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ONE WOTUS, TWO POTUS: THE CLEAN WATER ACT AND THE ECONOMIC IMPACT

Brad Finney

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ONE WOTUS, TWO POTUS: THE CLEAN WATER ACT AND THE ECONOMIC IMPACT

BRAD FINNEY*

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INTRODUCTION

“Horrible, horrible.”¹ President Trump and President Obama are no strangers to engaging in a war of words.² These two have critiqued one another on a variety of policy issues spanning from foreign defense to economic policy,³ and they have especially differed when it comes to environmental policy.⁴ Specifically, one of President Trump’s campaign promises was to roll back the changes made by President Obama to the Clean Water Act (CWA)—a regulation on which both administrations vehemently disagreed.⁵ Both President Trump and President Obama have claimed that their application of the CWA

1. Evan Halper, *Trump Directs EPA to Begin Dismantling Clean Water Rule*, L.A. TIMES (Feb. 28, 2017), <https://www.latimes.com/politics/la-na-pol-trump-water-20170228-story.html>.

2. See, e.g., Edward-Isaac Dove & Andrew Restuccia, *Obama vs. Trump: The Clash Everyone’s Waited for Arrives*, POLITICO (Sept. 7, 2018, 9:16 PM), <https://www.politico.com/story/2018/09/07/obama-trump-speech-2018-811257>; Juana Summers & Sara Burnett, *Obama Issues Scathing Critique of Trump, “Politics of Fear,”* ASSOCIATED PRESS (Sept. 7, 2018), <https://www.apnews.com/a5dce2f480a045c9a7ad3c2c42618f17>.

3. See Peter Baker, *Trump Claims Credit for the Economy. Not So Fast, Says Obama*, N.Y. TIMES (Sept. 9, 2018), <https://www.nytimes.com/2018/09/09/us/politics/trump-obama-economy.html>; Philip Bump, *In June 2016, Trump Tweeted Nine Charts Criticizing Obama. Let’s See How He Stacks Up*, WASH. POST (Apr. 30, 2019, 1:18 PM), https://www.washingtonpost.com/politics/2019/04/30/june-trump-tweeted-nine-charts-criticizing-obama-lets-see-how-he-stacks-up/?utm_term=.6d37159b6658; Scott Horsley, *Patient Diplomacy and a Reluctance to Act: Obama’s Mark on Foreign Policy*, NPR (Sept. 20, 2016, 5:01 AM), <https://www.npr.org/2016/09/20/494625983/patient-diplomacy-and-a-reluctance-to-act-obamas-mark-on-foreign-policy>.

4. See Timothy Cama, *Trump Moves to Kill Obama Water Rule*, HILL (Feb. 28, 2017, 2:48 PM), <https://thehill.com/policy/energy-environment/321610-trump-directs-epa-to-reconsider-obama-water-rule>; Timothy Cama, *Trump Moves to Relax Obama-era Water Protections*, HILL (Dec. 11, 2018, 11:30 AM), <https://thehill.com/policy/energy-environment/420775-trump-moves-to-relax-obama-era-water-protections>; Coral Davenport, *Trump Prepares to Unveil a Vast Reworking of Clean Water Protections*, N.Y. TIMES (Dec. 10, 2018) [hereinafter *Vast Reworking of Clean Water Protections*], <https://www.nytimes.com/2018/12/10/climate/trump-clean-water-rollback.html>; see also Coral Davenport, *Obama Announces New Rule Limiting Water Pollution*, N.Y. TIMES (May 27, 2015) [hereinafter *Obama New Rule*], <https://www.nytimes.com/2015/05/28/us/obama-epa-clean-water-pollution.html>; Ledyard King, *Trump EPA Takes Aim at Obama-era Clean Water Rules, Prompting Outcry from Environmentalists*, USA TODAY (Dec. 12, 2018, 10:50 AM), <https://www.usatoday.com/story/news/politics/2018/12/10/clean-water-rollback-epas-new-rule-expected-revise-waters-us/2269060002/>.

5. See sources cited *supra* note 4.

would improve the national economy.⁶ And President Trump has repeatedly declared that President Obama's changes to the CWA hurt the economy.⁷ In fact, President Trump described Obama's changes as "horrible, horrible . . . everything about it is bad."⁸ This Article aims to objectively analyze the economic impact of the changes made by each administration to this controversial regulation.

The CWA is a U.S. federal law that regulates pollution discharges into the nation's waters and is administered by the Environmental Protection Agency (EPA).⁹ The CWA is fraught with ambiguous, unclear, and confusing standards as to what water is covered by the CWA's jurisdiction, and this has led to uncertainty for landowners, businesses, the EPA, the U.S. Army Corps of Engineers (Corps), and the courts.¹⁰ The Clean Water Rule (Obama's Rule) was promulgated by the Obama administration to clarify standards and increase the predictability of identifying the waters that are covered by the CWA.¹¹ More specifically, Obama's Rule was meant to clarify what bodies of

6. See *Obama New Rule*, *supra* note 4 (discussing Obama's proposal and the potential economic benefit); Ellie Kaufman, *EPA Announces New Definition of Waters Protected Under Clean Water Act*, CNN (Dec. 11, 2018, 4:35 PM), <https://www.cnn.com/2018/12/10/politics/epa-wotus/index.html>; see also U.S. ENVTL. PROT. AGENCY & U.S. DEP'T OF THE ARMY, ECONOMIC ANALYSIS OF THE EPA-ARMY CLEAN WATER RULE 53–54 (2015) (analyzing the cost and benefits of the CWA); *In Case You Missed It: Trump WOTUS Proposal Heralded as Common Sense Approach to Clean Water Regulation*, U.S. ENVTL. PROTECTION AGENCY (Dec. 12, 2018) [hereinafter *In Case You Missed It*], <https://www.epa.gov/newsreleases/case-you-missed-it-trump-wotus-proposal-heralded-common-sense-approach-clean-water> (stating that Trump's proposal would result in cost savings).

7. See Jeff Daniels, *Trump Executive Order Seeks to Roll Back Controversial Obama Water Rules*, CNBC (Feb. 28, 2017, 7:32 PM), <https://www.cnbc.com/2017/02/28/trump-executive-order-seeks-to-roll-back-controversial-obama-water-rule.html>; Halper, *supra* note 1.

8. Halper, *supra* note 1.

9. *Summary of the Clean Water Act*, EPA, <https://www.epa.gov/laws-regulations/summary-clean-water-act> (last updated Mar. 11, 2019).

10. See Lawrence Hurley, *Supreme Court's Murky Clean Water Act Ruling Created Legal Quagmire*, N.Y. TIMES (Feb. 7, 2011), <https://archive.nytimes.com/www.nytimes.com/gwire/2011/02/07/07greenwire-supreme-courts-murky-clean-water-act-ruling-cr-33055.html?pagewanted=all>. See generally Kristen Clark, *Navigating Through the Confusion Left in the Wake of Rapanos: Why a Rule Clarifying and Broadening Jurisdiction Under the Clean Water Act Is Necessary*, 39 WM. & MARY ENVTL. L. & POL'Y REV. 295, 297 (2014), <https://scholarship.law.wm.edu/wmelp/vol39/iss1/10> (explaining the then-current state of confusion and heightened litigation resulting from an unclear standard in the CWA and calling for a "necessary and beneficial" change "through the rulemaking process").

11. See U.S. ENVTL. PROT. AGENCY & DEP'T OF THE ARMY, *supra* note 6, at iv.

water are covered under the CWA's jurisdiction by the phrase the "waters of the United States" from Section 502(7) of the CWA.¹² The Trump administration replaced Obama's Rule with its own proposed rule (Trump's Rule) that eliminated much of the protection for waters across the United States with the goal of improving the economy.¹³ On January 23, 2020, the Trump administration finalized Trump's Rule.¹⁴ This Article was written before the final rule was released and focuses on the proposed version of the rule, which does not substantially differ from the final version.

Part I of this article provides a summary of the background of the CWA. Section A contains an explanation of the prior regulations, litigation, and confusion that led to the need for a clear definition of the water covered by "waters of the United States." Section B includes a history of the rulemaking to clarify the "waters of the United States" phrase. Section C provides an explanation and analysis of the salient changes, clarifications, additions, and reductions made in each administration's rule. Section D discusses the scientific evidence used by the Obama administration to administer their rule. Last, Section E discusses each administration's prediction of the economic impact their respective rules would have on the national economy.

Part II of this Article focuses on the economic impact of each administration's rule. Section A discusses why Obama's Rule makes it easier to predict the jurisdictional coverage of the CWA. This section also discusses why greater predictability leads to increased economic benefits. Section B begins by arguing that Obama's Rule increases the overall water quality due to its increase in jurisdictional coverage. Next, this section discusses the impact that more clean water has on the economy, the health risks associated with water pollution, and how the reduction of such risks would lead to economic benefits. Section B then discusses the impact that more clean water has on tourism and real estate development. This section also discusses the cost of water filtration due to pollution and examines the businesses that rely on highly filtered water. Subsequently, this section explains that some businesses will face increased costs as a result of Obama's Rule and would thus benefit from the implementation of Trump's Rule. Finally, in Section C, this Article concludes with a discussion of

12. *See id.*

13. Timothy Gardner, *Trump Administration Proposes Weakening U.S. Waterway Protections*, REUTERS (Dec. 11, 2018, 7:03 AM), <https://www.reuters.com/article/us-usa-wetlands-trump/u-s-proposing-to-weaken-obama-era-wetland-protections-idUSKBN1OA170>; *see In Case You Missed It, supra* note 6.

14. *Final Rule: The Navigable Waters Protection Rule*, EPA, <https://www.epa.gov/nwpr/final-rule-navigable-waters-protection-rule> (last updated Jan. 23, 2020).

the agriculture industry, the exemptions provided by both administration's rules, and the economic impact of those exclusions.

