the St. Juliens Creek Annex Superfund Site).

II. ARGUMENT

A. The Fourth Circuit Should Not Create an Exception to the CWA's Protection of Groundwater that is Hydrologically Connected to Point Source Pollution

1. Recent Judicial Interpretation of "Waters of the United States" Demonstrates that Groundwater is not Categorically Excluded from of the Scope of the CWA

In 1972, the CWA expanded and amended the Federal Water Pollution Control Act of 1948.[38] The CWA's objective is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[39] While seemingly innocuous, the term "Nation's waters" has been a fulcrum of great debate in the United States' judiciaries, specifically within the arena of water and land-use regulation. For example, in 2015, the Obama Administration issued a "Waters of the United States Rule" (Clean Water Rule) that was "designed to limit pollution in about 60 percent of the nation's bodies of water."[40] The Clean Water Rule signaled a national commitment to restore protection of the Nation's waters, as originally intended in the CWA.[41] After the Trump administration took office, however, former Environmental Protection Agency (EPA) Director Scott Pruitt suspended the Clean Water Rule.[42] A federal judge later determined that this action violated the Administrative Procedure Act because the Trump Administration failed to take public comments on the then–proposed suspension.[43] As result, twenty-six states still apply the Clean Water Rule. While the Clean Water Rule articulates the scope and import of the CWA to protect "seasonal streams, lakes, and wetlands," the backdrop to the Clean Water Rule offers invaluable insight into the history of the CWA's judicial interpretation.[44]

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38. *Summary of the Clean Water Act*, https://www.epa.gov/laws-regulations/summary-clean-water-act (last visited Mar. 19, 2020).

39. 33 U.S.C. § 1251(a) (2018).

40. Coral Davenport, *E.P.A. Blocks Obama-Era Clean Water Rule* (Jan. 31, 2018), https://www.nytimes.com/2018/01/31/climate/trump-water-wotus.html.

41. *See generally Clean Water Rule*, NAT. RES. DEF. COUNCIL, https://www.nrdc.org/court-battles/clean-water-rule (last updated Jan. 23, 2020) (highlighting the Clean Water Rule's role in protecting drinking water, streams, and wetlands).

42. Jackie Flynn Mogensen, *Scott Pruitt Suspends Obama-Era Clean Water Rule for Two Years* (Feb. 1, 2018), https://grist.org/article/scott-pruitt-suspends-obama-era-clean-water-rule-for-two-years/.

43. S.C. Coastal Conservation League v. Pruitt, 318 F. Supp. 3d 959, 963-68 (D.S.C. 2018).

44. *See* Heather Smith, *So WOTUS is Legal. Now What?* (Sept. 26, 2018), https://www.sierraclub.org/sierra/so-wotus-legal-now-what-clean-water-rule-climate-change (describing and relating *Rapanos* to the 2015 Clean Water Rule).

While the term "waters of the United States" has been widely debated in the U.S. judiciaries, the Trump administration recently added a new wrinkle to the term's definition. On December 11, 2018, the Trump Administration issued a proposed "Waters of the U.S." rule that would significantly narrow the scope of the CWA.[45] Under the new proposed rule, wetlands and ephemeral and intermittent streams would no longer receive protection under the CWA. Critics of the proposed rule suggest it would severely restrict "federal oversight of resources that cleanse pollution, buffer storms and provide wildlife habitat."[46] However, the proposed rule is not yet final, so the Obama-era Clean Water Rule still stands. As is, the Clean Water Rule reflects a culmination of in-depth scientific and legal research.[47]

Justice Kennedy's opinion in the seminal Supreme Court case, *Rapanos v. United States*, largely molded the Clean Water Rule.[48] The *Rapanos* plurality opinion partially answered the question of what the terms "waters of the United States" and "navigable waters" mean under the CWA.[49] In *Rapanos*, Petitioner John Rapanos challenged the lower court decision that Michigan wetlands were within the scope of CWA protection.[50] The EPA had sued Mr. Rapanos for failing to procure the necessary CWA permits to fill in these wetlands to build a shopping mall in their place.[51] Writing for the plurality, Justice Scalia relied on prior Supreme Court precedent from both *United States v. Riverside Bayview Homes, Inc*. and *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* in determining that the definition of "waters of the United States" under the CWA includes only:

> those relatively permanent, standing or continuously flowing bodies of water 'forming geographic features' that are described in ordinary parlances as 'streams, 'oceans, rivers [and] lakes,' . . . and does not include channels through which water flows intermittently or

45. Ariel Wittenberg, *How Does Trump Compare to Obama on WOTUS?* (Dec. 12, 2018), https://www.eenews.net/stories/1060109451.

46. *Id*.

47. *Efforts Underway to Repeal and Replace the 2015 Clean Water Rule,* N. AM. LAKE MGMT. SOC'Y (Aug. 15, 2017), https://www.nalms.org/efforts-underway-to-repeal-and-replace-the-2015-clean-water-rule/.

48. *See generally* Rapanos v. United States, 547 U.S. 715 (2006) (determining the scenarios when wetlands are covered by the Clean Water Act).

49. *See id.* at 716 (defining "waters of the United States" and "navigable waters" as "only those relatively permanent, standing or continuously flowing bodies of water 'forming geographic features' that are described in ordinary parlance as 'streams,' 'oceans, rivers, [and] lakes'").

50. *Id.* at 729-30.

51. *Id.* at 763-65 (Kennedy, J., concurring).

