

NOTICE TO SCOTUS: COAL ASH SHOULD BE A POINT SOURCE DISCHARGE UNDER THE CLEAN WATER ACT

*Jay Crowder**

Introduction.....	89
I. Background.....	92
A. Clean Water Act and NPDES Permits	93
B. Defining “Waters of the United States”	94
C. Point Sources and Nonpoint Sources	95
II. Coal Ash Production and Storage	96
III. Analysis.....	99
A. Circuit Split over CWA Application	100
B. Congressional Intent of the CWA.....	103
C. Multinational Regulation of Coal Ash.....	104
1. European Union.....	104
2. China	106
D. Climate Change Will Exacerbate Coal Ash Pollution	108
IV. Implications of a Supreme Court Holding that Coal Ash Ponds Constitute a Point Source Discharge	110
Conclusion	112

INTRODUCTION

In 1972, Congress amended the Federal Water Pollution Control Act of 1948 with new language to reorganize and expand water pollution control and establish water quality standards.¹ In doing so, the Clean Water Act

*J.D. Candidate, 2018, Vermont Law School.

1. *Summary of the Clean Water Act*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/laws-regulations/summary-clean-water-act> [https://perma.cc/HU5E-NEW5] (last updated Aug. 7, 2017).

(CWA) of 1972 was born.² The CWA gives the Environmental Protection Agency (EPA) the authority to enforce the CWA whenever an area falls within the jurisdiction of “waters of the United States.”³ Pursuant to that authority, the EPA and the United States Army Corps of Engineers (Corps) are responsible for determining whether an area falls within that definition.⁴ The EPA generally issues jurisdictional determinations, but sometimes, determinations come from the Corps or courts through judicial review.⁵ At its core, the CWA “prohibits (1) any addition (2) of any pollutant (3) to navigable waters (4) from any point source (5) by any person, except in compliance with a CWA permit.”⁶

Under the CWA, there are two types of sources: point sources, defined in the CWA, and nonpoint sources, which include everything not covered by the point source definition.⁷ Point sources discharging pollution into “waters of the United States” require National Pollutant Discharge Elimination System (NPDES) permits; however, the CWA does not directly regulate nonpoint sources.⁸ Point source discharges come from “any discernible, confined and discrete conveyance, including but 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, from which pollutants are or may be discharged.”⁹ Nonpoint source discharges come from a more general area.¹⁰ For example, the liquid entering a river from a pipe would be a point source, but the liquid entering

2. Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1388 (2012); *see Summary of the Clean Water Act*, *supra* note 1 (“‘Clean Water Act’ became the Act’s common name with amendments in 1972.”).

3. 33 U.S.C. § 1251(d).

4. U.S. Army Corps of Eng’rs v. Hawkes Co., 136 S. Ct. 1807, 1812 (2016).

5. *Id.* at 1812–13.

6. Jeffrey G. Miller, *Plain Meaning, Precedent, and Metaphysics: Interpreting the “Navigable Waters” Element of the Clean Water Act Offense*, 45 ENVTL. L. REP. 10548, 10548 (2015); *see* 33 U.S.C. § 1311(a) (establishing that, with certain exceptions, it is unlawful to discharge a pollutant from a point source into navigable waters without a proper permit); *see also* 33 C.F.R. § 329.4 (2015) (“Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity.”).

7. *See* 33 U.S.C. § 1362(14) (providing the definition of a “point source” discharge).

8. *See generally id.* § 1342 (setting out the statutory guidelines of the NPDES permit program).

9. *Id.* § 1362(14).

10. *Compare id.* (defining “point source”), and *infra* Part I(C) (describing the difference between point sources and nonpoint sources), with *What Is Nonpoint Source?*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/nps/what-nonpoint-source> [<https://perma.cc/45CG-X87Y>] (last updated May 2, 2017) (explaining the various sources of nonpoint source pollution: “diffuse sources” such as “land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification”).

a river directly from the land would generally be classified as a nonpoint source. Because of the dichotomy in regulating different types of sources, the CWA has a greater focus on point sources. In doing so, the CWA allows a more direct way to enforce standards on point source pollution.¹¹ However, with nonpoint sources, the CWA has significantly fewer teeth to regulate pollution, even when the nonpoint sources may have a much larger impact on water quality.¹²

Some federal circuit courts consider coal ash impoundments, ponds full of coal ash that often contaminate water, to be nonpoint sources under the CWA.¹³ A coal ash pond is a way for utility companies to dispose of the waste from energy production, but it has a significant impact on water quality and faces relatively minor regulatory hurdles.¹⁴ However, the CWA was meant “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”¹⁵ So, courts should treat coal ash discharges as a point source instead because of their direct connection to pollution flowing into navigable waters. The CWA demands that most discharges into navigable waters have a permit because the discharges undo the work done to improve the waters’ health since 1972.¹⁶ Coal ash travels from the pond into either groundwater, which then connects to “waters of the United States,” or directly into “waters of the United States.”¹⁷ According to the EPA, “[w]ithout proper management, these contaminants can pollute waterways, ground water, drinking water, and the air.”¹⁸

With this in mind, coal ash ponds are direct sources of pollution because they are a discernible and discrete conveyance from which pollutants are discharged. Consistent with the CWA’s purpose, they should be regulated as point source discharges under the Act. Congress is unlikely to take such action, and the EPA and the Corps have not yet taken the action through the rulemaking process. Because of this lack of action, there has been little progress in how to manage coal ash ponds under the CWA.

11. See, e.g., 33 U.S.C. § 1342 (explaining the requirements for obtaining a permit for point source discharges).

12. *What Is Nonpoint Source?*, *supra* note 10.

13. See, e.g., *Vill. of Oconomowoc Lake v. Dayton Hudson Corp.*, 24 F.3d 962, 965 (7th Cir. 1994) (“The omission of ground waters from the regulations is not an oversight.”).

14. Ethan Goemann, Note, *Surveying the Threat of Groundwater Contamination from Coal Ash Ponds*, 25 DUKE ENVTL. L. & POL’Y F. 425, 428–29 (2015).

15. 33 U.S.C. § 1251(a).

16. See *id.* § 1342 (providing the framework for the NPDES permit system to regulate the point source discharges into navigable waters).

17. Ali Abazari & Katherine Leuschel, *EPA Issues Final Rule on Coal Ash Disposal*, 45 TEX. ENVTL. L.J. 406, 407 (2015).

18. *Coal Ash Basics*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/coalash/coal-ash-basics> [<https://perma.cc/7LYK-X7B8>] (last updated Apr. 26, 2017).

Instead, “we must rely on the courts to make progress in cleaning up coal ash.”¹⁹ The Supreme Court has the chance to review several upcoming circuit court cases to provide some clarity on whether coal ash ponds are point sources under the CWA.²⁰

This Note begins with an introduction of the relevant parts of the CWA and the definition of “waters of the United States.” To provide additional relevant information, this Note then explores the difference between point sources and nonpoint sources. Following that introduction, this Note delves into the production and storage of coal ash. With that background information, this Note then analyzes the circuit split on whether groundwater contamination from coal ash without a permit violates the CWA. After that legal overview, this Note examines why courts should view coal ash ponds as point sources. Finally, because Congress is unwilling to change the statutory definition of point source, and the EPA and the Corps will not likely include coal ash ponds in the definition of point source,²¹ this Note explores the implications of a Supreme Court holding that coal ash ponds constitute point sources under the CWA.