I. BACKGROUND

A. *The CWA Requirements and Court Rulings that Led to the Need for Further Clarity*

The central provision of the CWA is Section 301.¹⁵ This section requires a limit on point source discharges of pollution based on the available technology and is administered by a permit program required by Section 402.¹⁶ Further, Section 404, which has been at the center of much litigation, states that a party must obtain a permit from the Corps to discharge dredged materials into navigable waters.¹⁷

The most relevant provisions of the CWA that led to the need for a clarification of the term "waters of the United States" are: Section 301, which states that (except for those with a permit and other discharges made in compliance with the CWA) a "discharge of any pollutant" is prohibited and imposes effluent limitations on existing sources of pollution;¹⁸ Section 502(12), which defines the discharge of a pollutant as the addition of any pollutant into "Navigable Waters" from a point source;¹⁹ and Section 502(7), which defines navigable waters as "waters of the United States, including the territorial seas."²⁰ The CWA does not further clarify or define what waters the phrase "waters of the United States" encompasses.²¹ Thus, confusion, uncertainty, and much litigation ensued as to what constitutes "waters of the United States" and what water is under the jurisdiction of the CWA.²²

15. See 33 U.S.C. § 1331 (1995); ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 669 (7th ed. 2013).

16. See 33 U.S.C. § 1342 (2019); PERCIVAL ET AL., *supra* note 15, at 669.

17. See 33 U.S.C. § 1344 (1987); PERCIVAL ET AL., *supra* note 15, at 670.

18. 33 U.S.C. § 1311(a) (1995).

19. 33 U.S.C. § 1362(12) (2019).

20. *Id.* § 1362(7).

21. See Water Pollution Prevention and Control Act, 33 U.S.C. §§ 1251–1388 (West, Westlaw through Pub. L. No. 116-91).

22. See, e.g., *Rapanos v. United States*, 547 U.S. 715, 759–69 (2006) (Kennedy, J., Concurring); *Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Eng'rs*, 531 U.S. 159, 171–72 (2001); *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 138–39 (1985).

For much of the time leading up to the mid-1990s, "waters of the United States" was interpreted by the courts to broadly encompass a vast spectrum of "navigable waters," including water adjacent to the navigable water and all tributaries, and was applied to the fullest extent possible under the Interstate Commerce Clause.²³ For instance, in *United States v. Riverside Bayview Homes, Inc.*, the United States Supreme Court ruled that wetlands that were adjacent to navigable waters but were not actually physically connected to the navigable waters were included in the CWA's jurisdiction.²⁴ However, in 1995, the Interstate Commerce Clause was narrowed by *United States v. Lopez* to only include activities that substantially influence interstate commerce.²⁵

Then, in 2001, a key decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* narrowed the definition of the "waters of the United States."²⁶ In that case, the Supreme Court held that the CWA only had jurisdiction over waters that were actually navigable or could reasonably be made navigable.²⁷ Subsequently, in 2006, in *Rapanos v. United States*, no majority decision was reached; however, in a separate concurring opinion, Justice Kennedy declared the now influential "significant nexus" test.²⁸ That test stated that wetlands not adjacent to a traditionally navigable water must have a significant nexus with a traditionally navigable water to be under the jurisdiction of the CWA.²⁹ Justice Kennedy stated that the meaning of a significant nexus is when a wetland has an important effect on the navigable water's quality of water.³⁰

Justice Scalia, joined by three other justices, authored the plurality opinion in *Rapanos*, concluding that wetlands are jurisdictional only if a wetland has a permanent surface water connection with another jurisdictional body of water.³¹ Justice Stevens, joined by three other justices, wrote in dissent, criticizing Justice Scalia's opinion because it was an unpersuasive departure from *Riverside Bayview Home, Inc.*³² Justice Stevens also expressed

23. *Riverside Bayview Homes, Inc.*, 474 U.S. at 121, 138–39.

24. *Id.*

25. 514 U.S. 549, 561–63 (1995).

26. *Solid Waste Agency of N. Cook Cty.*, 531 U.S. at 171–72.

27. *Id.*

28. 547 U.S. 715, 759–69 (2006) (Kennedy, J., Concurring).

29. *Id.* at 759.

30. *Id.* at 780–85.

31. *Id.* at 742 (plurality opinion).

32. *Id.* at 787–88 (Stevens, J., Dissent).

skepticism, however, regarding whether any wetlands in the nation could meet Justice Kennedy's significant nexus test.³³ Given the differing judicial holdings in these cases and the subsequent review by higher courts, interpreting the jurisdiction of the CWA resulted in an enormous amount of confusion and uncertainty for all parties.³⁴

B. History of the Rulemaking

In 2011, the EPA attempted to resolve the confusion surrounding the "waters of the United States" by releasing proposed guidance regarding the jurisdiction of the CWA.³⁵ And the EPA revealed plans to create a new rule to specifically address the uncertainty of CWA's jurisdiction.³⁶ During this time, the EPA Office of Research and Development compiled a draft of scientific evidence providing proof that streams, tributaries, and other waters significantly impact downstream waters.³⁷ This evidence was eventually used by the EPA to support Obama's Rule.³⁸ In 2014, the Science Advisory Board (SAB) of the EPA completed a scientific peer review of this evidence and, shortly thereafter, made it available for comments from the public.³⁹ In the spring of 2014, the EPA and the Corps released the proposed version of Obama's Rule for public comment.⁴⁰

During this time, the EPA held over 400 meetings to hear opinions from a variety of interest groups and received more than 1 million

33. *Id.* at 807–09.

34. See Hurley, *supra* note 10.

35. PERCIVAL ET AL., *supra* note 15, at 692–93; see *Guidance to Identify Waters Protected by the Clean Water Act*, EPA, <https://www.epa.gov/cwa-404/guidance-identifying-waters-protected-clean-water-act> (last visited Jan. 30, 2020).

36. See *A Review of the Technical, Scientific, and Legal Basis of the WOTUS Rule: Hearing Before the Senate Comm. on Env't and Pub. Works*, 115th Cong. 2–3 (2017) (statement of Ken Kopocis, Associate Professor, American University Washington College of Law), <https://www.hsdl.org/?view&did=802856>.

37. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,057 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328); U.S. ENVTL. PROT. AGENCY, *CONNECTIVITY OF STREAMS AND WETLANDS TO DOWNSTREAM WATERS: A REVIEW AND SYNTHESIS OF THE SCIENTIFIC EVIDENCE*, at xii (2015), <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=296414>.

38. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,057.

39. See U.S. ENVTL. PROT. AGENCY, *supra* note 37, at xii.

40. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,057.

comments from the public regarding the proposed rule.⁴¹ In October of 2014, the SAB submitted its review that supported the scientific evidence proffered by the EPA Office of Research and Development in 2013.⁴² In May of 2015, the EPA and the Corps signed Obama's Rule, which put it into effect in August of 2015.⁴³ Obama's Rule defined "waters of the United States" as the following: (1) "Traditional, navigable waters, interstate waters, the territorial seas, or impoundments of such waters"; (2) "Tributaries—as newly defined in the Clean Water Rule—of traditional navigable waters, interstate waters, and the territorial seas"; and (3) "Waters, including wetlands, lakes, ponds, and 'similar waters,' that are 'adjacent' to traditional navigable waters, interstate waters, and the territorial seas."⁴⁴ Further, "[s]ome waters . . . remain subject to a case-specific evaluation as to whether they have a significant nexus to traditional navigable waters, interstate waters, and the territorial seas" and "[a] number of waters are categorically excluded from Clean Water Act jurisdiction, including prior converted cropland, groundwater and certain ditches, and stormwater management systems."⁴⁵

Soon after Obama's Rule was finalized, lawsuits challenging it were filed in several federal district courts.⁴⁶ The many plaintiffs

41. U.S. ENVTL. PROT. AGENCY, THE CLEAN WATER RULE FOR: DEVELOPMENT FACTSHEET 1 (2015), <https://archive.epa.gov/epa/cleanwaterrule/clean-water-rule-factsheets.html>.

42. U.S. ENVTL. PROT. AGENCY, SAB REVIEW OF THE DRAFT EPA REPORT CONNECTIVITY OF STREAMS AND WETLANDS TO DOWNSTREAM WATERS: A REVIEW AND SYNTHESIS OF THE SCIENTIFIC EVIDENCE 1–3 (2014), <https://nepis.epa.gov/Exe/ZyNET.exe/P100RO1Y.txt?ZyActionD=ZyDocument&Client=EPA&Index=2011%20Thru%202015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEXT%20DATA%5C11THRU15%5CTXT%5C00000025%5CP100RO1Y.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1>.

43. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,054.

44. STEPHEN P. MULLIGAN, CONG. RESEARCH SERV., R44585, EVOLUTION OF THE MEANING OF "WATERS OF THE UNITED STATES" IN THE CLEAN WATER ACT 25 (2019).