> ephemerally, or channels that periodically provide drainage for rainfall.[52]

In arriving at his definition of "waters of the United States," Justice Scalia relied heavily on the use of dictionary definitions, rather than the Congressional Record.[53] Relying on dictionary definitions here arguably inflicts a large disservice to the complex nature both of hydrology and the import of the CWA. While the plurality opinion ultimately concluded that the disputed wetlands were outside of the scope of the U.S. Army Corps of Engineers' (ACE) permitting jurisdiction under the CWA, the plurality nonetheless held that wetlands adjacent to traditionally navigable waters could be within ACE's CWA jurisdiction.[54] Justice Kennedy opined in his concurrence that the regulation of the disputed wetlands under the CWA was outside of the scope of ACE's permitting jurisdiction.[55] However, Justice Kennedy reasoned that the general ACE permitting jurisdiction of wetlands must be over those that have a "significant nexus" to the traditionally navigable-in-fact waters of the United States.[56] Because Justice Kennedy was the sole concurrence, the Obama Administration relied on Justice Kennedy's rationale in shaping the Clean Water Rule.[57] Thus, understanding the holding of *Rapanos* is essential in identifying the lack of clear judicial consensus of the meaning of the term "waters of the United States" in relation to the reach of the CWA. Though *Rapanos* analyzed the CWA's application to wetlands, the broader tests identified therein stand to minimally suggest that groundwater is not categorically excluded from CWA protection.

The "significant nexus" test Justice Kennedy articulated in his *Rapanos* concurrence provides a necessary lens through which to evaluate the Fourth Circuit's judgment in *Virginia Electric & Power Co.* As such, the CWA

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52. *Id.* at 716; *see generally* Solid Waste Agency of N. Cook Cty v. U.S. Army Corps of Eng'rs., 531 U.S. 159, 159 (2001) [hereinafter SWANCC], (holding that the Army Corps of Engineers had exceeded its authority in extending the definition of "waters of the United States" to include waters that are habitat for migratory birds); *see also* United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 133 (1985) (noting that the term 'navigable' is of 'limited import' and that Congress evidenced its intent to 'regulate at least some waters that would not be deemed "navigable under [that term's] classical understanding"').

53. Mark A. Ryan, *Turtles All the Way Down: Justice Scalia and the Clean Water Act* (Nov. 1, 2016), https://www.americanbar.org/groups/environment_energy_resources/publications/trends/2016-2017/november-december-2016/turtles_all_the_way_down/.

54. *Rapanos*, 547 U.S. at 742.

55. *Id.* at 779-84 (Kennedy J., concurring).

56. Wade Foster, *Parsing Rapanos*, HARVARD ENVTL. L. REV. SYNDICATE (Apr. 7, 2018), https://harvardelr.com/2018/04/07/2642/.

57. *See* Ariel Wittenberg, *With Kennedy's Exit, Tide Turns on Clean Water Rule* (June 28, 2018), https://www.eenews.net/greenwire/2018/06/28/stories/1060087265 (explaining how the Obama administration designed the Clean Water Rule around Justice Kennedy's sole concurrence in *Rapanos* to ensure the "swing" vote would side with the administration is now gone the tables are turning).

governs a body of water if the water "either alone or in combination with similarly situated lands in the region, significantly affects the chemical, physical, and biological integrity" of traditionally navigable waters.[58] In *Virginia Electric & Power Co.*, the disputed water was the groundwater under Dominion's coal-ash landfills and settling ponds.[59] Though the operative issue in *Virginia Electric & Power Co*. was whether arsenic derived from coal ash triggers CWA protection,[60] Justice Kennedy's "significant nexus" test is critical to apply in first determining whether the groundwater polluted under Dominion's storage facilities falls under CWA's "waters of the United States."

The groundwater in dispute ultimately feeds into the Elizabeth River and Deep Creek in Chesapeake, Virginia. The lower court established, as a matter of fact, that the discharged arsenic from Dominion's coal-ash storage facilities indeed entered into these rivers via groundwater.[61] Moreover, the Fourth Circuit implicitly answered whether Justice Kennedy's "significant nexus" test applied in the given case.[62] As such, in *Upstate Forever*, the Fourth Circuit held that "the addition of a pollutant into navigable waters via groundwater can violate [the CWA] if [a] plaintiff can show a 'direct hydrological connection' between the ground water [sic] and navigable waters."[63]

The *Upstate Forever* test is highly reminiscent of Justice Kennedy's "significant nexus" test. The *Upstate Forever* test contemplates the ecological nature of traditionally navigable waters and the natural hydrological cycles between groundwater and surface water.[64] Both tests are arguably satisfied in *Virginia Electric & Power Co.* because the lower court found, as a matter of fact, that the arsenic in the nearby (traditionally navigable) waters was a direct result of pollutant discharge from Dominion's coal-ash storage facilities.[65] The groundwater beneath Dominion's storage facilities migrated into the traditionally navigable waters of the Elizabeth River and Deep Creek, which carried with it the arsenic pollution.[66] The coal ash leachate from Dominion's facilities, in combination with the natural processes of rainfall through the storage facilities,[67] significantly affected the

58. *Rapanos*, 547 U.S. at 780 (Kennedy J., concurring).
59. Sierra Club v. Va. Elec. & Power Co., 145 F. Supp. 3d 601, 603, 607 (E.D. Va. 2015).
60. Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 409 (4th Cir. 2018).
61. *Va. Elec. & Power Co.*, 143 F. Supp. 3d at 607.
62. *Va. Elec. & Power Co.*, 903 F.3d at 409-10.
63. *Id.* at 409.
64. *Id.*
65. *Va. Elec. & Power Co.*, 145 F. Supp. 3d at 607.
66. *Id.*
67. *See* AMRIKA DEONARINE ET AL., U.S. GEOLOGICAL SURVEY, TRACE ELEMENTS IN COAL ASH 1 (2015) (explaining that "[c]oal ash generated from coal combustion is collected and stored or reused for

chemical integrity of the Elizabeth River and Deep Creek. The groundwater in question thus bears a significant hydrological connection to the bodies of water that received Dominion's arsenic pollution.