I. BACKGROUND

This section provides the requisite background knowledge to understand why the Supreme Court should rule that coal ash ponds are point sources. First, it provides an outline of the CWA and explains the NPDES permitting process. The EPA can issue this permit to any person applying to discharge a pollutant into any navigable water.²² In the CWA, Congress defined navigable waters as the “waters of the United States.”²³ Therefore, this section also discusses that definition and its development over time by the EPA and the Corps. There is some confusion over this definition because the EPA and the Corps issued the Clean Water Rule (Rule) in 2015, but the Sixth Circuit stayed the Rule; so, it is still not in effect.²⁴ Recently, the EPA has moved to replace that Rule with another to

19. Margaret Galka & Doug Ruley, *Confronting Coal Ash*, VT. J. ENVTL. L., <http://vjel.vermontlaw.edu/topten/confronting-coal-ash/> [https://perma.cc/6EUY-ZBRC] (last visited Nov. 1, 2017).

20. *See, e.g.,* Hawai’i Wildlife Fund v. Cty. of Maui, 24 F. Supp. 3d 980, 996 (D. Haw. 2014) (holding that the release of pollutants without a permit violated the CWA).

21. *See* Coral Davenport, *Senate Confirms Scott Pruitt as E.P.A. Head*, N.Y. TIMES, (Feb. 17, 2017), <https://www.nytimes.com/2017/02/17/us/politics/scott-pruitt-environmental-protection-agency.html> (explaining the effects of Scott Pruitt’s confirmation as head of the EPA).

22. 33 U.S.C. § 1342 (2012).

23. *Id.* § 1362(7).

24. *In re* Env’tl. Prot. Agency, 803 F.3d 804, 806 (6th Cir. 2015).

reflect changing EPA priorities in the new administration.²⁵ Finally, this section will discuss the difference between a point source and a nonpoint source because the CWA provides true protection over navigable waters with regard to only one.

A. Clean Water Act and NPDES Permits

Congress enacted the CWA in 1972 “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”²⁶ The CWA “makes it illegal for facilities, like a mining operation, to discharge pollutants into traditional ‘navigable waters,’ such as the Mississippi River, without a [NPDES] permit.”²⁷ The NPDES permit ensures that the downstream waters are able to handle discharged pollutants without any significant effect on the flora and fauna dependent on the water by limiting the amount of various pollutants discharged into the “waters of the United States.”²⁸ However, nonpoint sources are able to bypass the entire permitting process and discharge into the “waters of the United States.”²⁹

Coal ash ponds exemplify the ability to bypass the NPDES program because pollutants enter into navigable waters from these ponds.³⁰ Some circuit courts have held that the CWA does not cover groundwater pollution, and precedent in certain jurisdictions states that groundwater discharges do not fall under the CWA.³¹ In contrast, there are other jurisdictions where the courts have found that the CWA covers groundwater discharges when that groundwater has a hydrologic connection to navigable

25. Press Release, Evtl. Prot. Agency, U.S. Army Move to Rescind 2015 “Waters of the U.S.” (June 27, 2017) (on file with the Vermont Journal of Environmental Law).

26. 33 U.S.C. § 1251(a).

27. Allison Kvien, Note, *Is Groundwater that Is Hydrologically Connected to Navigable Waters Covered Under the CWA?: Three Theories of Coverage & Alternative Remedies for Groundwater Pollution*, 16 MINN. J.L. SCI. & TECH. 957, 957 (2015); see 33 U.S.C. § 1311(a) (providing that “the discharge of any pollutant by any person shall be unlawful” unless in compliance with the CWA).

28. 33 U.S.C. § 1311(m)(2).

29. Kenneth M. Murchison, *Learning from More than Five-and-a-Half Decades of Federal Water Pollution Control Legislation: Twenty Lessons for the Future*, 32 B.C. ENVTL. AFF. L. REV. 527, 581–82 (2005) (explaining the difficulties in regulating nonpoint sources that cause pollution).

30. See generally Goemann, *supra* note 14 (explaining some of the spills in recent history and how the government lacks the proper regulations and safeguards to ensure coal ash does not contaminate navigable waters).

31. See, e.g., *Vill. of Oconomowoc Lake*, 24 F.3d at 965 (“The omission of ground waters from the regulations is not an oversight.”).

waters.³² To determine what a navigable water is, the EPA and the courts have both tried to refine the definition over time.

B. Defining “Waters of the United States”

The CWA covers navigable waters, which Congress defined in the statute as “waters of the United States.”³³ But, the CWA does not provide any more explanation; instead, Congress allows agencies to define the term further.³⁴ The last time that the Supreme Court spoke about what constituted a “water of the United States” was in *Rapanos v. United States*.³⁵ In *Rapanos*, the Supreme Court issued several different opinions on the test for determining whether an area should be considered a part of the “waters of the United States,” leading to a fair amount of confusion among the lower courts.³⁶ The plurality, led by Justice Scalia, chose a more restrictive test attempting to limit the extent to which the Court could read navigable waters.³⁷ That judgment stated that navigable waters must be relatively permanent waterways.³⁸ But, the more commonly used test provided by Justice Kennedy is the “significant nexus” test, which provides that any area with a significant nexus to “waters of the United States” should retain the same protections as if it were part of the “waters of the United States.”³⁹ In contrast to those tests, Justice Breyer’s dissenting opinion suggested that the EPA and the Corps quickly promulgate new regulations to change the definition.⁴⁰

32. See, e.g., *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 444–45 (M.D.N.C. 2015) (discussing jurisdictions where courts have stated the CWA includes groundwater with a hydrological connection to navigable waters).

33. 33 U.S.C. § 1362(7).

34. See 40 C.F.R. § 230.3(o) (2015) (defining the term “waters of the United States” to implement the CWA regulations).

35. See generally *Rapanos v. United States*, 547 U.S. 715, 730 (2006) (holding that wetlands with a continuous surface connection to water bodies are “waters of the United States”).

36. See *id.* at 715 (providing a plurality opinion, two concurring opinions, and two dissenting opinions); see also Miller, *supra* note 5, at 10569 (explaining that the Eleventh Circuit “followed the concurrence’s significant nexus test”; the First, Third, and Eighth Circuits alternated between the plurality and the concurrence tests; the Fifth and Sixth Circuits required plaintiffs to meet both the plurality and the concurrence tests; and the Seventh and Ninth Circuits preferred to apply “the concurrence test, but if that is not met will look to the plurality test”).

37. See *Rapanos*, 547 U.S. at 717 (holding that any navigable water must have a “continuous surface connection to bodies that are ‘waters of the United States’”).

38. See *id.* at 716 (construing the definition to include “only those relatively permanent, standing or continuously flowing bodies of water”).

39. *Id.* at 717 (Kennedy, J., concurring).

40. *Id.* at 812 (“[T]oday’s opinions, taken together, call for the Army Corps of Engineers to write new regulations, and speedily so.”).

On June 29, 2015, the EPA and the Corps promulgated a new regulation to clarify the definition of “waters of the United States.”⁴¹ With this Clean Water Rule, “EPA and [the Corps] codified their longstanding practice of not considering groundwater to be ‘waters of the United States.’”⁴² The Rule expressly excluded groundwater, which would have likely precluded the Supreme Court from finding that coal ash flowing through groundwater would be regulated under the CWA. However, this Rule has not yet taken effect because the Sixth Circuit issued a stay on the Rule.⁴³ In fact, the Rule will not likely ever take effect with Administrator Scott Pruitt’s EPA shifting to remove the Rule and replace it with an updated version.⁴⁴ Therefore, until the EPA promulgates a new rule, the EPA and the Corps will be unable to enforce their revised definition of “waters of the United States.”