45. *Id.*

46. Jenny Hopkinson, *Obama's Water War*, POLITICO (May 28, 2015, 2:56 PM), <https://www.politico.com/story/2015/05/epa-waterways-wetlands-rule-118319>; Juan Carlos Rodriguez, *States, Industry Tell 6th Circ. Feds' Water Rule Can't Stand*, LAW360 (Nov. 1, 2016, 8:19 PM), <http://www.law360.com/articles/858330/states-industry-tell-6th-circ-feds-water-rule-can-t-stand>.

filing these suits included industry groups, environmental groups, and multiple states.⁴⁷ The lawsuits claimed that in promulgating Obama's Rule, the federal government violated the Administrative Procedure Act (the APA) because Obama's Rule was not a "logical outgrowth" from the proposed version of Obama's Rule and some requirements were arbitrary.⁴⁸

These lawsuits were consolidated into one action and assigned to the U.S. Court of Appeals for the Sixth Circuit, and in October of 2015, that court issued a nationwide stay of the enforcement of Obama's Rule.⁴⁹ Due to this nationwide stay, the CWA was enforced under the unclear and troubling standards used prior to the issuance of Obama's Rule.⁵⁰ By January of 2016, both the Senate and House had voted to block Obama's Rule from becoming effective, which President Obama vetoed.⁵¹ Then, in May of 2016, the Supreme Court held that landowners can seek review of a finding that their property is under the CWA's jurisdiction because these jurisdictional determinations are a final agency action subject to review under the APA.⁵²

After President Trump repeatedly promised to repeal and replace Obama's Rule while on the campaign trail, the EPA announced, in June of 2017, its plan to uphold President Trump's campaign promise.⁵³ In February of 2018, Scott Pruitt, then Administrator of the EPA, oversaw the suspension of Obama's Rule from implementation.⁵⁴ In August of 2018, a federal district court ruled that the EPA did not provide sufficient public notice of the suspension nor did it allow for a comment period as required under the APA.⁵⁵

47. See sources cited *supra* note 46.

48. See Rodriguez, *supra* note 46.

49. See *In re EPA*, 803 F.3d 804, 806 (6th Cir. 2015), *vacated sub nom. In re U.S. Dep't of Def.*, 713 F. App'x 489 (6th Cir. 2018).

50. Hurley, *supra* note 10.

51. Timothy Cama, *Obama Vetoes GOP Attempt to Block Water Rule*, HILL (Jan. 19, 2016, 7:22 PM), <http://thehill.com/policy/energy-environment/266395-obama-vetoes-gop-attempt-to-block-water-rule>.

52. See *U.S. Army Corps of Eng'rs v. Hawkes Co.*, 136 S. Ct. 1807, 1812–16 (2016).

53. See *Vast Reworking of Clean Water Protections*, *supra* note 4; Miranda Green, *EPA to Propose Easing Obama Water Rule*, HILL (Dec. 7, 2018, 3:00 PM), <https://thehill.com/policy/energy-environment/420308-epa-to-re-write-definition-to-shrink-pollution-protections-on>; King, *supra* note 4.

54. See sources cited *supra* note 53.

55. *S.C. Coastal Conservation League v. Pruitt*, 318 F. Supp. 3d 959, 969 (D. S.C. 2018); Miranda Green, *Judge Rules Against Trump Attempt to Delay Obama Water Rule*, HILL (Aug. 16, 2018, 5:33 PM), <https://thehill.com/policy/energy->

Thus, as a result of this ruling, a nationwide injunction on the Trump administration's suspension of Obama's Rule was implemented, which reinstated Obama's Rule in twenty-six states.⁵⁶ In the other twenty-four states, Obama's Rule was not reimplemented due to injunctions from several district courts.⁵⁷

Then, in December of 2018, the Trump administration unveiled Trump's Rule's proposed definition of "waters of the United States"⁵⁸ to "reduce confusion and provide certainty to America's farmers and ranchers."⁵⁹ Trump's Rule defined "waters of the United States" as the following:

1. Traditional navigable waters;
2. Tributaries of navigable-in-fact waters that meet the proposal's new definition of tributary;
3. Ditches that are navigable-in-fact or that meet the definition of a tributary and are constructed in or relocate a tributary or are constructed in an adjacent wetland;
4. Lakes and ponds that: (a) are navigable-in-fact; (b) contribute "perennial" (year-round) or "intermittent" (during certain times of a typical year) flow to navigable-in-fact waters directly or indirectly through other jurisdictional waters or non-jurisdictional waters, provided such non-jurisdictional waters convey downstream perennial or intermittent flows; or (c) are flooded by non-wetland jurisdictional waters;
5. Impoundments of jurisdictional waters other than ditches; and
6. Wetlands adjacent to other jurisdictional waters.⁶⁰

environment/402241-judge-rules-against-trump-administrations-attempt-to-delay-clean.

56. Green, *supra* note 55.

57. Green, *supra* note 53.

58. *EPA and Army Propose New "Waters of the United States" Definition*, EPA (Dec. 11, 2018), <https://www.epa.gov/newsreleases/epa-and-army-propose-new-waters-united-states-definition>.

59. Green, *supra* note 53; see U.S. ENVTL. PROT. AGENCY & DEP'T OF THE ARMY, *supra* note 6, at 53–54; *In Case You Missed It*, *supra* note 6; Kaufman, *supra* note 6.

60. MULLIGAN, *supra* note 44, at 29.

On February 27 and 28 of 2019, the EPA and the Corps held a public hearing in Kansas City, Kansas to receive comments on the proposed definition.⁶¹ Additionally, the administration held a 60-day public comment period that closed on April 15, 2019.⁶² The EPA and the Corps must review the comments before issuing a final rule, which will almost certainly face legal challenges from states, industry groups, and environmental groups among others.⁶³ On January 23, 2020, the Trump administration finalized Trump's Rule.⁶⁴

C. Explanation and Analysis of the Salient Changes Made by Each Administration

Both administrations reasoned that the purpose of their respective rules was to bring clarity and increased predictability to determining whether water is covered by the problematic phrase the "waters of the United States."⁶⁵ The Obama administration stated that its rule clarifies the meaning of this phrase by providing more specificity in its definition of particular waters covered and describing specific objective characteristics to look for when analyzing a body of

61. See Revised Definition of "Waters of the United States," 84 Fed. Reg. 2483 (Feb. 7, 2019).

62. *The Navigable Waters Protection Rule (Step 2)—Revise*, EPA, <https://www.epa.gov/wotus-rule/step-two-revise> (last updated Jan. 27, 2020).

63. See *Notice and Comment*, JUSTIA, <https://www.justia.com/administrative-law/rulemaking-writing-agency-regulations/notice-and-comment/> (last visited Jan. 30, 2020) (stating that "Agencies must consider all 'relevant matter presented' during the comment period, and they must respond in some form to all comments received."); see also Paul Beard, *INSIGHT: Confusion Deepens Over WOTUS; Congress Eyes 'Navigable' Meaning*, BLOOMBERG ENV'T (Apr. 8, 2019, 11:34 AM), <https://news.bloombergenvironment.com/environment-and-energy/insight-confusion-deepens-over-wotus-congress-eyes-navigable-meaning> (discussing the potential future litigation).

64. *Final Rule: The Navigable Waters Protection Rule*, EPA, <https://www.epa.gov/nwpr/final-rule-navigable-waters-protection-rule> (last updated Jan. 23, 2020).

65. See CLAUDIA COPELAND, CONG. RESEARCH SERV., R43455, EPA AND THE ARMY CORPS' RULE TO DEFINE "WATERS OF THE UNITED STATES" 7–8 (2017) (discussing the definition of waters under Obama's rule); U.S. ENVTL. PROT. AGENCY & DEPT OF THE ARMY, *supra* note 6, at iv (discussing Obama's rule); EPA and Army Propose New "Waters of the United States" Definition, *supra* note 58 (discussing Trump's proposed rule); *The Navigable Waters Protection Rule (Step 2)—Revise*, *supra* note 62 (same).

water.⁶⁶ The Trump administration argued that Obama's Rule added to the confusion, and, as such, the need for a clarification was even greater once Trump assumed office.⁶⁷ Additionally, Obama's administration stated that their intent was not to expand the jurisdiction of the CWA and ultimately only marginally expanded it.⁶⁸ Yet, Trump's administration maintained the goal of drastically reducing the jurisdiction of the CWA to improve the economy.⁶⁹ According to Andrew Wheeler, the acting administrator of the EPA, an additional priority of Trump's Rule was to provide property owners with the ability to "stand on their property and be able to tell if a water is a federal water without having to hire outside professionals."⁷⁰

Obama's Rule clarifies and changes several key aspects of the CWA.⁷¹ In particular, it defines the "waters of the United States" with greater specificity by defining a tributary using specific elements and defining an adjacent water with more objective characteristics.⁷² Additionally, Obama's Rule uses straightforward, simple measurements to define ephemeral streams that are protected by the

66. See COPELAND, *supra* note 65, at 7–8; U.S. ENVTL. PROT. AGENCY & DEPT OF THE ARMY, *supra* note 6, at iv.

67. See EPA and Army Propose New "Waters of the United States" Definition, *supra* note 58; see also *The Navigable Waters Protection Rule (Step 2)—Revise*, *supra* note 62 (stating that "[f]or the first time, the agencies are streamlining the definition so that it includes four simple categories of jurisdictional waters, provides clear exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that have never been defined before").

68. See COPELAND, *supra* note 65, at 10 (Stating that the "EPA and the Corps say that their intent in the Clean Water Rule was to clarify their jurisdiction, in light of the Supreme Court's ruling, not to expand it. Nevertheless, the agencies acknowledge that the rule would increase the categorical assertion of CWA jurisdiction, when compared to a baseline of current practices under the 2003 and 2008 EPA-Corps guidance. . . . In changing the regulatory definition of 'waters of the United States,' there may be instances in which the CWA applies categorically for the first time, and there also may be instances in which the CWA no longer applies."); see also Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328) (detailing the changes).

69. See Heidi Vogt, *EPA Chief Calls for Narrowing Scope of Clean-Water Rule*, WALL ST. J. (Dec. 11, 2018, 3:36 PM), <https://www.wsj.com/articles/epa-chief-calls-for-narrowing-scope-of-clean-water-rule-11544504460>; see also EPA and Army Propose New "Waters of the United States" Definition, *supra* note 58 (discussing Trump's proposed rule); *The Navigable Waters Protection Rule (Step 2)—Revise*, *supra* note 62 (same).