Neither Dominion nor the Fourth Circuit disagreed with the lower court's determination that there was a significant hydrological connection between the groundwater and the identified bodies of water into which the arsenic pollution ultimately discharged. The remainder of the Fourth Circuit's analysis in *Virginia Electric & Power Co.*, however, seemingly abandoned the established principle that groundwater pollution can trigger CWA protection if it satisfies the "significant nexus" test. The Fourth Circuit's flawed analysis of arsenic as a regulated toxic pollutant under the EPA's CWA jurisdiction will be discussed next in this Note.

2. Coal Ash-Derived Arsenic is a Toxic Pollutant Under 40 C.F.R. § 401.15

Both the EPA and states share authority under the CWA to administer § 402 discharge permits.[68] Section 402 of the CWA governs the National Pollutant Discharge Elimination System (NPDES) program that requires any polluter to obtain a permit for the "discharge of any pollutant."[69] Under the CWA, discharge of any pollutant means "any addition of any pollutant into navigable waters from any point source."[70] As previously discussed, "navigable waters" means "waters of the United States."[71] Though the lower court in *Virginia Electric & Power Co.* found that the discharged arsenic had leached from Dominion's coal ash, Dominion did not have to apply for a § 402 discharge permit because the storage facilities were not point sources under the CWA.[72] Therein lies one of the largest flaws in the § 402 permitting system as it currently exists.

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other purposes," and that "[p]recipitation (rain and snow) can lead to water infiltration through the ash into groundwater aquifers, soil, lakes, and rivers." Further, "[i]n the United States, coal ash is currently disposed of in ash impoundments or landfills. Storage or disposal of large volumes of coal ash in suitably engineered and monitored impoundments or landfills is costly and may be limited by near-site storage capacities. Long-term storage of coal ash can cause pollution because water infiltration (from rain or snow) combined with leaky storage sites may transport coal ash and its constituent elements into the local environment. If ash impoundments fail, there is potential for widespread and prolonged impacts such as impairment of ecosystem functions and the loss of plant and animal life and habitat.").

68. *See NPDES State Program Authorization Information*, https://www.epa.gov/npdes/npdes-state-program-information (last visited Mar. 23, 2020) (outlining how states can submit applications for EPA authorization to administer the NPDES program).

69. 33 U.S.C. § 1342(a)(1) (2018).

70. *Id.* § 1362(12).

71. *Id.* § 1362(7).

72. *See* Sierra Club v. Va. Elec. & Power Co., 247 F. Supp. 3d 753, 755 (E.D. Va. 2017) (acknowledging discharge of arsenic from Dominion's facility).

Because the EPA does not currently list coal ash as a toxic pollutant under the CWA,[73] Dominion did not need to obtain a § 402 permit for its coal ash storage facilities. Instead, the Resource Conservation and Recovery Act (RCRA) required, and Virginia's Department of Environmental Quality (VDEQ) issued, Dominion a solid-waste permit.[74] The CWA does not directly govern coal ash storage facilities because the EPA has classified coal ash as "nonhazardous waste."[75] Consequently, coal ash storage facilities are regulated by RCRA and "remain 'primarily the function of State, regional, and local agencies' with the 'financial and technical assistance and leadership' of federal authorities."[76] The state of Virginia, for example, has volitionally elected to implement permitting programs under both the CWA and RCRA.[77] Thus, § 402 permitting considerations did not directly factor into Dominion's requires permits for the discharge of coal ash.

For its coal ash-settling ponds, Virginia's Waste Management Act (WMA) required Dominion to obtain and adhere to VDEQ's pollutant discharge system.[78] Though the WMA implements the EPA's "minimum national criteria" for coal ash sites, VDEQ retains primary authority for issuing WMA pollutant discharge permits.[79] Dominion was required to obtain a VDEQ-issued RCRA solid-waste permit for its coal ash landfill.[80] Pursuant to its RCRA permit, Dominion was required to "monitor the groundwater on the peninsula" adjacent to its storage facility.[81] Taken together, VDEQ had near-exclusive authority over Dominion's permits for its coal ash storage facilities. In compliance with its permit conditions, Dominion discovered that its coal ash storage facilities were discharging arsenic into the groundwater in excess of Virginia's groundwater protection

73. *See generally* 40 C.F.R. § 401.15 (2018) (listing toxic pollutants under the effluent standards and guidelines).

74. *See generally id.* § 257 (2018) (describing which solid waste disposal facilities and practices are subject to RCRA); *id.* § 261.4 (listing exclusions from solid waste classification); Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 407 (4th Cir. 2018) (discussing the permitting duties of VDEQ under the Clean Water Act and RCRA).

75. 40 C.F.R. §§ 257, 261.4 (2018); *see also* Jonathan Kaminsky, *Coal Ash is Not Hazardous Waste Under U.S. Agency Rules*, REUTERS: SUSTAINABILITY (Dec. 19, 2014), https://in.reuters.com/article/us-usa-power-coalash/coal-ash-is-not-hazardous-waste-under-u-s-agency-rules-idINKBN0JX15X20141220 (discussing that the EPA relegates authority to regulate coal ash under RCRA).

76. *Va. Elec. & Power Co.*, 903 F.3d at 407; *see* 42 U.S.C. § 6901(a)(4) (2018) (outlining jurisdictional responsibility for collecting and disposing solid waste).

77. *See* VA. CODE ANN. § 62.1-44.5 (West 2020) (enacting permitting program under CWA); *id.* § 10.1-1400 (West 2020) (enacting permitting program under RCRA).

78. *Va. Elec. & Power Co*., 903 F.3d at 407.

79. *Id.*

80. *Id.*

81. *Id.* at 408.

standards.[82] Dominion then reported the arsenic groundwater pollution to VDEQ and submitted a "corrective plan," which VDEQ approved roughly six years thereafter.[83] In 2016, Dominion submitted a "closure plan and post-closure plan" for its coal ash storage facilities.[84] Shortly thereafter, the Sierra Club filed a citizen-suit under § 1365 of the CWA.[85] The progression of Dominion's arsenic discharge demonstrates the fundamental flaw in coal ash regulation.