C. Point Sources and Nonpoint Sources

The CWA defines a point source as “any discernible, confined, and discrete conveyance, including but 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, from which pollutants are or may be discharged.”⁴⁵ Point sources include confined and discrete conveyances of pollutants. Nonpoint sources encompass the pollution that is not covered by that expansive definition.⁴⁶ “Nonpoint source . . . pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources.”⁴⁷ Nonpoint source pollution is difficult to regulate because it generally carries pollutants from an indiscernible source.⁴⁸ However, some courts have ruled that structures

41. Clean Water Rule: Definition of “Waters of the United States,” 80 Fed. Reg. 37054, 37054 (June 29, 2015).

42. *Does the Clean Water Act Regulate Discharges of Pollutants to Hydrologically Connected Groundwater? Federal Courts Disagree*, MARTEN L. (Jan. 27, 2016), <http://www.martenlaw.com/newsletter/20160127-cwa-regulate-discharges-pollutants> [<https://perma.cc/YFX3-ZVGV>] [hereinafter *Federal Courts Disagree*].

43. *In re* Env'tl. Prot. Agency, 803 F.3d 804, 809 (6th Cir. 2015); see CLAUDIA COPELAND, CONG. RESEARCH SERV., R43455, EPA AND THE ARMY CORPS’ RULE TO DEFINE “WATERS OF THE UNITED STATES” 15 (Jan. 5, 2017) (stating that the Sixth Circuit’s “schedule likely would lead to oral arguments in February 2017 or later” and that decisions are also pending in the Tenth and Eleventh Circuits on the same issue).

44. Press Release, Env'tl. Prot. Agency, *supra* note 25.

45. 33 U.S.C. § 1362(14) (2012).

46. *What Is Nonpoint Source?*, *supra* note 10.

47. *Id.*

48. *Categories of Pollution: Nonpoint Source*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://oceanservice.noaa.gov/education/kits/pollution/04nonpointsource.html> [<https://perma.cc/HXG5-7865>] (last updated July 6, 2017).

such as unlined ponds or impoundments are covered by the “point source” definition.⁴⁹ Therefore, it is not unprecedented for a court to find that a pond, like a coal ash pond, releasing pollutants into protected waters is a confined and discrete conveyance under the CWA.

II. COAL ASH PRODUCTION AND STORAGE

This section will discuss how energy companies create and store coal ash. Predominantly, this is done with manmade ponds, simple holes dug into the ground with little to no protection between the coal ash and the soil.⁵⁰ Many products can incorporate coal ash into their own production, such as concrete, but supply is usually greater than demand.⁵¹ That situation, coupled with cost, leads to the use of coal ash ponds, where the coal ash is dumped into ponds with water.⁵² In these ponds, the coal ash sits and can leak into the soil, groundwater, and eventually end up in navigable waters.⁵³

Coal power plants are common in energy production—they provided one-third of the United States’ total electricity needs in 2015.⁵⁴ When producing a product, a facility generally also produces some kind of byproduct.⁵⁵ Along with being the “single largest source of the carbon dioxide emissions that contribute to global warming,”⁵⁶ coal power plants produce ash called Coal Combustion Products (CCPs).⁵⁷ These CCPs “arise

49. See, e.g., *Umatilla Waterquality Protective Ass’n v. Smith Frozen Foods, Inc.*, 962 F. Supp. 1312, 1321 (D. Or. 1997) (describing an unlined pond as “a confined and discrete conveyance within the CWA’s definition of ‘point source’”); see also *United States v. Alpha Nat. Res., Inc.*, No. 2:14-11609, 2014 WL 6686690, at *1 (S.D. W. Va. Nov. 26, 2014) (stating that coal mining “impoundments and settlement ponds . . . qualify as ‘point sources’”).

50. See Goemann, *supra* note 14, at 432–33 (describing how coal ash is stored).

51. ALISON PREMIO BLACK, AM. RD. & TRANSP. BUILDERS ASS’N, PRODUCTION AND USE OF COAL COMBUSTION PRODUCTS IN THE U.S.: MARKET FORECAST THROUGH 2033 5 (2015), <https://www.aaa-usa.org/Portals/9/Files/PDFs/ReferenceLibrary/ARTBA-final-forecast.compressed.pdf> [<https://perma.cc/6PGW-WMED>].

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

53. Goemann, *supra* note 14, at 433.

54. *Frequently Asked Questions: What Is U.S. Electricity Generation by Source?*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.cfm?id=427&t=3> [<https://perma.cc/Y28T-ZN4U>] (last updated Apr. 18, 2017).

55. YANG AILUN ET AL., GREENPEACE CHINA, THE TRUE COST OF COAL -- AN INVESTIGATION INTO COAL ASH IN CHINA ii (2010), <http://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/publications/gwe/2010/coal-ash2010-ENG-RPT.pdf>.

56. Rachel Brown, *Meet the People on the Front Lines of America’s Coal Wars*, NAT. GEO., June 23, 2017, <http://news.nationalgeographic.com/2017/06/from-the-ashes-q-a-coal-war-documentary-michael-bonfiglio/> [<https://perma.cc/2HGQ-7ST9>].

57. BLACK, *supra* note 51, at 5.

from the combustion of coal for energy.”⁵⁸ They are composed of many different types of coal ash, such as fly ash, bottom ash, boiler slag, and flue gas desulfurization fluid.⁵⁹ Burning coal releases these compounds, known collectively as coal ash.⁶⁰ According to scientific research, coal ash contains “potentially toxic trace metals and metalloids[,] which readily leach out when they enter soils,” along with potential enrichment of radionucleotides.⁶¹ All of these compounds could pose health and safety risks to both humans and the environment.⁶²

The larger problem with coal ash is not the production but the storage. In 2015, when coal constituted one-third of total electricity generation, coal power plants generated more than 115 million tons of coal ash.⁶³ Furthermore, “[c]oal-fired power plants, built alongside major rivers to draw water for use in steam-powered electricity generating units, have needed some place to store the millions of tons of coal ash created as a by-product from burning coal.”⁶⁴ That need for storage led to two things: coal ash ponds and reuse.⁶⁵ Slightly more than 50% of coal ash produced was used in other products in 2015.⁶⁶ That leaves slightly less than 50% of coal ash to be stored in coal ash ponds.

In North Carolina, a partnership between a local startup and a global firm may assist in repurposing some of the 140 million tons of coal ash in the state.⁶⁷ EosMYCO and Areva are attempting to transform coal ash into other safer products, which “could save utilities, and their ratepayers, billions of dollars while permanently eliminating the utilities’ liability.”⁶⁸ They plan to transform minerals and metals from the coal ash stored in coal ash ponds into marketable products.⁶⁹ This includes pulling the silica and

58. Kenneth S. Sajwan et al., *Production of Coal Combustion Products and Their Potential Uses*, in COAL COMBUSTION BYPRODUCTS AND ENVIRONMENTAL ISSUES 1, 3 (Kenneth S. Sajwan et al. eds., 2006).

59. *Id.*

60. *Coal Ash Basics*, *supra* note 18.

61. Sajwan et al., *supra* note 58, at 3.

62. *Id.*

63. AM. COAL ASH ASS’N, 2015 COAL COMBUSTION PRODUCT (CCP) PRODUCTION & USE SURVEY REPORT (2015), https://www.acaa-usa.org/Portals/9/Files/PDFs/2015-Survey_Results_Table.pdf [<https://perma.cc/73PM-JDRY>].

64. Cale Jaffe, *Essay—The Toxic Legacy of Coal Ash on Southeastern Rivers, Waterways, and Reservoirs*, 40 WM. & MARY ENVTL. L. & POL’Y REV. 557, 560 (2016).

65. AILUN ET AL., *supra* note 55, at 2.

66. AM. COAL ASH ASS’N, *supra* note 63.

67. Jim Pierobon, *What to Do with Tons of Coal Ash? Vitrify Some of It, Sell the Rest*, TRIPLEPUNDIT (Oct. 16, 2015), <http://www.triplepundit.com/2015/10/tons-coal-ash-vitrify-sell-rest/> [<https://perma.cc/NVV2-RK69>].