70. Vogt, *supra* note 69.

71. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,116.

72. See *id.* at 37,058.

rule.⁷³ Obama's Rule uses thorough and comprehensive language in its protection of wetlands.⁷⁴ Generally, Obama's Rule provides more objectivity through the specific and logical characteristics; however, these characteristics are not entirely clear given the subjective wording occasionally used.⁷⁵ Obama's Rule also provides greater protection; however, it did exclude some waters from the rule.⁷⁶ Specifically, "ditches that are not located in or drain wetlands"⁷⁷ and ditches with ephemeral or intermittent flow "that are not a relocated tributary or excavated in a tributary, or drain wetlands" are excluded from the CWA's jurisdiction.⁷⁸ These exclusions are more straightforward given their specific and clear language.⁷⁹ Moreover, the language of many of these exclusions appears tailor-made to exempt the agriculture industry, as several of the ditches described are used by the agriculture industry in various irrigation practices.⁸⁰

Trump's Rule changes several key aspects of the CWA.⁸¹ However, overall, it does not increase clarity but, instead, decreases clarity.⁸² It defines a tributary using unclear terms and standards that are difficult for a typical landowner to apply.⁸³ Trump's Rule uses somewhat objective standards to protect wetlands; however, the

73. See *id.* at 37,125–26.

74. See *id.*

75. See generally *id.* (demonstrating that Obama's Rule provides greater clarity in defining protected waters).

76. LAURA GATZ, CONG. RESEARCH SERV., R45425, "WATERS OF THE UNITED STATES" (WOTUS): CURRENT STATUS OF THE 2015 CLEAN WATER RULE 2–3 (2018).

77. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059.

78. *Id.*

79. See *id.*

80. See Annie Snider, *The Two Words that Rewrote American Water Policy*, POLITICO (May 25, 2016, 4:55 AM), <https://www.politico.com/agenda/story/2016/05/obama-wotus-wetlands-rule-supreme-court-000131>.

81. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

82. See Paul Beard, *INSIGHT: Confusion Deepens Over WOTUS; Congress Eyes 'Navigable' Meaning*, BLOOMBERG ENV'T (Apr. 8, 2019, 11:34 AM), <https://news.bloombergenvironment.com/environment-and-energy/insight-confusion-deepens-over-wotus-congress-eyes-navigable-meaning>; Ariel Wittenberg, *Trump's WOTUS: Clear as Mud, Scientists Say*, GREENWIRE (Feb. 18, 2019), <https://www.eenews.net/stories/1060121251> (discussing the various changes made by Trump's Rule and the increased confusion the changes will cause); see also Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4154 (discussing the changes).

83. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4155.

wetlands protected are a very narrow type of wetland.⁸⁴ Additionally, Trump's standards regarding lakes and ponds are not objective but, instead, are more subjective.⁸⁵ Similar to Obama's Rule, Trump's Rule clearly states its exceptions, many of which are specifically worded to exempt the major industries including agriculture, developers, homebuilders, and oil and gas.⁸⁶ Overall, Obama's Rule provided greater clarity and predictability of the CWA's jurisdiction while also protecting more water, thereby increasing the quality of the nation's water.⁸⁷

1. Tributary

Obama's Rule defines a tributary, whether created naturally or artificially, to include only waters that have a bed, banks, another indicator of an ordinary high-water mark, and flow into a jurisdictional water.⁸⁸ There is not a required minimum amount of flow, but the water must have enough flow to create these characteristics.⁸⁹ Obama's Rule states that if a water fits this definition, the water is automatically within the CWA's jurisdiction.⁹⁰

84. See *id.* at 4205, 4207, 4155; Craig Pittman, *Trump Wetlands Rule Rollback Makes About 6 Million Acres in Florida Unprotected*, TAMPA BAY TIMES (Dec. 13, 2018), <https://www.tampabay.com/environment/trump-wetlands-rule-rollback-makes-about-6-million-acres-in-florida-unprotected-20181213/>.

85. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4182.

86. See *id.* at 4179–84; *Farmers Not Biggest Winners in Planned Trump Rollback of Clean Water Act's Wetland Protections*, MARKET WATCH (Jan. 14, 2019, 2:33 PM), <https://www.marketwatch.com/story/farmers-not-biggest-winners-in-planned-trump-rollback-of-clean-water-acts-wetland-protections-2019-01-14> (discussing the benefits of Trump's proposed rule to oil and gas); see also Annie Snider, *Major Obama Proposal Doesn't Change AG Rule—So Why Are Farm Groups So Worried?*, GREENWIRE (Apr. 17, 2014), <https://www.eenews.net/stories/1059998074> (highlighting the broad exemptions for agricultural groups under Obama's Rule); Snider, *supra* note 80 (discussing the pushback under Obama's Rule).

87. See Timothy Cama, *States Sue to Block Obama's Water Rule*, HILL (June 29, 2015, 12:23 PM), <https://thehill.com/policy/energy-environment/246435-three-states-sue-to-stop-obama-water-rule> (highlighting the controversy over Obama's rule and the extension of the protection); see also Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,076–81 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328) (overview of the changes under Obama's Rule); *In Case You Missed It*, *supra* note 6 (stating that Trump's Rule would ease oversight over small bodies of water).

88. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,068.

89. *Id.*

90. *Id.*

Any wetlands or open waters without these characteristics must undergo an assessment based on adjacency to determine if they are within the CWA's jurisdiction.⁹¹

Trump's Rule defines tributaries as "a river, stream, or similar naturally occurring surface water channel that contributes" to navigable waters through "extended periods of predictable, continuous, seasonal surface flow occurring in the same geographic feature year after year."⁹² To determine if a stream meets this definition, Trump's Rule proposed a thirty-year average of precipitation for the geographic area around the stream to determine whether a stream flows independent of rainfall.⁹³ Trump's Rule provides few additional details regarding using a thirty-year average to make this determination.⁹⁴ Moreover, Trump's Rule has not further clarified the definition of the subjective terms used like "predictable and continuous."⁹⁵

Defining tributary with specific and relatively objective characteristics, as Obama's Rule does, likely promotes easier understanding of whether a body of water is under the CWA's jurisdiction.⁹⁶ This ease of understanding promotes ordinary landowners being able to make a jurisdictional determination without the help of a professional, as a landowner could often identify a bed, banks, and a high-water mark.⁹⁷ It is possible, however, that words and phrases like "a bed and banks and another indicator of ordinary high water mark" would cause some confusion.⁹⁸ These phrases are not completely objective.⁹⁹ Defining "tributary" using these terms,

91. *Id.* at 37,068–73.

92. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4173 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

93. *Id.*

94. *See id.* (referring to a "rolling thirty-year period for a particular geographical area" as a benchmark for determining a "typical year" without specifying whether the "rolling thirty-year period" refers to a measured range or an average; whether the "particular geographical area" is constrained to the source or the location of the water at issue; or whether the rainfall measured for the 30-year period is based on an annual, seasonal, or daily measurement for each year within the period); *see also infra* notes 201–05 and accompanying text.

95. *See* Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4173.

96. *See* Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg., at 37,068–73.

97. *See id.* at 37,068; Wittenberg, *supra* note 82.

98. *See* sources cited *supra* note 97.

99. *See* sources cited *supra* note 97.

however, is still a positive step because it promotes more clarity and predictability even if not resulting in absolute clarity.¹⁰⁰

The Trump Rule definition of “tributary” is less clear and fails to provide enough specifics to guide property owners.¹⁰¹ There is too much ambiguity and room for argument regarding the length of time that constitutes an “extended period,” the level of predictability required, and so forth.¹⁰² These terms are not well defined.¹⁰³ A better and easier to use analysis would result if Trump’s Rule had provided specific, objective characteristics, such as defining “extended period” as a certain number of days, months, or years.¹⁰⁴ Moreover, this definition fails to meet the Trump administration’s intended purpose of allowing property owners to stand on their property and identify, without the use of professionals, water that is under CWA jurisdiction.¹⁰⁵ The administration practically concedes this by declaring that an analysis of a tributary necessitates the utilization of a thirty-year average of precipitation for the geographic area around the stream.¹⁰⁶ It is highly unlikely that most property owners could gather the required thirty-year data and make such an analysis without the help of a professional.¹⁰⁷

Additionally, an important divergence between the two tributary definitions concerns ephemeral streams, which are streams that flow after rainfall or after snow melts.¹⁰⁸ Ephemeral streams are

100. See sources cited *supra* note 97.

101. See Revised Definition of “Waters of the United States,” 84 Fed. Reg. 4154, 4173 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

102. See *id.*

103. See *id.* at 4173–74.

104. See *generally id.* (using the term “extended period” without explanation or examples as to what the term might include).