First, arsenic leached from the coal ash deposited by Dominion into its storage facilities. Though Dominion complied with its pollutant discharge permits, the issue here spans further than what the Fourth Circuit held in *Virginia Electric Power & Co.* Given the threat arsenic poses to both human and environmental health, the EPA should directly regulate coal ash leachate under its CWA authority. To better illustrate this point, the EPA's CWA regulations currently list arsenic as a toxic pollutant.[86] Together with the EPA final rule listing coal ash as a "nonhazardous waste," courts like the Fourth Circuit in *Virginia Electric Power & Co.* have made a difference without distinction between arsenic and coal ash-derived arsenic.

Arsenic and arsenic compounds are carcinogenic substances that can either be inorganic or organic.[87] Moreover, the Centers for Disease Control and Prevention reports that "exposure to high levels of inorganic arsenic in drinking water is associated with . . . skin disorders, an increased risks for diabetes, high blood pressure, and several types of cancer."[88] The arsenic that leached from Dominion's coal ash storage facilities was inorganic, as it was not naturally occurring in the groundwater below and nearby Dominion's storage facilities.[89] Given the threat that arsenic poses to both human and environmental health and safety, regulatory agencies and courts should more closely examine the relationship between coal ash and inorganic arsenic, specifically within the scope of groundwater regulation. In *Virginia Electric Power & Co.*, the Fourth Circuit wholly deferred to the established EPA rule that coal ash is a nonhazardous waste.[90] This was a proper interpretation of

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82. *Id.*
83. *Id.*
84. *Id.*
85. *Id.*
86. *See generally* 40 C.F.R. § 401.15 (2018) (listing toxic pollutants under the effluent standards and guidelines).
87. *Arsenic Factsheet*, CTR. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/biomonitoring/Arsenic_FactSheet.html (last reviewed Apr. 7, 2017).
88. *Id.*
89. *Va. Elec. & Power Co.*, 903 F.3d at 411 (describing the arsenic pollution from Dominion's storage facilities).
90. *See id.* at 407 (deferring to "RCRA" and how it classifies coal ash facilities as nonhazardous).

the EPA rule, as well as VDEQ's permitting system under the CWA and RCRA. This comment argues, however, that the judiciary would not be legislating from the bench to simply highlight the glaring inconsistency between arsenic and coal ash-derived arsenic regulation.

While the EPA identifies arsenic as a toxic pollutant, the classification somehow disappears altogether when arsenic is a by-product of coal ash.[91] Therein lies the fatal difference without distinction. The EPA and some judiciaries have conveniently couched coal ash as distinct from hazardous waste, yet coal ash often serves as the starting point for other highly hazardous wastes like arsenic and other toxic metals.[92] Though coal ash and arsenic are distinct from one another in isolation, the Fourth Circuit improperly overlooked the genesis of such inorganic arsenic in the nation's groundwater: coal ash.

The coal ash from Dominion's power plant resulted from the combustion of coal to produce energy.[93] Burning coal creates waste that can include "fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) sludge."[94] Dominion deposited this industrial waste in two common facilities for coal ash storage: (1) landfills and (2) wet settling ponds.[95] Ordinarily, composite liners below landfills and settling ponds prevent leachate releases[96] from coal ash from entering the underlying soil and groundwater. Composite liners can "include a flexible membrane . . . overlaying two feet of compact clay soil lining the bottom and sides" of storage facilities.[97] Composite liners, though

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91. *See* Jay Crowder, *Notice to SCOTUS: Coal Ash Should Be a Point Source Discharge Under the Clean Water Act*, 19 VT. J. ENVTL. L. 89, 91 (2018) (explaining the CWA treats coal ash as a nonpoint source, preventing the CWA from directly regulating it).

92. *See Water & Food Supply,* SIERRA CLUB: BEYOND COAL, https://coal.sierraclub.org/the-problem/water-food-supply (last visited Mar. 2, 2020) (describing the dangers of coal ash waste and toxins disposed by coal plants).

93. Jessica Lienau, *Coal Ash Waste: A History of Legislative Inaction*, 14 PUB. INT. L. REP. 141, 142 (2009).

94. Ethan Goemann, *Surveying the Threat of Groundwater Contamination from Coal Ash Ponds*, 25 DUKE ENVTL. L. & POL'Y F. 427, 428 (2015) (citing LINDA LUTHER, CONG. RESEARCH SERV., REGULATING COAL COMBUSTION WASTE DISPOSAL: ISSUES FOR CONGRESS 22 (2010) [hereinafter REGULATING COAL COMBUSTION WASTE DISPOSAL] (defining fly ash as "a product of burning finely ground coal in a boiler to produce electricity . . . consist[ing] of mostly silt-sized and clay-sized glassy spheres;" FGD material as a product of the "chemical process implemented in order to meet emission requirements in the Clean Air Act applicable to sulfur dioxide . . . [that] may be a wet sludge or a dry powder;" bottom ash as "a coarse, gritty material . . . too large to be carried in flue gases;" and boiler slag as a "type of ash that collects at the base of certain furnaces that are quenched with water [and then] fracture, crystallize, and form pellets")).

95. *Va. Elec. & Power Co.*, 903 F.3d at 406; *see also* PHYSICIANS FOR SOCIAL RESPONSIBILITY, COAL ASH: HAZARDOUS TO HUMAN HEALTH 1 (2010) (describing options for coal ash storage).