68. *Id.*

69. *Id.*; *see* Jaffe, *supra* note 64, at 560 (indicating coal ash ponds contain several substances).

rare earth metals out of the coal ash sitting in the ponds across North Carolina and selling the “minerals for construction and manufacturing materials while entombing what[i]s left in glass.”⁷⁰ Their goal by 2017 is to have a “mobile treatment facility that can go to where the [coal] ash is presently situated.”⁷¹ In doing so, the partnership can avoid some of the consequences and implications from moving coal ash ponds discussed later in this Note.⁷²

The reuse of coal ash benefits the environment, the economy, and the product itself.⁷³ However, because coal ash is usually produced in the winter and the construction industry, which is the main user of coal ash, primarily builds in the summer, there is a disconnect between supply and demand.⁷⁴ Storing coal ash long term is not advised because of the possible detrimental effects on water quality and the environment.⁷⁵ Spills and leaks have and will continue to occur,⁷⁶ so coal ash ponds should be more highly regulated because the waters of the United States deserve greater protection.

Another problem with coal ash includes “uneconomic transport.”⁷⁷ Power plants are set far away from most construction projects in cities, so the costs to retrieve the coal ash and use it in building developments inhibit the increased use of coal ash in construction.⁷⁸ Power plants are unlikely to move because they are on cheaper land with access to natural resources.⁷⁹ Moving them would be a significant capital expense due to construction

70. Pierobon, *supra* note 67.

71. *Id.*

72. See *infra* Part III (analyzing the potential environmental impacts of moving coal ash to new storage locations).

73. See *Coal Ash Basics*, *supra* note 18 (explaining that reusing coal ash reduces greenhouse gas emissions and landfill disposal, reduces costs of disposal, increases revenues for sales, and improves materials).

74. See Ryunosuke Kikuchi, *Alternative By-Products of Coal Combustion and Simultaneous SO₂/SO₃/NO_x Treatment of Coal-Fired Flue Gas: Approach to Environmentally Friendly Use of Low-Rank Coal*, in 21 COAL COMBUSTION BYPRODUCTS AND ENVIRONMENTAL ISSUES 22–23 (Kenneth S. Sajwan et al. eds., 2006) (explaining that coal ash is “emitted mainly in the winter months while thermal coal-fired power stations are operating at full capacity . . . [while] the construction industry needs coal ash during the building season in the summer”).

75. See Physicians for Soc. Responsibility, *Coal Ash Toxins: Damaging to Human Health*, <http://www.psr.org/assets/pdfs/coal-ash-toxics-damaging-to-human-health.pdf> [<https://perma.cc/DJA7-QY2U>] (last visited Nov. 7, 2017) (describing the environmental effects of coal ash).

76. See, e.g., Bruce Henderson, *Duke Energy Plant Reports Coal-Ash Spill*, CHARLOTTE OBSERVER (Feb. 3, 2014), <http://www.charlotteobserver.com/news/business/article9094658.html> [<https://perma.cc/A5H8-YYFX>] (explaining Duke Energy’s 2014 spill of between 50,000 and 82,000 tons of coal ash and 27 million gallons of water into the nearby Dan River in North Carolina).

77. Kikuchi, *supra* note 74, at 23.

78. *Id.* at 22–23.

79. Blake Korb, Comment, *Holding Our Breath: Waiting for the Federal Government to Recognize Coal Ash as Hazardous Waste*, 45 J. MARSHALL L. REV. 1177, 1179 (2012).

and new operating costs,⁸⁰ so the only option would be to transport the coal ash to the factories for reuse.

A main problem is that not all of the coal ash produced every year is reused.⁸¹ “The cheapest option [for utility companies] . . . [i]s to sluice the ash from the plant to an adjacent pit,” creating “riverside coal ash lagoons with nothing more than simple, earthen berms separating the lagoons from the rivers”—coal ash ponds.⁸² Subtracting the amount of coal ash reused in other projects from the total amount of coal ash produced in 2015, utilities left more than 55 million tons of coal ash to sit in coal ash ponds.⁸³ That means nearly 50% of coal ash produced was left sitting in these coal ash ponds.

Coal ash ponds pose a threat: any accident or leak could contaminate nearby rivers. A contaminated river means clean-up costs (cost to taxpayers), decreased availability of water (cost to citizens), and a likely loss of biodiversity (cost to the environment). Rather than pay these costs, a recent study conducted for Duke Energy in North Carolina found that there are 18 different technologies and more than 50 potential products to deal with or use leftover coal ash instead of placing coal ash in ponds near rivers.⁸⁴

III. ANALYSIS

In this section, the Supreme Court could find its reasoning as to why coal ash ponds should constitute a point source discharge. This section begins by discussing both legal rationales behind the current circuit-court split. One side states that the CWA does not cover discharges to groundwater, but the other side states that the CWA does cover discharges to groundwater if that groundwater is hydrologically connected to the “waters of the United States.”⁸⁵ Because the circuit courts are currently split and the language of the CWA is unclear, this section also analyzes the

80. See U.S. ENERGY INFO. ADMIN., COST AND PERFORMANCE CHARACTERISTICS OF NEW GENERATING TECHNOLOGIES, ANNUAL ENERGY OUTLOOK 2 tbl.8.2 (2017), https://www.eia.gov/outlooks/aeo/assumptions/pdf/table_8.2.pdf [<https://perma.cc/GZ48-XLHY>] (providing the costs for developing and implementing new electricity-generating technologies).

81. AILUN ET AL., *supra* note 55, at 13.

82. Jaffe, *supra* note 64, at 560.

83. AM. COAL ASH ASS'N, *supra* note 63.

84. ELEC. POWER RESEARCH INST., DUKE ENERGY COAL COMBUSTION PRODUCT MANAGEMENT STUDY: PHASE 3 - ALTERNATIVE AND INNOVATIVE TECHNOLOGIES ES-2 (2016) https://www.duke-energy.com/_/media/pdfs/our-company/ash-management/phase-3-innovative-technologies-final-report.pdf [<https://perma.cc/JX83-JSAK>].

85. See, e.g., *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 444–45 (M.D.N.C. 2015) (providing examples of holdings of circuit courts with split opinions).

congressional intent of the statute. This analysis provides some insight into how Congress may have wanted to regulate such a problem in pollution.

This section moves on to discuss international regimes related to coal ash by analyzing the regulations in the European Union and China. In doing so, this section shows that, while the United States is not the only country producing coal ash, it is far behind others in dealing with the problems. Finally, this section discusses the potential effects of climate change on coal ash production with the possibility of more pollution in the future.

A. Circuit Split over CWA Application

The Supreme Court has not addressed the issue of groundwater contamination from coal ash. Instead, district courts must look to the federal appellate courts to find the law for their circuits. But, the federal circuit courts have treated the issue differently, specifically on whether groundwater pollution constitutes a contamination of the “waters of the United States.”⁸⁶ The First, Fifth, and Seventh circuits have stated that “discharges to groundwater do not implicate the CWA, hydrological connection or not,”⁸⁷ though none of these rulings dealt with coal ash specifically. This perspective demands that the point source discharge enter directly into the “waters of the United States.” Additionally, these courts have ruled that the EPA cannot regulate a point source discharge of pollutants if there is some discharge to groundwater that later enters CWA waters.⁸⁸ Under this analysis, the EPA must show that there is a point source discharge and that it directly enters into some water covered by the CWA. Some district courts in other circuits have also followed this line of thinking, finding that a coal ash pond does not fall within the bounds of a point source discharge under the CWA.⁸⁹

In contrast with those rulings, the Second Circuit has held that “the CWA regulates point-source discharges into groundwater so long as it is hydrologically connected to surface waters of the United States.”⁹⁰ This different approach enables the EPA to regulate point source discharges when there is some hydrological connection to “waters of the United

86. *Id.*

87. *Federal Courts Disagree*, *supra* note 42 (referencing *Vill. of Oconomowoc Lake v. Dayton Hudson Corp.*, 24 F.3d 962 (7th Cir. 1994), *Rice v. Harken Expl. Co.*, 250 F.3d 264 (5th Cir. 2001), and *United States v. Johnson*, 437 F.3d 157 (1st Cir. 2007)).