105. See Vogt, *supra* note 69.

106. See Revised Definition of “Waters of the United States,” 84 Fed. Reg. at 4173.

107. See *id.*

108. See Nathan Rott, *Trump EPA Proposes Major Rollback of Federal Water Protections*, NPR (Dec. 11, 2018, 11:55 AM), <https://www.npr.org/2018/12/11/675477583/trump-epa-proposes-big-changes-to-federal-water-protections> (“One of the biggest points of contention is the erasure of protections for ephemeral or intermittent waterways under the new plan. Ephemeral streams only flow after precipitation, but they constitute a major part of the country’s water systems.”); *Trump Rolls Back Decades of Clean Water Act Protections*, BBC NEWS (Dec. 11, 2018), <https://www.bbc.com/news/world-us-canada-46526776>; see also LAINIE R. LEVICK ET AL., U.S. ENVTL. PROT. AGENCY, THE ECOLOGICAL AND HYDROLOGICAL SIGNIFICANCE OF EPHEMERAL AND INTERMITTENT STREAMS IN THE ARID AND SEMI-ARID AMERICAN

important because they comprise nearly 60% of all waterways in the United States.¹⁰⁹ Obama's Rule protects ephemeral streams under the same definitional requirements as standard tributaries—they are protected so long as they have a bed, banks, an additional ordinary high-water mark, and flow into a water under jurisdiction.¹¹⁰

Trump's Rule excludes all ephemeral streams.¹¹¹ The Trump administration purposefully omitted ephemeral streams from protection in an attempt to reduce the total amount of coverage of the CWA's jurisdiction.¹¹² Again, this difference is significant given that a majority of all U.S. waterways are ephemeral streams.¹¹³

The requisite characteristics included in Obama's definition of tributary are logical requirements to decrease water pollution.¹¹⁴ Specifically, the requirement that a tributary flow into a water under jurisdiction protects the overall quality of water because tributaries containing pollution will carry that pollution to downstream waters.¹¹⁵ Therefore, "to protect our nation's water quality overall, we must protect the upstream tributaries that flow into downstream rivers."¹¹⁶ If a tributary has these characteristics—a bed, banks, and a high-water mark—it is an indication that the tributary, even if ephemeral, significantly impacts downstream water.¹¹⁷ By protecting such tributaries from pollution, the quality of the downstream water should improve.¹¹⁸

SOUTHWEST 1–2, 6 (2008) (defining and discussing the importance of ephemeral streams).

109. See Rott, *supra* note 108.

110. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,068 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328).

111. See Rott, *supra* note 108.

112. See Rott, *supra* note 108; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108.

113. See Rott, *supra* note 108.

114. See *id.* ("The Obama administration embraced a broad definition, arguing that pollution upstream makes its way downstream and should thus be regulated.").

115. *Clean Water Act Proposal Drastically Cuts Protections Against Pollution*, S. ENVTL. L. CTR. (Mar. 12, 2019), <https://www.southernenvironment.org/news-and-press/news-feed/clean-water-act-proposal-drastically-cuts-protections-against-pollutio>.

116. *Id.* (The leader of the Clean Water Defense Initiative stated that "[s]cience shows you can't protect navigable waters without protecting their tributaries, which is why tributaries have always been protected by the Clean Water Act.").

117. See, e.g., *Tributaries*, WATER EDUC. FOUND., <https://www.watereducation.org/aquapedia-background/tributaries> (last visited Jan. 30, 2020).

118. See *id.*; see also, e.g., *Ask the Scientist: The Wetlands Initiative Is Helping Farmers Install Wetlands to Naturally Reduce Nutrient Runoff. How Exactly Do*

2. Wetlands

Obama's Rule defines protected "wetlands" as all wetlands that are connected to tributaries covered by the CWA's jurisdiction.¹¹⁹ The requisite connection to a tributary could include surface-water connections or subsurface-water connections.¹²⁰ Obama's Rule also protects any adjacent wetlands, even without a connection to a traditionally navigable water.¹²¹ In this context, Obama's Rule defines adjacent as waters located within the 100-year floodplain or within 4000 feet of a navigable water or tributary.¹²² It would also cover wetlands having a significant nexus with protected tributaries.¹²³

Trump's Rule protects wetlands only if the wetlands meet two requirements.¹²⁴ First, the wetland must have a physical surface water connection to a waterway.¹²⁵ Second, that waterway must flow consistently—either perennially or intermittently—in a "typical year."¹²⁶ Trump's Rule does not protect wetlands with a subsurface connection to waterways even if that connection is in the immediate subsurface.¹²⁷

Wetlands Remove Nutrients?, WETLANDS INITIATIVE, <http://www.wetlands-initiative.org/nutrient-removal> (last visited Jan. 30, 2020); *Water Filtering of Wetlands*, NAT'L PARK SERV. (last updated Apr. 10, 2015), <https://www.nps.gov/keaq/learn/education/water-filtering-of-wetlands.htm>.

119. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,075–78 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328).

120. *Id.* at 37,086.

121. *Id.* at 37,056, 37,075–78.

122. *Id.* at 37,104–06; Rafe Petersen & Aaron S. Heishman, *Proposed "Waters of the U.S." Rule Would Reduce Scope of Clean Water Act Jurisdiction*, HOLLAND & KNIGHT (Dec. 20, 2018), <https://www.hklaw.com/publications/Proposed-Waters-of-the-US-Rule-Would-Reduce-Scope-of-Clean-Water-Act-Jurisdiction-12-20-2018/> (discussing the regulation of wetlands under both the Obama Rule and the proposed Trump Rule).

123. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,104–06; Peterson & Heishman, *supra* note 122 ("Although [Obama's Rule] regulated all wetlands with any possible nexus to a traditionally navigable water (no matter how attenuated), [Trump's Rule] limits jurisdiction to wetlands that abut or have a direct hydrologic surface connection with traditional navigable waters.").

124. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4155, 4205, 4207 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

125. *Id.* at 4205.

126. *Id.* at 4205–06.

127. *See id.* at 4155; Pittman, *supra* note 84.

In regard to wetlands, Obama's Rule is moderately less clear and more difficult to implement than Trump's Rule.¹²⁸ This is because Obama's Rule covers wetlands connected to water by a subsurface connection.¹²⁹ For many landowners, determining if a wetland is connected to another water source below the surface of the water would prove difficult.¹³⁰

By only protecting wetlands connected to water via a direct surface connection, Trump made this analysis simpler.¹³¹ Assessing a direct surface connection is likely easier than assessing a subsurface connection.¹³² Moreover, there are fewer layers in Trump's Rule—if there is not a direct surface connection, the assessment essentially ends there.¹³³ This adds to the simplicity when compared to Obama's Rule because Obama's protections extended further and required more analysis.¹³⁴

Obama's administration elected to provide more comprehensive protection of wetlands due to the critical ecological protection wetlands provide for important environmental resources like drinking water.¹³⁵ Wetlands often prevent widespread pollution by acting as a

128. Compare Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,075–78, with Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4155, 4205, 4207.

129. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,075–78.

130. See *id.*

131. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4155, 4205, 4207.

132. See *id.*; Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,075–78.

133. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4155, 4205, 4207.

134. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,075–78.

135. See *Report on the Environment: Wetlands*, EPA, <https://www.epa.gov/report-environment/wetlands> (last visited Jan. 30, 2019); *Why Are Wetlands Important?*, NAT'L PARK SERV. (last updated May 5, 2016), <https://www.nps.gov/subjects/wetlands/why.htm> ("Today, we know that wetlands provide many important services to the environment and to the public. They offer critical habitat for fish, waterfowl and other wildlife, they purify polluted waters, and they help check the destructive power of floods and storms. They also provide a wide variety of recreational opportunities such as fishing, hunting, photography, and wildlife observation. As these and many other wetland functions and values described below have become more widely known, wetlands are increasingly seen as productive and valuable resources worthy of protection and restoration.").

barrier and filter for pollution from other water sources.¹³⁶ Additionally, Trump's Rule, which eliminates wetlands with a subsurface connection, eliminates protection for about 51% of all wetlands in the United States.¹³⁷ Thus, wetlands are more likely to be polluted or destroyed due to development on them, and without the majority of wetlands providing this ecological protection, pollution in the nation's water supply will likely increase.¹³⁸

3. Lakes and Ponds

Obama's Rule protects three types of naturally occurring lakes and ponds.¹³⁹ First, naturally occurring lakes and ponds that are within 100 feet of a jurisdictional waterway are covered.¹⁴⁰ Second, if a natural lake or pond is both within 1500 feet of a jurisdictional waterway's ordinary high-water mark and within that waterway's 100-year floodplain, it is protected.¹⁴¹ Third, naturally occurring ponds are protected when they provide water to a jurisdictional water that is downstream.¹⁴²

Trump's Rule protects lakes or ponds that contribute consistent or intermittent flow to downstream waters.¹⁴³ It also protects lakes and ponds that are habitually flooded by other bodies of water.¹⁴⁴ To determine whether a lake or pond is habitually flooded, the Trump administration suggests using a thirty-year flood average of the area to decide whether the flooding is consistent enough to constitute being habitual.¹⁴⁵ Trump's Rule does not provide any specific information on the number of floods that would establish a lake or pond being deemed one that is habitually flooded.¹⁴⁶ Nor does it provide any clarifying

136. See, e.g., *Report on the Environment: Wetlands*, *supra* note 135; Rott, *supra* note 108.

137. Pittman, *supra* note 84.

138. See Rott, *supra* note 108; sources cited *supra* note 135 (discussing the importance of wetlands).

139. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,058, 37,081.

140. *Id.*

141. *Id.*

142. *Id.* at 37,076–80.

143. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4182 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

144. *Id.*

145. *Id.* at 4173.

146. See *id.*

information concerning the definition of subjective terms used like “predictable” and “continuous.”¹⁴⁷

Obama’s Rule, although more comprehensive, provides more objectivity, specificity, and ease of use.¹⁴⁸ Using both specific distances—“within 1,500 feet”—and relatively objective characteristics—“of its ordinary high-water mark”—to determine if a lake or pond is protected promotes greater clarity and predictability regarding the CWA’s jurisdiction.¹⁴⁹ Obama’s Rule likely does allow for some dispute regarding whether ponds “contribute flow to a traditionally navigable water.”¹⁵⁰ Comparatively, however, Trump’s Rule provides opportunity for a similar dispute.¹⁵¹

Trump’s Rule does not clarify when a lake or pond’s flow is enough to be deemed a consistent or intermittent contribution.¹⁵² This is a relatively subjective determination. Trump’s administration attempted to increase clarity by including the utilization of a thirty-year average to determine if a lake or pond is habitually flooded by other water.¹⁵³ Although this is somewhat objective, it is likely difficult for most landowners to make such an assessment without using an expert, especially since there is a lack of information in Trump’s Rule concerning what constitutes habitual flooding. In comparison, it is likely easier for a landowner to determine if a lake or pond is within 1500 feet of another water’s ordinary high-water mark.¹⁵⁴

Overall, Obama’s Rule provides more protection of naturally occurring lakes or ponds. This is due to its inclusion of lakes and ponds within 100 feet of a jurisdictional waterway, as well as, those located both within the 100-year floodplain and within 1500 feet of its ordinary high-water mark.¹⁵⁵ This inclusion likely increases the water

147. *Id.* at 4154–4220.