96. *Municipal Solid Waste Landfills*, https://www.epa.gov/landfills/municipal-solid-waste-landfills (last visited Feb. 7, 2020). Leachate is "formed when rain water [sic] filters through wastes placed in a landfill." *Id.* "When the liquid comes into contact with buried wastes, it leaches, or draws out, chemical or constituents from those wastes." *Id.*

97. *Id.*

not wholly preventative, are critical barriers that mitigate the entrance of coal ash leachate from entering into the underlying groundwater. In 2010, however, the EPA published survey data regarding coal-combustion-waste-disposal units and reported "36% of responding states do not have minimum liner requirements for landfills, 67% do not have liner requirements for surface impoundments, 19% of the responding states do not have minimum groundwater monitoring for landfills, and 61% do not have minimum groundwater monitoring for surface impoundments."[98]

Prior to 2015, the EPA did not require composite liners for coal-combustion landfills and settling ponds,[99] which left groundwater–and hydrologically connected navigable waters–largely exposed to coal ash-leachate pollution. The EPA promulgated a final rule titled the "Disposal of Coal Combustion Residuals from Electric Utilities," which, in part, set national minimum criteria requirements for lining coal combustion waste disposal facilities.[100] The EPA specified that RCRA Subtitle D confers the statutory authority for this rule, which governs hazardous solid waste management and disposal.[101] The rule applies to all new and existing coal combustion waste landfills and settling ponds.[102] While the minimum criteria requirements for composite liners appear to be a step in the right direction, the EPA "proposed this option to be a self-implementing rule with no direct federal oversight."[103]

Under the rule, Dominion should have installed retrofitted composite liners on its coal ash landfill and settling pond at its Chesapeake site. While Dominion's facilities were well over 60 years old at the time the Sierra Club filed suit, Dominion did not line either of their facilities under the Disposal of Coal Combustion Residuals from Electric Utilities final rule.[104] Dominion was able to continue polluting the underlying groundwater beneath the facilities largely because of the "self-implementing" nature of the rule. Consequently, Dominion's coal ash leachate had percolated into the underlying groundwater with no barrier for over half a century and ultimately discharged into the Elizabeth River and Deep Creek. In a larger context, Dominion's pollution of the Elizabeth River and Deep Creek evinces that–while theoretically significant–the Disposal of Coal Combustion Residuals from Electric Utilities final rule lacks enforceable teeth. Without federal

98. REGULATING COAL COMBUSTION WASTE DISPOSAL, *supra* note 94, at 9.

99. *See* Disposal of Coal Combustion Residuals from Electric Utilities, 80 Fed. Reg. 21,301, 21,306 (Apr. 17, 2015) (adding new coal ash landfill requirements, including composite liners).

100. *Id.*

101. 40 C.F.R. §§ 261.30–261.35 (2020).

102. Disposal of Coal Combustion Residuals from Electric Utilities, 80 Fed. Reg. at 21,303.

103. *Id.*

104. Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 405 (4th Cir. 2018); 40 C.F.R. §§ 257, 261 (2020).

oversight, electrical power plants like Dominion can easily evade the national minimum criteria requirements for composite liners promulgated by the EPA.

3. Coal Ash Settling Ponds Qualify as Point Sources of Pollution Because Rainfall is a Valid Means of Conveyance Under the CWA

In order for Dominion to be liable under the CWA, the Sierra Club would have had to prevail on its argument that Dominion's coal ash storage facilities constituted "point sources" under the CWA. Within the CWA, the definition of point sources is "discernable, confined, and discrete conveyance[s]."[105] The operative, but complex, issue the Fourth Circuit answered in *Virginia Electric & Power Co.* was whether Dominion's storage facilities constituted point sources because "they allow[ed] precipitation to percolate through them to the groundwater, which then carries arsenic to navigable waters."[106] Thus, the issue equally turns on whether rainwater—an immutable and natural hydrological cycle of water—constitutes a conveyance of arsenic from either a landfill, settling pond, or both.

The Fourth Circuit agreed with Dominion's contention that both landfills and settling ponds are not within the CWA's statutory definition of point sources.[107] In arriving at its conclusion, the Fourth Circuit articulated a seemingly result-oriented rationale, offering that:

> while arsenic from the coal ash stored on Dominion's site was found to have reached navigable waters–having been leached from the coal ash by rainwater and groundwater and ultimately carried by groundwater into navigable waters–that simple causal link does not fulfill the Clean Water Act's requirement that the discharge be *from a point source*.[108]

The Fourth Circuit, however, failed to analyze each storage facility against the CWA definition of point sources. Specifically, CWA point sources include, but are "not limited to[,] any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft."[109] While the Fourth Circuit may be narrowly correct in determining that Dominion's coal ash landfill is not a

105. 33 U.S.C. § 1362(14) (2018).
106. *Va. Elec. & Power Co.*, 903 F.3d at 410.
107. *Id.* at 411.
108. *Id.* at 410 (emphasis in original).
109. 33 U.S.C. § 1362(14).

point source of pollution, it did not separately analyze Dominion's settling ponds with the meaning of the CWA.

A coal ash-settling pond, which functions as an impoundment for wet coal ash, falls squarely within the definition of a "container" under the CWA. Settling ponds collect pollutants in a singular location. By failing to analyze the nature of settling ponds, the Fourth Circuit prematurely concluded that settling ponds are categorically excluded from the CWA's point source definition.[110] The Fourth Circuit then relied on dictionary definitions of the term "conveyance" to conclude that the storage facilities do not constitute point sources simply because they "were not created to convey anything and did not function in that manner."[111]

Similar to Justice Scalia's plurality opinion in *Rapanos*, dictionary definitions in groundwater law contexts are insufficient to properly analyze the meaning and import of the CWA. Put simply, neither hydrologists nor the drafters of the CWA contributed to definitions within Webster's dictionary—used both in *Rapanos* and *Virginia Electric Power & Co*.[112] Courts must, therefore, exercise tailored discretion in relying on dictionary definitions of the term "conveyance." In *Virginia Electric Power & Co.*, Dominion's coal ash-settling ponds indeed conveyed arsenic into the underlying groundwater via rainfall percolation, as evidenced by Dominion's own admission.[113]

The Fourth Circuit oversimplified the complex nature of the relationship between diffused arsenic and rainfall percolation. The settling pond was not a static recipient of rainfall. Rather, both the settling pond and the landfill were active conveyances of arsenic through the concentrations of coal ash on the facilities' surfaces. The following section will evaluate the hydrological connection between groundwater and surface water as it relates to the percolation of diffuse-arsenic pollution.