88. *See, e.g.*, *Vill. of Oconomowoc Lake v. Dayton Hudson Corp.*, 24 F.3d 962, 965 (7th Cir. 1994) (“The omission of ground waters from the regulations is not an oversight.”).

89. *See, e.g.*, *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798, 809–10 (E.D.N.C. 2014) (holding that the CWA did not cover a discharge of pollutants that entered groundwater before entering “waters of the United States”).

90. *Federal Courts Disagree*, *supra* note 42.

States.” This greatly elevates the importance of NPDES permits because the EPA may have to issue a greater number of permits for other point source discharges, but it would also provide the EPA with a greater understanding of the amount of pollutants in national waters.

Applying this ruling to coal ash ponds, the Second Circuit would find that coal ash ponds would fall under the definition of point source because they are discrete and confined and discharge pollutants into the “waters of the United States” through groundwater. With this analysis, a court would hold that coal ash ponds are hydrologically connected to navigable waters because the coal ash travels to navigable waters via groundwater. The CWA does not expressly cover groundwater contamination, but the CWA should cover surface water contamination when pollution, such as that from coal ash ponds, travels from a confined pond to navigable waters through groundwater.

Exemplifying this holding is *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*.⁹¹ In that case, Yadkin Riverkeeper argued that “coal ash lagoons are point sources and that the groundwater beneath the lagoons serves as a conduit between the point source lagoons and the Yadkin River and High Rock Lake, which are protected navigable waters under the CWA.”⁹² Duke Energy had constructed lagoons to hold the coal ash coming from its coal power plants.⁹³ Yadkin Riverkeeper challenged Duke Energy on the discharge of pollutants coming from the ponds into the nearby river and lake.⁹⁴ Duke Energy filed motions to dismiss the claims in part because of the lack of a hydrological connection.⁹⁵ The court denied the motion because it found a hydrological connection between Duke Energy’s coal ash ponds and the nearby lake and river.⁹⁶ The court found that, in this case, the coal ash ponds “fall within the CWA’s definition of ‘point source’” because they are “confined and discrete conveyance[s]” leaking pollutants into navigable waters.⁹⁷

The *Yadkin Riverkeeper* court also explained the split in courts over “whether [a court] has jurisdiction under the CWA to consider a claim . . . where pollutants travel from a point source to navigable waters through

91. *Yadkin Riverkeeper*, 141 F. Supp. 3d at 428.

92. *Id.* at 443.

93. *Id.* at 436.

94. *Id.* at 437.

95. *Id.* at 443.

96. *Id.* at 443–44, 454.

97. *Id.* at 444 (quoting *United States v. Alpha Nat. Res., Inc.*, No. 2:14–11609, 2014 WL 6686690, at *1 (S.D.W. Va. Nov. 26, 2014).

hydrologically connected groundwater.”⁹⁸ Outlining the holdings of various federal district courts across the country on both sides, the court agreed with the “cases affirming CWA jurisdiction over the discharge of pollutants to navigable surface waters via hydrologically connected groundwater, which serves as a conduit between the point source and the navigable waters.”⁹⁹ In addition, the court discussed the lack of clarity on CWA jurisdiction stemming from courts declining jurisdiction over hydrologically connected groundwater because “groundwater is not *itself* ‘water of the United States.’”¹⁰⁰ However, the court argued that “the CWA regulates the discharge of pollutants to navigable waters via groundwater,” not simply “the discharge of pollutants into groundwater itself.”¹⁰¹

Therefore, the greatest, and perhaps only, difference in the courts is the application of CWA jurisdiction. Some courts have held that the CWA covers the discharge of pollutants via groundwater. However, other courts have held that the CWA only covers the discharge of pollutants directly into navigable waters. There is a potential for courts to continue to divide over this issue, with other federal circuit courts scheduled to determine appeals over this CWA jurisdiction issue.

Soon, the Fourth and Ninth circuits will rule on this controversial issue. The Ninth Circuit will hear the appeal for *Hawai’i Wildlife Fund v. County of Maui*, which had a similar district court holding to *Yadkin Riverkeeper*.¹⁰² The Fourth Circuit will review defendants’ “motions to certify the trial courts’ decisions with respect to groundwater for interlocutory appeal” in both *Yadkin Riverkeeper* and *Sierra Club v. Virginia Electric & Power Co.*¹⁰³ As the District Court of South Carolina has stated, the Fourth Circuit does not lack cases yielding both perspectives.¹⁰⁴ If these two circuits decide to affirm the trial court opinions, this will create a 3–3 circuit split. With such a split at the circuit level, the Supreme Court may eventually issue a writ of certiorari and

98. *Id.*

99. *Id.* at 445.

100. *Id.* at 445 (citing *Hawai’i Wildlife Fund v. Cty. of Maui*, 24 F. Supp. 3d 980, 995 (D. Haw. 2014)).

101. *Id.* (“This Court views the issue not as whether the CWA regulates the discharge of pollutants into groundwater itself but rather whether the CWA regulates the discharge of pollutants to navigable waters via groundwater.”).

102. Compare *Hawai’i Wildlife Fund v. Cty of Maui*, 24 F. Supp. 3d 980, 1005 (D. Haw. 2014) (holding that “the County’s release of pollutants . . . without [a] NPDES permit violated the Clean Water Act”), with *Yadkin Riverkeeper*, 141 F. Supp. 3d at 445 (holding that “the CWA regulates the discharge of pollutants to navigable waters via groundwater”).

103. *Federal Courts Disagree*, *supra* note 42.

104. See *Upstate Forever v. Kinder Morgan Energy Partners*, 252 F. Supp. 3d 488, 497 (D.S.C. Apr. 20, 2017) (outlining the various district court holdings from across the Fourth Circuit with respect to “whether the CWA encompasses groundwater hydrologically connected to surface waters.”).

determine which argument, if either, is correct in the context of CWA jurisdiction.¹⁰⁵

B. Congressional Intent of the CWA

To determine the meaning of the statute, the Supreme Court first refers to the language of the statute.¹⁰⁶ If the statute is clear in its meaning, then the inquiry into legislative intent must quickly end.¹⁰⁷ However, when the statute is unclear on what it covers, as it is here with whether the CWA covers the conveyance of pollutants via groundwater, the courts may look to congressional intent.¹⁰⁸

Congress passed the CWA with the intent to empower the EPA to restore and maintain the water quality of the “waters of the United States.”¹⁰⁹ When Congress enacted the CWA, the House Committee on Public Works submitted the bill with amendments and a House Report.¹¹⁰ This Report explained that the Committee was reluctant to define “navigable waters” because the Committee members did not want to cause any narrow reading of the language.¹¹¹ Instead, it states that the Committee wanted “the broadest possible constitutional interpretation,” much broader than the traditional definition of “navigable waters.”¹¹² In attempting to achieve this general aim, the courts should find that coal ash ponds constitute point source discharges under the CWA.

Congress’s basic intent in passing the CWA was to make waters cleaner and less polluted. In 1977, when Senator Wendell Anderson addressed the Senate Committee on the Environment and Public Works—which was debating the bill to amend the CWA—he discussed cancer mortality from contaminated water, water chlorination, municipal sludge, and pesticides contaminating water in order to support passing the amendments to continue regulating water pollution.¹¹³ But, “[i]n 2010, the [EPA] released a

105. H.W. PERRY, JR., *DECIDING TO DECIDE: AGENDA SETTING IN THE UNITED STATES SUPREME COURT* 246 (1991).

106. *Consumer Prod. Safety Comm’n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980).