148. See Clean Water Rule: Definition of “Waters of the United States,” 80 Fed. Reg. at 37,076–81.

149. See *id.* at 37,081.

150. *Id.* at 37,079.

151. See Revised Definition of “Waters of the United States,” 84 Fed. Reg. at 4182.

152. *Id.*

153. See *id.* at 4173.

154. Compare Clean Water Rule: Definition of “Waters of the United States,” 80 Fed. Reg. at 37,076–81, with Revised Definition of “Waters of the United States,” 84 Fed. Reg. at 4182–84.

155. Clean Water Rule: Definition of “Waters of the United States,” 80 Fed. Reg. at 37,081.

quality due to the impact neighboring waters often have on one another.¹⁵⁶

D. Scientific Evidence Relied on by Each Administration

The primary source of scientific evidence that the EPA relied on in creating Obama's Rule is found in a report titled *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence* (Report).¹⁵⁷ The Report is comprised of peer-reviewed scientific studies and evidence from a variety of sources.¹⁵⁸ The report provides evidence that downstream waters are significantly impacted by "upstream" waters, such as tributaries, wetlands, and streams, based largely on the strong connectivity that downstream water has with these types of water.¹⁵⁹ The Report states that what flows through these upstream sources will typically flow through and impact the downstream water.¹⁶⁰ Importantly, this Report also discusses the long-term impact, both helpful and harmful, that even small streams and tributaries can have on a downstream body of water.¹⁶¹

The Trump administration does not appear to have relied on established scientific evidence when creating Trump's Rule.¹⁶² While it is possible that the administration did rely on some scientific evidence, it has not released any such information and no such information has been made available on the EPA's website.¹⁶³

156. See *id.* at 37,080–81; Rott, *supra* note 108; *Why Are Wetlands Important?*, *supra* note 135.

157. U.S. ENVTL. PROT. AGENCY, *supra* note 37.

158. *Id.* at ES-2.

159. *Id.* at ES-1–ES-14.

160. *Id.*

161. *Id.*

162. See U.S. ENVTL. PROT. AGENCY, FACT SHEET: NAVIGABLE WATERS PROTECTION RULE (2020), https://www.epa.gov/sites/production/files/2020-01/documents/nwpr_fact_sheet_-_overview.pdf; see also Coral Davenport, *Trump Removes Pollution Controls on Streams and Wetlands*, N.Y. TIMES (Jan. 22, 2020), <https://www.nytimes.com/2020/01/22/climate/trump-environment-water.html> (stating that a scientific government advisory board believe the rule does not follow established science); Scott Neuman & Colin Dwyer, *Trump Administration Cuts Back Federal Protections for Streams and Wetlands*, NPR (Jan. 23, 2020, 10:37 AM), <https://www.npr.org/2020/01/23/798809951/trump-administration-is-rolling-back-obama-era-protections-for-smaller-waterways> (stating that the change is opposed by the EPA's science advisors).

163. See U.S. ENVTL. PROT. AGENCY, *supra* note 162.

E. Each Administration's Economic Analysis

Under Obama, the EPA issued a broad economic analysis of the impact of Obama's Rule.¹⁶⁴ Taking a conservative approach, the EPA's highest estimated amount of costs and lowest amount of benefits, a worst-case estimate, the benefits of Obama's Rule would still exceed the costs by over \$30 million.¹⁶⁵ On the other end of the spectrum, as a best-case estimate, the EPA estimates that the benefits of Obama's Rule could exceed the costs by more than \$190 million.¹⁶⁶

The EPA under Trump also published an economic analysis of the impact Trump's Rule would have as compared to Obama's Rule.¹⁶⁷ According to that analysis, implementation of Trump's Rule will save between \$28 million and \$266 million in annual costs.¹⁶⁸ This analysis also opined that by increasing water pollution, the nation would lose economic benefits ranging from \$7 million to \$47 million.¹⁶⁹ Thus, this administration's estimate of the net economic impact of the implementation of Trump's Rule ranges from a loss of \$21 million to a gain of \$259 million.¹⁷⁰

It is important to note that both of these analyses failed to provide detail or specificity as to the formula and data that led to these conclusions.¹⁷¹ Additionally, neither administration specified the ways in which either of the rules would help or hurt the economy.¹⁷²

164. See generally U.S. ENVTL. PROT. AGENCY & U.S. DEPT OF THE ARMY, *supra* note 6 (providing an overview of the EPA-Army economic analysis of the rule).

165. *Id.* at 53–54.

166. *Id.*

167. U.S. ENVTL. PROT. AGENCY & U.S. DEPT OF THE ARMY, ECONOMIC ANALYSIS FOR THE PROPOSED REVISED DEFINITION OF "WATERS OF THE UNITED STATES" (2018), https://www.epa.gov/sites/production/files/2018-12/documents/wotusproposedrule_ea_final_2018-12-14.pdf.

168. *Id.* at xvii.

169. *Id.*

170. See *id.*

171. See *id.*; U.S. ENVTL. PROT. AGENCY & U.S. DEPT OF THE ARMY, *supra* note 6.

172. See sources cited *supra* note 171.

II. THE ECONOMIC IMPACT OF OBAMA'S AND TRUMP'S RULE

A. *Straightforward and Predictable Regulations Have a Positive Impact on the Economy*

1. Reasons Why Obama's Rule Is Easier to Predict

Over the course of the history of the CWA, as the Supreme Court issued rulings and new guidance was provided, there was a substantial amount of unpredictability as to what water was under the jurisdiction of the CWA.¹⁷³ Confusion and uncertainty are not good for the economy.¹⁷⁴ Conversely, straightforward regulations making it easier to predict the jurisdictional coverage of the CWA improves the economy.¹⁷⁵

173. See *Rapanos v. United States*, 547 U.S. 715, 759–69 (2006) (Kennedy, J., Concurring); *Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Eng'rs*, 531 U.S. 159, 171–72 (2001); *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 106, 138–39 (1985); *Section 404 of the Clean Water Act: Guidance to Identify Waters Protected by the Clean Water Act*, EPA, <https://www.epa.gov/cwa-404/guidance-identify-waters-protected-clean-water-act> (last updated Dec. 15, 2017); Hurley, *supra* note 10 (“The short answer is that the state of post-Rapanos wetlands jurisdiction is a mess[.]”).

174. See Ashley Alber, *Venture Capital Investors Like Revenue, but They Love Predictable Revenue*, JUMPSTART (Jan. 31, 2017), <https://www.jumpstartinc.org/investors-like-revenue-love-predictable-revenue/> (“Ultimately, an investor is taking a stake in your company and wants to see you grow and scale Predictable revenue is the best indicator that you will be able to accomplish this goal and it also provides an excellent indicator of how quickly you can do it.”); Richard M. Rossow, *The Next Economic Hurdle: Regulatory Transparency and Predictability*, CTR. FOR STRATEGIC & INT’L STUD. (Sept. 28, 2016), <https://www.csis.org/analysis/next-economic-hurdle-regulatory-transparency-and-predictability>; see also *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, WORLD BANK (Apr. 4, 2019), <http://www.worldbank.org/en/news/feature/2019/04/04/bangladesh-development-update-regulatory-predictability-can-sustain-high-growth> (providing an example of lack of regulatory predictability issues).

175. See Alber, *supra* note 174; *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, *supra* note 174 (“Businesses face regulatory uncertainty on various fronts. Regulatory predictability matters because it makes property rights insecure, thereby constraining investment. This leads to uncertainty for businesses . . . and with inconsistencies in policy implementation, it can adversely affect employment growth.”); Rossow, *supra* note 174 (“Consistency in regulation allows potential investors a better opportunity to judge the likely benefit of making a new investment over time, which is an important component of deciding where to invest.”).

Obama's Rule increases the clarity and predictability of the CWA's jurisdiction through clearer, more specific, and more objective standards.¹⁷⁶ For example, in defining waters that are "neighboring" a jurisdictional water, and, thus, subject to the CWA, Obama's Rule defines neighboring in specific objective elements, such as waters adjacent to jurisdictional waters within a minimum of 100 feet and within the 100-year floodplain.¹⁷⁷ Trump's Rule defines "adjacent" using more subjective and ambiguous language, such as "wetlands that abut or have a direct hydrological surface connection to other 'waters of the United States' in a typical year."¹⁷⁸ Abut is defined as "when a wetland touches an otherwise jurisdictional water at either a point or side."¹⁷⁹ And direct hydrologic surface connection is also defined with subjective and unclear language—"a result of inundation from a jurisdictional water to a wetland or via perennial or intermittent flow between a wetland and jurisdictional water."¹⁸⁰ Trump's Rule's definition although long and detailed contains more subjective and ambiguous language that would likely lead to more confusion and controversy—one could easily get confused regarding whether there is an inundation from a jurisdictional water given that the definition is open to more than one interpretation.¹⁸¹

Moreover, in regard to isolated bodies of water, Obama's Rule states that such waters are within the CWA's jurisdiction when a water is found to have a significant nexus with jurisdictional waters, based on a specific analysis of that water.¹⁸² Waters that are subject to this significant nexus test are waters within the jurisdictional water's 100-year floodplain and waters within 4000 feet of the jurisdictional water's high tideline or ordinary high-water mark.¹⁸³ Obama's Rule also establishes a new definition of a "significant nexus" that provides more guidance through specific factors and elements to look for to determine if water has the connectivity needed with

176. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,076–81 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328).