110. *Va. Elec. & Power Co.*, 903 F.3d at 410–11.

111. *Id.* at 411.

112. *See id.* at 410-11 (citing Webster's Dictionary); Rapanos v. United States, 547 U.S. 715, 716 (2006) (citing Webster's Dictionary).

113. *Va. Elec. & Power Co.*, 903 F.3d at 410.

B. The Fourth Circuit Improperly Ignored the Relationship Between Groundwater and Surface Water

1. The Transfer of Arsenic from Groundwater to Nearby Surface Waters Demonstrates the Natural Network of Water Migration Between Groundwater and Nearby Surface Waters

The difference the Fourth Circuit drew between point and nonpoint sources of pollution is grounded in a narrow legal interpretation that ignores scientific evidence. The United States Geological Survey (USGS) reports:

> Ground-water chemistry and surface-water chemistry cannot be dealt with separately where surface and subsurface flow systems interact. The movement of water between ground water and surface water provides a major pathway for chemical transfer between terrestrial and aquatic systems. . . . This transfer of chemicals affects the supply of carbon, oxygen, nutrients such as nitrogen and phosphorus, and other chemical constituents that enhance biogeochemical processes on both sides of the interface. This transfer can ultimately affect the biological and chemical characteristics of aquatic systems downstream.[114]

Groundwater migrates to surface waters via the hydrologic cycle.[115] The hydrologic cycle "describes the continuous movement of water on, above, and below the surface of the Earth."[116] Though the hydrologic cycle does not have a discernable beginning or end, precipitation is often the first step addressed in describing this continuous cycle.[117]

When precipitation (rain, snow, and hail) falls onto the Earth's surface, the water infiltrates the soil, and the relative speed at which this occurs depends largely on the character and properties of the soil type.[118] When precipitation completely saturates the soil, water migrates from the "unsaturated zone to the saturated zone, replenishing or recharging the

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114. *Natural Processes of Ground-Water and Surface-Water Interaction*, U.S. GEOLOGICAL SURVEY., https://pubs.usgs.gov/circ/circ1139/htdocs/natural_processes_of_ground.htm (last modified Nov. 23, 2016).

115. U.S. ENVTL. PROT. AGENCY, GROUNDWATER 2-3 [hereinafter EPA GROUNDWATER SUMMARY], https://www.epa.gov/sites/production/files/documents/groundwater.pdf.

116. *The Water Cycle for Adults and Advanced Students*, U.S. GEOLOGICAL SURVEY, https://www.usgs.gov/special-topic/water-science-school/science/water-cycle?qt-science_center_objects=0#qt-science_center_objects (last visited Feb. 2, 2020).

117. EPA GROUNDWATER SUMMARY, *supra* note 115, at 2.

118. *Id.*

groundwater."[119] Water then migrates into the groundwater discharge areas.[120] For purposes of this discussion, the character of the soil beneath Dominion's coal-combustion waste facilities is inapposite because the trial court determined, as a matter of fact, that Dominion's coal ash leachate caused the heightened levels of arsenic in nearby surface waters.[121] The Elizabeth River and Deep Creek were the points of receipt—the discharge areas[122]—for Dominion's coal ash leachate. As such, the leachate migrated from the underlying groundwater beneath Dominion's storage facilities into those nearby surface waters. This process began with natural precipitation: rainfall.

By failing to address that rainfall is an immutable part of the natural hydrologic cycle, the Fourth Circuit in *Virginia Electric & Power Co.* improperly ignored how Dominion's coal ash storage facilities conveyed the leachate into the underlying groundwater. Rainfall percolation can cause arsenic—among a variety of other coal ash constituents—to leach into the soil underlying coal ash storage facilities. As previously discussed, Dominion's coal ash storage facilities were unlined, which allowed the coal ash leachate to migrate freely into the underlying soil and groundwater. This conveyance thus began with the historic rainfall that saturated both of Dominion's storage facilities that contained coal ash for over 60 years.[123] Further, because Dominion failed to implement composite liners beneath its storage facilities, the migration of the coal ash leachate was arguably inevitable. The nature of rainfall as the relevant starting point for this pollution process buttresses the argument that Dominion's storage facilities are well within the meaning of "discernable, confined, and discrete conveyance[s]."[124] The Fourth Circuit in *Virginia Electric & Power Co.* narrowly avoided this result by disregarding both: (1) the chemical transfer of arsenic from groundwater to nearby surface waters and (2) the natural network of water migration.

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119. *Id.* at 3.

120. *Id.*

121. Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 410 (4th Cir. 2018).

122. *See* EPA GROUNDWATER SUMMARY, *supra* note 115, at 3 (describing interface between ground and surface waters at discharge areas).

123. *Va. Elec. & Power Co.*, 903 F.3d at 405, 410.

124. 33 U.S.C. § 1362(14) (2018).

III. ALTERNATIVE SOLUTIONS

A. A Recent Supreme Court Order Suggests the Supreme Court may Soon Decide the Scope of the CWA Regarding Groundwater Pollution

The defendants in both *Upstate Forever*[125] and *Hawai'i Wildlife Fund v. County of Maui* (*Hawai'i Wildlife Fund*)[126] submitted petitions for writs of certiorari to the Supreme Court to review the Fourth and Ninth Federal Circuit Courts of Appeals' holdings that the CWA "applies to groundwater pollution that reaches navigable waters, if the pollution can be sufficiently traced back to an identifiable 'point source' such as a pipeline, disposal well or drain."[127]

On December 3, 2018, the Supreme Court requested of the federal government to file a brief no later than January 4, 2019 detailing the United States' opinion(s) on the issues presented by *Upstate Forever* and *Hawai'i Wildlife Fund*.[128] On January 3, 2019, the Solicitor General filed a brief, which recommended that the Supreme Court hear the *Hawai'i Wildlife Fund* petition while holding the Upstate Forever petition.[129] The Court maintains the ability to hear one, both, or neither of the aforementioned cases,[130] and the deadline imposed on the Solicitor General suggests that the Court may intend to decide these cases before the end of the current term.[131] Until the Court issues a decision, however, Virginia should adopt state legislation that covers permitting systems for the migration of coal ash from groundwater into surface waters.