107. *Id.* (“[T]he starting point for interpreting a statute is the language of the statute itself. Absent a clearly expressed legislative intention to the contrary, that language must ordinarily be regarded as conclusive.”).

108. *See Council for Urological Interests v. Burwell*, 790 F.3d 212, 222 (D.C. Cir. 2015) (explaining that the courts should consult a statute’s legislative history when exploring whether the agency’s interpretation is reasonable).

109. *See* 33 U.S.C. § 1251(a) (2012) (stating that the purpose of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”).

110. H.R. REP. NO. 92-911, at 1 (1972).

111. *Id.* at 131.

112. *Id.*

113. S. REP. NO. 95-370, at 96 (1972).

report that found exposure to coal ash causes 900 cancer cases per 100,000 exposed individuals.”¹¹⁴ Congress wanted to protect clean water for future use, eliminate pollutants discharged into water, and promote human and environmental health and safety.¹¹⁵ With a focus on protecting public health and safety and promoting environmental protection, a pollutant flowing from a pond into navigable waters through groundwater must constitute a point source discharge.

C. Multinational Regulation of Coal Ash

The United States is neither the only country to use coal for energy nor is it the only country dealing with coal ash issues.¹¹⁶ By looking to other countries and seeing how they deal with coal ash, the United States would get a better understanding of how it could address the problem itself. Here, the European Union and China offer two very different perspectives on how to deal with the issue of coal ash. Neither takes the same approach, but both have higher utilization rates of coal ash than the United States. Therefore, because they are using more of it for other products, they have significantly less coal ash sitting in ponds compared to the United States.

1. European Union

The European Union (EU) has several different laws regulating coal-ash products.¹¹⁷ This is a major aspect to analyze because the EU’s utilization rate of coal ash was 91% in 2010.¹¹⁸ This means that the EU left only 9% of the coal ash for other uses, which might have included coal ash ponds. That is a decrease since 2003. In 2003, approximately 12% of coal

114. Goemann, *supra* note 14, at 429 (citing LISA EVANS ET AL., EARTHJUSTICE, STATE OF FAILURE: HOW STATES FAIL TO PROTECT OUR HEALTH AND DRINKING WATER FROM TOXIC COAL ASH 6 (2011), http://earthjustice.org/sites/default/files/StateofFailure_2013-04-05.pdf [<https://perma.cc/6Z5M-JNNK>]).

115. See 33 U.S.C. § 1251(a)–(b) (2012) (suggesting that Congress’s goal was to reduce, prevent, and eliminate pollution to advance environmental safety and human health).

116. Craig Heidrich et al., *Coal Combustion Products: A Global Perspective*, <http://www.flyash.info/2013/171-Heidrich-Plenary-2013.pdf> [<https://perma.cc/3UKW-Y9G2>] (last visited Nov. 30, 2017) (“Over the last decade a number of changes have occurred globally in the coal-fired power generation section.”); see *Coal & Electricity*, WORLD COAL ASS’N, <https://www.worldcoal.org/coal/uses-coal/coal-electricity> [<https://perma.cc/9UYD-L8QN>] (last visited Nov. 8, 2017) (“Coal plays a vital role in electricity generation worldwide.”).

117. Lindon K.A. Sear, *Coal Fired Power Station Ash Products and EU Regulation*, 1 COAL COMBUSTION & GASIFICATION PRODUCTS 63, 63 (2009).

118. Heidrich et al., *supra* note 116.

ash was not reused—approximately 8% was temporarily stockpiled and nearly 4% was discarded in disposal areas.¹¹⁹

Lindon Sear’s article, which analyzes byproducts of coal combustion under EU regulations, explains that “there are three separate sets of regulation impacting on [sic] the sale of ash products.”¹²⁰ First, the EU adopted the Waste Framework Directive (WFD).¹²¹ This Framework provides a general guideline that requires regular testing to ensure a low “leaching potential and provide this information to the user for unbound applications.”¹²² In the United Kingdom, the first implementation went poorly because of a lack of clear definitions.¹²³ Later regulations cleared some of the confusion and lack of clarity for the British courts.¹²⁴ This shows that a lack of clarity in coal-ash regulations is not abnormal but should be corrected.

This WFD program applies to three distinct groups of materials.¹²⁵ First, to bound applications, where the coal ash is an “integral part of an impervious material such as concrete, concrete blocks, asphalt, paints, and similar” products.¹²⁶ Second, to grouting, where the coal ash is “an aggregate in grouting of caverns, mines, fissures, etc.”¹²⁷ Third and finally, to fill, where the coal ash is used “for land reclamation, embankments, landscaping, etc.”¹²⁸ In this program, new products made from coal ash will need to pass the program’s testing procedures to ensure that the products do not contain excessive amounts of toxic substances.¹²⁹

A second regulation of ash-product sales is the Construction Products Directive’s (CPD) Essential Requirement 3 (ER3), which is contained within the CPD’s Annex I.¹³⁰ ER3 provides a standard on construction work so that there “will not be a threat to the hygiene or health of the occupants or neighbours.”¹³¹ It applies to five different construction aspects: “[i]ndoor

119. See HANS-JOACHIM FEUERBORN, EUROPEAN COAL COMBUSTION PRODS. ASS’N, *Coal Ash Utilisation Over the World and in Europe* 28 (Nov. 23–24, 2005), http://www.coal-ash.co.il/sadna/Presentation_Feuerborn.pdf [<https://perma.cc/D957-WYB8>] (last visited Nov. 8, 2017) (showing that out of 65 million tons of coal ash the EU temporarily stockpiled 5.3 million tons and disposed of 2.4 million tons in 2003).

120. Sear, *supra* note 117, at 66.

121. *Id.* at 64.

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.*

130. *Id.*

131. *Id.*

environment, [w]ater supply, [w]aste water disposal, [s]olid waste disposal, and [o]utdoor environment.”¹³² ER3 requires that materials, such as coal-ash products, enter the market after there is an EU-wide standard.¹³³ Without such a standard, these products cannot enter the market and could not be sold within the EU.¹³⁴ Furthermore, this standard involves environmental testing to ensure consistency in the regional market.¹³⁵

A third regulation is the Registration, Evaluation, and Authorisation of Chemicals (REACH), which moves “the burden of proof for demonstrating the safe use of chemicals . . . from Member States to the producing industry.”¹³⁶ This requires that the producer, which is registered in a central database, collect and submit data to show that the chemical is safe for sale.¹³⁷ Allowing this to occur removes the burden, both financial and scientific, from the States and places it directly on the producers.

Although Mr. Sear’s article shows the duplicative and potentially excessive bureaucracy in regulating coal ash reuse in the EU, it also shows that the region is seriously considering the impacts of coal ash on environmental and human health. The chemicals leaching out of the coal ash ponds “can then be absorbed by humans if they drink contaminated water.”¹³⁸ In addition, fish swimming “in water contaminated with coal ash can absorb these harmful chemicals, thereby endangering animals and humans who consume such fish.”¹³⁹ The EU has a much greater record of reusing coal ash to make new products through successful regulations, even though they may be overly burdensome and bureaucratic. The United States, however, does not have such regulations to promote recycling coal ash into new products, but should.

2. China

In China, the utilization rate of coal ash in 2010 was 67%, so the nation only had 33% of its coal ash left to dispose of in other ways.¹⁴⁰ That utilization rate is still higher than the United States, which was at 42% that same year.¹⁴¹ However, China’s utilization rate is significantly lower

132. *Id.* at 64–65.

133. *Id.* at 65.

134. *Id.*

135. *Id.*

136. *Id.*

137. *See id.* (inferring that once registered in the database, product is then safe for sale on the market).

138. Goemann, *supra* note 14, at 429.

139. *Id.* (citing Korb, *supra* note 79, at 1179).