177. See *id.* at 37,081.

178. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4155 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

179. *Id.*

180. *Id.*

181. See *id.*

182. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059.

183. *Id.*

downstream water.¹⁸⁴ These factors include contribution of water flow, nutrient recycling, and pollutant filtering to the downstream water.¹⁸⁵

By providing new, more objective standards, Obama's Rule increases certainty and predictability regarding what waters are subject to a significant nexus analysis and ultimately, what waters are under jurisdiction.¹⁸⁶ However, there is the possibility of ambiguity regarding some of the factors and elements Obama's Rule uses to determine if water has a significant nexus.¹⁸⁷ For example, it is likely difficult for a landowner to determine whether an isolated body of water recycles its nutrients with the downstream water or filters pollution.¹⁸⁸ Although some aspects of Obama's Rule could cause confusion, it generally provides increased clarity, certainty, and predictability regarding the CWA's jurisdiction.¹⁸⁹

The Trump administration has opined that Obama's Rule is too complicated for the typical landowner to correctly identify whether water is under the CWA's jurisdiction.¹⁹⁰ Many scientific experts disagree with this assertion.¹⁹¹ And instead they assert that Obama's Rule makes it easier for landowners to make a jurisdictional determination.¹⁹² For example, Obama's Rule protects any tributary if it had particular landmark signatures such as a streambed, banks, or an ordinary high-water mark.¹⁹³ Although the typical landowner might not initially have the ability to identify these signatures, according to leading scientists, landowners can learn to make such an identification, making it easier for the landowner long term.¹⁹⁴ Additionally, given the nature of the requirements underlying Trump's Rule, Obama's Rule is far easier for the average person to learn.¹⁹⁵

184. *See id.* at 37,067–68.

185. *Id.*

186. *See id.*

187. *See id.*

188. *See id.*

189. *See id.*

190. Green, *supra* note 53.

191. *See, e.g.,* Wittenberg, *supra* note 82.

192. *See id.*

193. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,058.

194. *See* Wittenberg, *supra* note 82.

195. *See id.*

For instance, Trump's Rule only protects certain tributaries that are fed by groundwater.¹⁹⁶ Trump's own proposal admits that this would significantly complicate the jurisdictional assessment.¹⁹⁷ "The [administration] notes that identifying whether the channel bed intersects with the groundwater table may be challenging to accomplish in the field, that gathering the relevant data could be time consuming, and could require new tools and training of field staff and the regulated public."¹⁹⁸ This proposal further states that conducting this analysis could require installing monitoring systems to identify the presence of water, and that the installation of such systems is often very difficult because groundwater tables often rise and fall.¹⁹⁹ Further, if groundwater tables are under rocky formations, that would prove difficult to access making it impossible to even conduct such testing.²⁰⁰

The Trump administration also proposed the complicated utilization of thirty-year precipitation averages for geographic areas surrounding a stream to decide if that stream flows independent of rainfall and thus, is deemed a tributary protected by the CWA.²⁰¹ The administration's proposal to use thirty-year precipitation averages presents several complicating issues.²⁰² First, there is no guidance regarding the source to which a landowner should go to find such an average.²⁰³ Second, there is no indication concerning which average should be used, if there is more than one.²⁰⁴ Finally, there is no instruction on the proper way to utilize the thirty-year average of precipitation for the entire geographic area to determine whether that particular stream flows independent of rainfall.²⁰⁵ It is highly unlikely that the typical landowner could successfully navigate these three issues without confusion, delay, and expense.

Although Obama's Rule is generally more predictable than Trump's Rule, Trump's Rule is definitely more predictable in one

196. Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4173-74, 4177-78 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

197. *See id.* at 4178.

198. *Id.*

199. *See id.*

200. *See id.*

201. *See id.*

202. *See id.*

203. *See id.*

204. *See id.*

205. *See id.*

way—it covers less water.²⁰⁶ Thus, Trump's Rule is easier to predict for some types of water because under Trump's Rule, once it is determined that a body of water is not covered, there is no further analysis needed.²⁰⁷ For example, Trump's Rule excludes all bodies of water that are ephemeral.²⁰⁸ Conversely, the Obama Rule protects ephemeral streams if those streams have an identifiable bed, bank, and another high-water mark.²⁰⁹ Thus, under Trump's Rule, once it is determined that a body of water is ephemeral, the analysis ends. But under Obama's Rule, once it is determined that a body of water is ephemeral, the analysis continues with a determination of whether the ephemeral water has an identifiable bed, bank, and high-water mark.²¹⁰ This extra step in the analysis required under Obama's Rule likely complicates the predictability of the CWA's coverage as compared to Trump's Rule.²¹¹

This increased predictability provided by Trump's Rule is relatively small in impact.²¹² Even though Trump's Rule protects less water, it is difficult to determine what water is covered due to the use of unclear and subjective language in Trump's Rule.²¹³ Thus, it is difficult to make a jurisdictional determination under Trump's Rule

206. See David Brodwin, *The High Cost of Dirty Water*, U.S. NEWS & WORLD REP. (June 8, 2015, 12:15 PM), <http://www.usnews.com/opinion/economic-intelligence/2015/06/08/epa-clean-water-rules-benefits-outweigh-its-costs> (discussing the expansion of coverage under Obama's Rule); John Haltiwanger, *6 Ways the Trump Administration Has Tried to Roll Back Environmental Protections that Keep US Drinking Water Safe*, BUS. INSIDER (Mar. 22, 2019, 11:57 AM), <https://www.businessinsider.com/trump-administration-water-regulations-roll-back-2019-3#pushing-for-a-plan-that-would-end-a-rule-that-protects-roughly-60-of-americas-bodies-of-water-including-much-of-its-drinking-water-6>; Rott, *supra* note 108 (discussing the differences between Obama's Rule and Trump's Rule).

207. See LAINIE R. LEVICK ET AL., *supra* note 108; Rott, *supra* note 108.

208. See sources cited *supra* note 207.

209. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,076 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328); sources cited *supra* note 207.

210. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,076.

211. See *id.*

212. See Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4173–74, 4177–78 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401); Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,058, 37,076; LAINIE R. LEVICK ET AL., *supra* note 108; Rott, *supra* note 108.

213. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4173–74, 4177–78.

even though there are less steps involved than with an analysis under Obama's Rule.²¹⁴

Nevertheless, Trump's Rule's reduction of the overall amount of water covered and the resulting increase in predictability would provide some economic benefits to businesses.²¹⁵ Specifically, Trump's Rule would provide businesses with more opportunity to make decisions based solely on benefitting their bottom line without concerning themselves with costly compliance with water pollution regulations.²¹⁶ And, given the increased predictability, businesses can more easily determine when they can make such cost-saving decisions without running afoul of the CWA. Moreover, Trump's Rule would likely result in a decrease in jurisdictional analysis expense because fewer analytic steps are often required under Trump's Rule.²¹⁷ Thus, businesses engaged in activities involving the types of water excluded by Trump's Rule but included by Obama's Rule, would benefit from the implementation of Trump's Rule as they would experience a decrease in compliance costs and could use that money to fuel other aspects of their business.²¹⁸ This would also likely result in an increase in revenue to the impacted businesses, as compared to revenue under Obama's Rule.

The national economy would, however, likely only benefit in the short-term.²¹⁹ This is because the costs of increased pollution would

214. See Wittenberg, *supra* note 82 (discussing the differences between the two rules and the simplification under Trump's Rule). Compare Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4173–74, 4177–78 (outlining the steps to determine whether ephemeral streams are included in CWA jurisdiction), with Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,058, 37,076 (excluding ephemeral streams from CWA jurisdiction).

215. See Brodwin, *supra* note 206 (discussing the economic benefits that lax pollution rules may have for some businesses); Haltiwanger, *supra* note 206 (same).

216. See sources cited *supra* note 214.

217. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,076; see also Brodwin, *supra* note 206 (discussing the requirements under Obama's rule); Haltiwanger, *supra* note 206 (discussing the decrease in items included under CWA jurisdiction under Trump's Rule); Rott, *supra* note 108 (same).

218. See sources cited *supra* note 212.

219. See Brodwin, *supra* note 206 (discussing the negative economic impact pollution can have); Kirsten Stade, *Drinking Water for Third of U.S. in Legal Tug-of-War*, PUB. EMPS. FOR ENVTL. RESP. (Oct. 1, 2018), <https://www.peer.org/drinking-water-for-third-of-u-s-in-legal-tug-of-war/> (taking estimates of the areas impacted from Trump's Rule from a detailed state-by-state analysis conducted by the U.S. Environmental Protection Agency (EPA)); see also LAINIE R. LEVICK ET AL., *supra* note 108 (discussing the importance of ephemeral streams); Press Release, Senator Tom Carper, Carper, Duckworth & Cardin Urge EPA Army Corps to Abandon 'Dirty Water

quickly outweigh the benefits of some businesses not having to comply with water pollution regulations.²²⁰ The costs of such pollution and the benefits of more jurisdictional coverage are discussed further in Part II, Section B.