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125. *See generally* Upstate Forever v. Kinder Morgan Energy Partners, 887 F.3d 637 (4th Cir. 2018) (identifying Kinder Morgan Energy Partners, L.P. as the defendant who submitted the petition).

126. *See generally* Haw. Wildlife Fund v. Cty. of Maui, 886 F.3d 737 (9th Cir. 2018), *petition for cert. filed* (U.S. Aug. 27, 2018) (NO. 18-260) (identifying County of Maui as the petitioner).

127. Barbara Grzincic, *Supreme Court Seeks U.S. Views in Two Clean Water Act Cases* (Dec. 5, 2018), https://uk.mobile.reuters.com/article/amp/idUSL1N1YA0J1.

128. Ellen M. Gilmer, *Groundwater's Muddy Legal History Under the Clean Water Act* (Dec. 4, 2018), https://www.eenews.net/stories/1060108689.

129. *See* Dianne R. Phillips, *Solicitor General Tells SCOTUS EPA Poised to Act on CWA Comments* (Jan. 9, 2019), https://www.lexology.com/library/detail.aspx?g=d00cf8d9-23c8-4e18-949c-8bafaf7cffb4 (discussing the Solicitor's recommendation); *see generally* Brief for the United States as Amicus Curiae, Vided, Cty. of Maui v. Haw. Wildlife Fund, No. 18-260, Kinder Morgan Energy Partners v. Upstate Forever, No. 18-268 (Cty. of Maui v. Haw. Wildlife Fund argued Nov. 6, 2019) (containing Solicitor General's recommendation).

130. *See* Gilmer, *supra* note 128 (discussing the circuit split and the potential role of the Supreme Court).

131. Amy Howe, *Two New CVSGs–On a Deadline* (Dec. 3, 2018), http://www.scotusblog.com/2018/12/two-new-cvsgs-on-a-deadline/.

B. Until the Supreme Court Issues Proper Guidance, Virginia Should Implement Stricter State Legislation that Fills in the Gaps of the NPDES

The Trump Administration's EPA and the Supreme Court will continue the debate of whether groundwater pollution migrating to navigable waters triggers CWA protection. In the interim, however, Virginia should take affirmative action and enact state legislation that bolsters protection against its groundwater pollution. Currently, the Virginia state legislature has a handful of Senate bills that may prove useful in compensating for the inconsistent CWA interpretations. For purposes of this comment, four bills introduced by state Senator Scott A. Surovell will be discussed in turn.

First, Virginia Senate Bill 765 (S.B. 765) would require the owner or operator of any coal ash pond in the Chesapeake Bay watershed that has been closed by "capping in place" to conduct mandatory testing of drinking water wells.[132] "Capping in place" is the method of covering, or "capping," contaminated materials from coal-combustion waste disposal sites after the facility closes.[133] Under S.B. 765, independent well water tests must be conducted "once per year during each of the five years following the approval . . . of the closure by capping in place of the coal ash pond and . . . once every five years thereafter."[134]

Further, the bill provides that an owner or operator of a closed coal ash pond in the Chesapeake Bay watershed who fails to meet the groundwater-quality-standards tests will have to provide alternate water supplies to the owner of the well.[135]

S.B. 765 reflects both a strong commitment to protecting drinking water within the Chesapeake Bay watershed, as well as a practical monitoring system for groundwater quality standards. If this bill passes, operators of electric power plants, like Dominion, would be required to continue testing all water wells within one mile of their site(s). Given that Dominion has already violated the groundwater quality standards through arsenic pollution, Dominion would presumably have to provide alternate water supplies for owners of wells that have been affected by this contamination.[136] Though S.B. 765 does not address the larger issue of preventing coal ash leachate from wet-settling ponds, it nonetheless offers a reactive solution for individuals and communities suffering from the effects of groundwater pollution from coal ash leachate.

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132. S.B. 765, 2018 Gen. Assemb., Reg. Sess. (Va. 2018) [hereinafter S.B. 765].
133. U.S. ENVTL. PROT. AGENCY, A CITIZEN'S GUIDE TO CAPPING 1 (2012).
134. S.B. 765, *supra* note 132.
135. *Id.*
136. *Id.*

Second, Senate Bill 766 (S.B. 766) authorizes [VDEQ] to use certain results of citizen water quality testing as evidence in enforcement actions, [which] is currently prohibited.[137] Further, S.B. 766 encourages VDEQ to consider this data, "regardless of whether the data conforms to the requirements set out in the Code of Virginia."[138] This bill would amend § 62.1-44.19:11 of the Code of Virginia, which governs the current citizen water-quality-monitoring program.[139] Under the current program, VDEQ does not have authority to use citizen-monitoring results in any enforcement actions, which include monitoring results from Waterkeepers and Riverkeepers in Chesapeake Bay watershed.[140] The current provision significantly contorts the purpose of citizen water-quality monitoring regimes because Waterkeepers and Riverkeepers—generally "full-time, paid, non-governmental public advocates" and primary spokespersons for the specified water body[141]—are exceptionally well-suited to provide accurate and reproducible water-quality-monitoring results. S.B. 766, however, permits VDEQ to use the results from individuals like Waterkeepers and Riverkeepers.[142]

S.B. 766 emboldens VDEQ's current statutory authority when issuing permits related to water quality. For example, if citizen-monitors had discovered evidence of Dominion's coal ash leachate in the Elizabeth River and Deep Creek before Dominion reported its permit violation, VDEQ could have employed the monitoring results to potentially force Dominion to implement its "corrective action plan" at an earlier date.[143] Similar to S.B. 767, the thrust of S.B. 766 is reactive in nature and does not prevent groundwater pollution discharges. However, S.B. 766 is nonetheless a small step in the right direction. Increased public engagement over water quality standards could conceivably afford members of the public greater agency over the health of their groundwater.