140. Heidrich et al., *supra* note 116.

141. *Id.*

compared to the EU. One of the largest differences is that China has a weaker rule of law than the EU.¹⁴² With a weaker rule of law comes the inability to enforce without continuous inspection and punishment.¹⁴³

Another weakness in China's coal-ash regulation comes from having two different responsible agencies: China's National Development and Reform Commission (NDRC) and Ministry of Environmental Protection (MEP).¹⁴⁴ For instance, the "NDRC is responsible for managing coal ash utilization while the MEP is concerned with preventing coal ash from polluting the environment."¹⁴⁵ Moreover, several different departments oversee various pieces of the whole, which furthers the lack of total responsibility.¹⁴⁶ The NDRC has three different departments looking at different issues in various regions of the country, while the MEP has five different departments working on diverse responsibilities.¹⁴⁷

With many departments examining smaller and more focused aspects of China's potential coal ash problems, it may have decreased the severity of the issue. "MEP law enforcement methods appear relatively weak,"¹⁴⁸ but China's "economic ministries and their resource-utilization policies have grown stronger" over time.¹⁴⁹ With that increase in power, China's economic ministries have prioritized the reuse and recycling of coal ash.¹⁵⁰

Importantly, "once coal ash . . . has been recycled into other byproducts or finished products . . . it no longer falls under the jurisdiction of environmental protection laws on solid waste."¹⁵¹ That is a significant difference from the EU, "which regulates recycled coal ash products as commercial chemical products."¹⁵² That also differs from the United States, which gives the EPA complete authority over coal ash ponds, but almost no oversight of the reuse of coal ash.¹⁵³ Both China and the EU have significantly higher utilization rates than the United States.¹⁵⁴ The United

142. See generally Wai-Hang Yee et al., *Regulatory Compliance When the Rule of Law Is Weak: Evidence from China's Environmental Reform*, 26 J. OF PUBLIC ADMIN. RESEARCH & THEORY 95, 95 (2016) (examining China's environmental regulations in comparison to regulatory compliance in Western countries).

143. *Id.* at 109.

144. AILUN ET AL., *supra* note 55, at 13.

145. *Id.* at 13.

146. *Id.* at 14.

147. *Id.*

148. *Id.* at 18.

149. *Id.* at 17–18.

150. *Id.*

151. *Id.* at 18.

152. *Id.*

153. *Coal Ash Reuse*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/coalash/coal-ash-reuse> [<https://perma.cc/PLV2-EYAW>] (last updated June 7, 2017).

154. Heidrich et al., *supra* note 116.

States could take lessons from both countries and implement the necessary steps to increase its utilization rates to decrease the amount of coal ash entering impoundments like coal ash ponds.

In recent years, China has shown improvement in its coal-ash regulation. Beginning in 2015, China banned the import of coal with a high ash content.¹⁵⁵ In doing so, the country will, perhaps unintentionally, reduce its coal ash production. Rather than take the approach of most countries of either increasing reuse or decreasing coal consumption, China has chosen to eliminate the use of coal with higher amounts of ash.¹⁵⁶

D. Climate Change Will Exacerbate Coal Ash Pollution

Climate change will likely cause continued changes in some weather patterns.¹⁵⁷ This includes increased flooding, drought, and hurricane intensity and frequency, among others.¹⁵⁸ An increase in uncontrollable storms, stronger storms, and greater flooding could lead to more so-called accidental discharges of coal ash into nearby rivers. Heavy precipitation and river flooding will both likely increase in the future.¹⁵⁹ Because coal ash ponds are constructed directly next to rivers, there is little to hold the navigable waters separate from the coal ash ponds when water levels rise.¹⁶⁰ With extreme storms becoming more frequent,¹⁶¹ winds and rainfall may likely cause the contaminated water from coal ash ponds to breach their banks and flow directly into the rivers. Keeping the waters separate would require a challenging engineering project, such as installing a filter to clean any water leaving the area around the coal ash pond.¹⁶² At that point, it

155. Chuin-Wai Yap et al., *China to Ban Coal with High Ash, Sulfur*, WALL ST. J. (Sept. 16, 2015, 6:15 AM), <https://www.wsj.com/articles/china-coal-ban-highly-polluting-types-banned-starting-in-2015-1410852013> [<https://perma.cc/X8ZR-FUAJ>].

156. *Id.*

157. See *Climate Change Indicators: Weather and Climate*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/climate-indicators/weather-climate> [<https://perma.cc/9XQN-VRDP>] (last updated Aug. 2, 2016) (referring to the overall change seen globally in weather patterns).

158. See *id.* (explaining that some areas have seen increased storm activity where others have not).

159. See *id.* (referring to how precipitation and flooding have increased and will most likely continue to increase in the future with some exceptions).

160. See generally *Waterkeeper Alliance and North Carolina Riverkeepers Respond to Hurricane Matthew Flooding in North Carolina*, WATERKEEPER ALLIANCE (Oct. 11, 2016), <http://waterkeeper.org/waterkeeper-alliance-and-north-carolina-riverkeepers-respond-to-flooding-in-north-carolina-document-impacts-to-industrial-meat-production-facilities-and-coal-ash-ponds-in-the-aftermath-of-hurricane-m/> [<https://perma.cc/9PA6-AM8P>] (reporting about the possibility of a coal ash pond and Neuse River mixing after water level rose during Hurricane Matthew).

161. *Climate Change Indicators: Weather and Climate*, *supra* note 157 (“Nationwide, nine of the top [ten] years for extreme one-day precipitation events have occurred since 1990.”).

162. See AMIAD WATER SYSTEMS, COAL ASH POND POLISHING FILTER SYSTEM, COAL FIRED POWER PLANT, NORTH CAROLINA, USA 1 (2017), <http://amiad.com/files/Case%20Study%20>

arguably becomes more feasible to clean or to store the coal ash in a more responsible manner.

An increase in temperatures, or as the EPA describes it, high and low temperatures, could lead to an increase in coal ash production.¹⁶³ Due to this temperature change, where the days are hotter and the nights are colder, the heat and air conditioning in each house will likely be running harder and more often than before.¹⁶⁴ A greater need for electricity for heating and air conditioning will drive up the amount of coal burned and, thus, the amount of coal ash produced.¹⁶⁵

The United States Energy Information Administration (EIA) conducts an annual survey on the different data available for coal in the United States.¹⁶⁶ In 2015, the EIA found that “U.S. coal production dropped 10.3% year-over-year to . . . the lowest annual production level since 1986.”¹⁶⁷ Coal consumption decreased, coal mining decreased, and the average price of coal decreased.¹⁶⁸ This shows that there is a push toward clean energy. The 2015 EIA study did not analyze the impacts of clean-energy technologies on the demand of energy or if the decrease was simply a decline in the demand for electricity overall. Clean-energy technologies could help reduce the amount of coal ash produced over time by decreasing the world’s reliance on coal technologies for energy production. But, even with a move toward clean energy, coal ash ponds will continue to sit by the rivers, releasing pollutants into nearby waters.

Climate change could also affect the lined coal ash ponds labelled as safe for storage.¹⁶⁹ When some ponds are constructed, a builder may place a

%20Coal%20ash%20pond%20polishing%20filter%20system.pdf [https://perma.cc/4AP3-BXA8] (describing a filtration system that would clean waste water that leaves coal ash ponds).

163. See generally *Climate Change Indicators: Weather and Climate*, *supra* note 157 (explaining the global change in temperatures).

164. Richard Gaughan, *Can Outside Temperature Affect Central AC?*, SCIENCING, <http://sciencing.com/can-outside-temperature-affect-central-ac-23326.html> [https://perma.cc/UN5J-MHR6] (last updated Apr. 24, 2017).