Third, Senate Bill 768 (S.B. 768), in part, prohibits owners or operators of closed coal ash facilities from recovering the costs of capping their

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137. *SB 766 Citizen Water Quality Monitoring; Use as Evidence in Enforcement Actions*, https://lis.virginia.gov/cgi-bin/legp604.exe?191+sum+SB766 (last visited Mar. 2, 2020); S.B. 766, 2018 Gen. Assemb., Reg. Sess. (Va. 2018).

138. *SB 766 Citizen Water Quality Monitoring; Use as Evidence in Enforcement Actions*, *supra* note 137; S.B. 766, *supra* note 137.

139. VA. CODE ANN. § 62.1-44.19:11 (West 2020).

140. *Id.* ("The results of such citizen monitoring shall not be used as evidence in any enforcement action.").

141. Russell McLendon, *Why Do Rivers Need Riverkeepers?*, MOTHER NATURE NETWORK (May 24, 2018), https://www.mnn.com/earth-matters/wilderness-resources/blogs/riverkeeper-waterkeeper.

142. S.B. 766, *supra* note 137.

143. Sierra Club v. Va. Elec. & Power Co., 903 F.3d 403, 406 (4th Cir. 2018).

contamination.[144] S.B. 768 further directs that "in a biennial review of an investor-owned electric utility by the State Corporation Commission, any costs incurred by an investor-owned electric utility that are associated with closure in place of a coal combustion residuals landfill or surface impoundment are unreasonable and not prudent."[145]

Preventing owners or operators of closed coal ash facilities from recouping the cost of cap-in-place would signal a strong commitment to robust closure standards. In so doing, Virginia would better protect public health and water quality standards.

Stringent facility closure standards are imperative to maintaining healthy water quality because they prevent closed facilities from continuing to leak coal ash and coal ash constituents into the groundwater underlying the respective facility.[146] Under S.B. 768, Dominion would not have been able to recover the costs of its "corrective action plan,"[147] which may have encouraged Dominion to implement more proactive measures concerning the maintenance of its facilities in order to avoid the resulting expense of capping and monitoring.

Last, Senate Bill 807 (S.B. 807), in part, requires existing owners or operators of coal combustion facilities to issue a request for proposal concerning the recycling or beneficial use of the coal combustion waste.[148] S.B. 807 declares that coal ash recycling facilities are in the public interest and would cover construction costs up to $60 million.[149] Recycling coal ash can "replace virgin materials removed from the earth" to create materials such as "concrete and wallboard."[150] In theory, recycling coal ash could thus foster economic growth as opposed to contaminating groundwater. For example, if Dominion constructed coal ash recycling facilities, a proportionate measure of coal ash leachate would have been reused for other materials instead of contaminating the Elizabeth River and Deep Creek. S.B. 807 arguably serves as the strongest measure states like Virginia can take to fill in gaps in the NPDES.

Taken together, Senate Bills 767, 766, 768, and 807—though largely remedial in nature—stand as valuable potential measures Virginia can

144. S.B. 768, 2018 Gen. Assemb., Reg. Sess. (Va. 2018).

145. *Id.*; *SB 768 Electric Utilities; Recovery of Costs Associated with Closure in Place of Coal Ash Facilities,* https://lis.virginia.gov/cgi-bin/legp604.exe?181+sum+SB768 (last visited Mar. 2, 2020).

146. *See, e.g.*, Ken Kingery, *Oxygen Key to Containing Coal Ash Contamination* (Apr. 12, 2016), https://www.sciencedaily.com/releases/2016/04/160412211142.htm (showing selenium and arsenic can leach into groundwater from coal ash disposal sites).

147. *Va. Elec. & Power Co.*, 903 F.3d at 406; S.B. 768, *supra* note 144.

148. S.B. 807, 2018 Gen. Assemb., Reg. Sess. (Va. 2018).

149. *Id.*; *SB 807 Coal Combustion Residuals and Other Units ; Permits, Request for Proposals*, https://lis.virginia.gov/cgi-bin/legp604.exe?181+sum+SB807S (last visited Mar. 2, 2020).

150. *Coal Ash Reuse*, https://www.epa.gov/coalash/coal-ash-reuse (last visited Mar. 2, 2020).

implement to counteract the judicial ambiguity concerning the regulation of groundwater pollution.

CONCLUSION

The Fourth Circuit's decision effectively places hazardous pollutants migrating from groundwater outside the scope of both the CWA and RCRA. Unless an appeal reverses the result-oriented decision of *Virginia Electric & Power Co.*, states like Virginia should implement stricter state legislation concerning coal-combustion waste facilities than what is currently required under federal regulation. The Fourth Circuit's narrow analysis in *Virginia Power & Electric Co.* of coal ash leachate migration from groundwater to nearby surface water produces a contorted outcome that undermines the fundamental purpose and intent of the CWA. Additionally, if the Supreme Court determines, on review of either *Upstate Forever* or *Hawai'i Wildlife Fund*, that the CWA governs groundwater pollution, *Virginia Power & Electric Co.* will be reviewable under this standard.

A favorable Supreme Court holding may determine that natural hydrological functions are means of conveyance of coal ash-derived arsenic from point sources to navigable waters. Under such interpretation, the EPA and states authorized to administer § 404 permits would thus have fundamental regulatory authority to implement stricter NPDES permits. In the interim, however, Virginia and similarly situated states should enact state legislation to fill in the aforementioned CWA gaps in groundwater pollution.