165. See *Climate Change Indicators: Weather and Climate*, *supra* note 157 (discussing how “[m]any extreme temperature conditions are becoming more common” and how extreme temperatures will inherently demand greater energy).

166. U.S. ENERGY INFO. ADMIN., ANNUAL COAL REPORT 2015 iv (Nov. 2016), <https://www.eia.gov/coal/annual/archive/05842015.pdf> [https://perma.cc/V2KH-PEL3] [hereinafter COAL REPORT 2015].

167. *Id.* at vii; see also U.S. ENERGY INFO. ADMIN., ANNUAL COAL REPORT 2016 vii (Nov. 2017), <https://www.eia.gov/coal/annual/pdf/acr.pdf> [https://perma.cc/D35R-REZ7] [hereinafter COAL REPORT 2016] (“In 2016, U.S. coal production dropped 18.8% year-over-year to 728.4 million short tons, the lowest annual production level since 1979).

168. COAL REPORT 2015, *supra* note 166, at vii; see also COAL REPORT 2016, *supra* note 167, at vii (showing a continued decrease in coal consumption, coal mining, and the average price of coal).

169. See Goemann, *supra* note 14, at 433–34 (explaining that coal ash ponds can leach into groundwater).

lining to decrease the chance of leaching compared to unlined ponds.¹⁷⁰ In doing so, the usual storage process will continue until coal ash is no longer stored with water or near water. This leaching may require that all coal ash ponds be moved to ensure the nearby waters remain healthy.

Therefore, to effect change and protect both human and environmental health, the Supreme Court must choose to hold that coal ash ponds are point source discharges. The leaking of pollutants into navigable waters, regardless of how they get there, should trigger the CWA. The numerous possible effects of climate change could directly and negatively impact coal ash ponds, leading to an increase in pollution. Combining the congressional intent of the CWA with the possible future impacts of coal ash ponds on water resources, the Supreme Court has the motivation and necessary resources to require the EPA to strengthen its regulation of clean water to ensure that coal ash ponds do not continue to pollute CWA waters.

IV. IMPLICATIONS OF A SUPREME COURT HOLDING THAT COAL ASH PONDS CONSTITUTE A POINT SOURCE DISCHARGE

If the Supreme Court held that coal ash ponds are discrete and confined conveyances and constitute point sources under the CWA, then this would have several impacts on coal ash ponds across the country. First, energy companies would have to either move the many existing unlined coal ash ponds to a newly constructed lined pond or fully seal them to prevent the future discharge of pollutants. These potential solutions would cause some additional implications, but they could have better overall impacts on the “waters of the United States,” which is the fundamental goal of the CWA.¹⁷¹ Some energy companies have proposed simply to cap their coal ash ponds as a solution.¹⁷² However, that would not prevent all discharges from ponds. A cap would only prevent spills from a coal ash pond overflowing its banks after a rainfall, causing a discharge into a nearby river. While a cap provides a good step in the right direction, energy companies could do significantly better to protect the integrity of navigable waters.

170. *Id.* at 448.

171. 33 U.S.C. § 1251 (2012).

172. Robert Walton, *Duke to Cap Two-Thirds of Coal Ash Basins in North Carolina*, UTILITYDIVE (Nov. 15, 2016), <http://www.utilitydive.com/news/duke-to-cap-two-thirds-of-coal-ash-basins-in-north-carolina/430416/> [<https://perma.cc/Y8CR-LGCP>]; Dennis Pillion, *Alabama Power Plans to Cap Coal Ash Ponds in Place; Environmental Groups Urge Removal*, AL.COM (Nov. 17, 2016), http://www.al.com/news/birmingham/index.ssf/2016/11/coal_ash_closures_alabama_powe.html [<https://perma.cc/6P7A-69Z2>].

A complete sealing of the coal ash ponds would be necessary to prevent the leaks and spills that would still occur with a cap. This sealing would prevent movement of the coal ash to any point beyond the barrier. Another alternative would be moving the coal ash ponds to another location. That would prevent the frequency and intensity of spills into rivers, but movement presents its own challenges. Changing the location of coal ash ponds could mean additional spills or other accidents during transport, additional locations contaminated with coal ash, or similar consequences with improper construction. But, even with this relatively minor possibility of pollution, it significantly outweighs the amount of coal ash currently leaking and polluting navigable waters. One court has even ordered an energy utility to remove the coal ash ponds, calling the placement of such ponds near rivers a mistake.¹⁷³

Second, there is a potential for more than only a leak. The EPA would possibly consider an accidental seepage from a properly constructed coal ash pond as a point source discharge. Accidents do happen, and courts will likely find an exception for true accidental leaks, even if the EPA does not provide such an exception in its rules promulgated after that court decision. An exception for accidental leaks would take away some of the significant power that this ruling could have. It would provide courts with an exception that they could quickly enlarge rather than having a rule with no exceptions. This exception may also provide courts with another unclear part of the CWA in trying to clear up the current lack of clarity on CWA jurisdiction. Overall, the EPA would likely provide its own exceptions after the Supreme Court ruled that coal ash ponds are confined and discrete conveyances of pollutants, even when they are not discharging pollutants directly into navigable waters.

In weighing these potential impacts of a Supreme Court ruling that coal ash ponds are point source discharges, the benefits clearly outweigh the potential burdens. Such a holding could force energy companies to remove or properly dispose of their current coal ash ponds. In addition, energy companies would likely have an increased cost of using coal, so they may begin to rely even more on clean energy. This could reduce their coal consumption further and thus reduce their coal-ash production. Effectively, the Court could deter the use of coal in the future and further increase the

173. *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069, at *63 (M.D. Tenn. Aug. 4, 2017) (“The way to do so is not to cover over those decades-old mistakes, but to pull them up by their roots.”).

use of other cleaner energy sources.¹⁷⁴ The higher cost of coal power plants may incentivize energy companies to transition over to other energy sources. Therefore, the burdens, potentially higher energy costs for consumers and higher costs for coal combustion due to its greater regulatory burden, end up being a benefit for both humans and the environment.

CONCLUSION

The CWA does not readily provide protections against nonpoint source discharges for clean water, but it does give significantly more protection against point source discharges. The CWA provides a strict definition of a point source. Coal ash ponds meet that definition. A coal ash pond fits into that definition because it is a “discernible, confined and discrete conveyance of pollutants.”¹⁷⁵ Energy companies fill ponds with coal ash, which then leaks into navigable waters through groundwater. Some courts have decided that the CWA does not cover this conveyance of pollutants because there is no direct discharge into navigable waters. However, because the statute is not clear on this issue, the congressional intent of the CWA supports the argument that Congress intended to cover such a discharge because of its large impact on human and environmental health. Furthermore, other courts have ruled in this line of thinking that such discharges constitute a point source discharge even though the pollutant travels through groundwater.

Considering international regimes on coal ash, the United States is severely lagging behind many other countries in dealing with this issue that could only get worse with climate change in the future. Congress may not amend the CWA soon, and the EPA and the Corps are currently attempting to revise their Clean Water Rule. So, neither of those two potential legislative or regulatory routes is likely to provide the statutory framework to cover coal ash ponds. Therefore, the Supreme Court must hold that coal ash ponds constitute a point source discharge even when the pollutants travel through groundwater to reach navigable waters. The Court will have a multitude of cases to choose from over the next few years as more cases advance through the appellate process. Even considering the implications that this may have on energy companies and industry generally, the Supreme Court should make that ruling to protect human and

174. See James Temple, *The Biggest Clean Energy Advances in 2016*, MIT TECH. REV. (Dec. 29, 2016), <https://www.technologyreview.com/s/603275/the-biggest-clean-energy-advances-in-2016/> [https://perma.cc/MFY6-LFL8] (“Clean energy made critical strides in 2016.”).

175. 33 U.S.C. § 1362(14).

environmental health and safety as Congress originally intended with the CWA.