Andrew Wheeler stated that the goal of Trump's Rule is to decrease the number of environmental experts needed to make a jurisdictional analysis and increase the number of typical landowners who can make such an analysis on their own.²²¹ Given the complicated analyses required that were discussed in this section, Trump's Rule fails to fulfill both of these goals.²²² Moreover, Obama's Rule's more objective standards are generally easier for a non-expert to learn to analyze, are easier to interpret, and, as such, makes it easier to predict whether water is under the jurisdiction of the CWA.²²³ This increased predictability leads to vastly increased economic effects.²²⁴

Rule' Proposal (Apr. 16, 2019), <https://www.carper.senate.gov/public/index.cfm/2019/4/carper-duckworth-and-cardin-urge-epa-army-corps-to-abandon-dirty-water-rule-proposal> (stating that Trump's Rule results in uncertainty and that some states will not have the ability to pay for additional protection methods that are needed post-Trump's Rule).

220. See Brodwin, *supra* note 206; Haltiwanger, *supra* note 206; Kirsten Stade, *Drinking Water for Third of U.S. in Legal Tug-of-War*, PUB. EMP. FOR ENVTL. RESPONSIBILITY (Oct. 1, 2018), <https://www.peer.org/news/press-releases/drinking-water-for-third-of-u.s.-in-legal-tug-of-war.html?eType=EmailBlastContent&eId=13497754-c0ff-421a-9b9c-bfbf84a17e25>; see also LAINIE R. LEVICK ET AL., *supra* note 108 (discussing the significant role ephemeral streams play); Press Release, Senator Tom Carper, *supra* note 219 (discussing the issue of uncertainty surrounding Trump's Rule).

221. See Vogt, *supra* note 69.

222. See Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4178 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401).

223. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,076, 37,058 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328); see also Wittenberg, *supra* note 82 (discussing clarity issues with Trump's Rule).

224. See Alber, *supra* note 174 (discussing the benefits of predictable revenue); *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, *supra* note 174 (discussing issues with a lack of revenue predictability); Rossow, *supra* note 174 (discussing the benefits of predictable revenue); see also ORG. FOR ECON. CO-OPERATION AND DEV., *POLICY FRAMEWORK FOR INVESTMENT: A REVIEW OF GOOD PRACTICES 12–17* (2006) [hereinafter *A REVIEW OF GOOD PRACTICES*] (same).

2. Increased Predictability Equates to Increased Economic Benefits

Predictability is a foundational element of many aspects of the business world, including investing.²²⁵ Investing inherently necessitates predicting the future—predicting a business's revenue, expenses, profit, regulatory hurdles, and so forth—so that one can decide the likelihood of whether a potential investment will make money.²²⁶ Regulations that are predictable ease investors' fears that their investments will lose money due to an unforeseen regulatory impact.²²⁷ Additionally, a business or development involving water that is protected by a regulation will benefit from predictability because the business can plan for any increased time and expense the regulation might cause.²²⁸ Investors can incorporate their regulatory concern into their investment analysis prior to investing.²²⁹ Predictability leads to positive economic impact because increased regulatory predictability results in increased investment.²³⁰ And increased investment supports the potential for economic growth in the form of increased revenue, jobs, wages, and benefits, as well as many other similarly positive results.²³¹

Regulations with predictable coverage and scope allow for increased clarity regarding the investment's return, which is typically the primary concern for investors.²³² Moreover, land developers are more likely to invest in land when there is increased predictability concerning regulation of the development of the land.²³³ This is because it is clear whether water and lands are under the CWA's jurisdiction and thus, whether development is or is not permitted. Knowing with a high-degree of certainty whether the CWA applies

225. See sources cited *supra* note 224.

226. See sources cited *supra* note 224.

227. See sources cited *supra* note 224.

228. See sources cited *supra* note 224.

229. See Katherine A. Kiel, *Environmental Regulations and the Housing Market: A Review of the Literature*, 8 CITYSCAPE: J. OF POL'Y DEV. & RES. 187, 196 (2005), <https://www.huduser.gov/periodicals/cityscape/vol8num1/ch5.pdf> ("For regulations that increase the cost of developing land (for example, the Clean Water Act), if the costs are anticipated, they will be capitalized into the price of the land. . . . If the costs are not anticipated, developers will have higher total costs and will attempt to share those costs with those who purchase homes.").

230. See ASIA-PACIFIC ECON. COOPERATION, APEC INVESTMENT FACILITATION ACTION PLAN (IFAP) 1 (2008) ("Transparency, simplicity and predictability are among [investors'] most important principles.").

231. See *id.*

232. See sources cited *supra* note 224.

233. See sources cited *supra* note 224.

allows the investor to predict the potential gain or loss on their investment with far greater accuracy.²³⁴

A business or investment opportunity involving difficult-to-predict regulations is viewed as an investment with a heightened risk due to the unknown impact the regulation might have on revenue, expenses, profit, and, ultimately, the return on the investor's investment.²³⁵ For example, Facebook's stock price has struggled over the last several years as concern has grown regarding future regulation of the company.²³⁶ The fear of potential regulation has had a negative impact because of the unclear consequences the regulation could have on the company's future revenue, expenses, net income, and growth.²³⁷ The same is likely true for investors and developers seeking to develop land that might be under the CWA's jurisdiction.

When it is unclear whether the EPA will determine if a body of water is protected by the CWA's jurisdiction, it is less likely an investor will invest.²³⁸ This is likely largely driven by the fear that after investing large sums of money, regulations will not allow the development to occur, resulting in the loss of a large portion of their investment.²³⁹ Thus, unpredictable regulations could ward off development and result in a loss of economic benefits that would have

234. See sources cited *supra* note 224.

235. See sources cited *supra* note 224.

236. Kevin Kelleher, *Facebook's Parade of Bad News Has Cost Its Stock \$37 Billion in Market Cap in Four Days*, FORTUNE (Mar. 18, 2019, 7:24 PM), <http://fortune.com/2019/03/18/facebook-stock-today/>; Rebecca Ungarino, *Facebook Analysts Are Sounding Off on Executive Turnover, Privacy, and Regulation* (FB), BUS. INSIDER (Mar. 18, 2019, 12:24 PM), <https://markets.businessinsider.com/news/stocks/facebook-stock-price-regulation-management-change-noted-by-analysts-2019-3-1028038766> ("Facebook shares fell Monday after a handful of Wall Street analysts expressed concern over the company's recent management changes as well as regulation- and privacy-related uncertainty."); see also Dilantha De Silva, *Regulatory Pressures on Facebook and Their Impact*, SEEKING ALPHA (Feb. 20, 2019, 10:49 PM), <https://seekingalpha.com/article/4242730-regulatory-pressures-facebook-impact> ("[I]ncreased scrutiny from regulators was one of the major reasons behind the underperformance of Facebook's shares.").

237. See, e.g., Kelleher, *supra* note 236 (discussing the impact of regulatory scrutiny on Facebook); De Silva, *supra* note 236 (same).

238. For a discussion on the impact predictability on revenues and investment, see *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, *supra* note 174; Rossow, *supra* note 174; see also A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17.

239. See A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–13; *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, *supra* note 174; Kiel, *supra* note 229, at 193–95; Rossow, *supra* note 174.

impacted the area had the development occurred.²⁴⁰ Moreover, unpredictability will likely dissuade investment even if there is a high probability that after the EPA's analysis, the EPA will permit development.²⁴¹ This is because of the possibility that the return on investment will be diminished by unforeseen legal expenses, jurisdictional analysis expenses, and increased time waiting for the EPA's decision.²⁴²

Predictable regulations also allow businesses, investors, and developers to better plan for the future.²⁴³ Increased costs that are predictable allow for businesses and investors to budget for expenses such as modifying their business practices to comply with regulations.²⁴⁴ These increased costs likely do not unilaterally stop investors from investing because investors can consider those costs when computing their return before they commit to investing. Additionally, the development or business can often take action ahead of time to decrease those expenses or increase their revenue in other areas to make up the difference.²⁴⁵ However, if a development is unexpectedly found to be under the jurisdiction of the CWA, the resulting unexpected costs could be detrimental to the investment, as the investor likely did not factor in these costs when computing their return on investment. Also, unexpected costs could cause the underlying business or development to shut down if the costs are prohibitively expensive and the business has not reserved enough money for that expense.²⁴⁶

Given the history of the CWA and the complicated nature of the previous attempts to define the waters covered by the CWA, a key

240. See sources cited *supra* note 239.

241. See Kiel, *supra* note 229, at 193–94.

242. See *id.* at 193–200; Annie Snider, *Supreme Court Ruling Means More Clean Water Act Lawsuits Are Likely*, POLITICO (May 31, 2016, 1:21 PM), <https://www.politico.com/story/2016/05/clean-water-act-supreme-court-223740>; see also *Civil Cases and Settlements*, EPA, <https://cfpub.epa.gov/enforcement/cases/> (last updated Feb. 6, 2020) (discussing civil cases and settlements with the EPA).

243. See A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17; *Bangladesh Development Update: Regulatory Predictability Can Sustain High Growth*, *supra* note 174; Kiel, *supra* note 229, at 193–95; Rossow, *supra* note 174.

244. For an overview of the risk of unforeseen regulation, see sources cited *supra* note 238.

245. See generally sources cited *supra* note 243 (discussing the impact of regulatory predictability and certainty).

246. See William Dunkelberg, *The Hidden Costs of Regulations*, FORBES (July 12, 2016, 3:02 PM), <https://www.forbes.com/sites/williamdunkelberg/2016/07/12/the-cost-of-regulations/#3b44fa006c81>; see also sources cited *supra* note 237.

concern is the time and cost of jurisdictional analyses and litigation.²⁴⁷ More predictable, simpler, and easier to understand factors used to define the CWA's coverage would likely decrease the amount of professional jurisdictional analyses needed. Assuming a jurisdictional analysis can require tens to hundreds of hours from environmental lawyers, scientists, and other scientific professionals, fewer of these assessments could result in a substantial amount of money saved.²⁴⁸ Moreover, if the predictability of the CWA's jurisdiction increases, the number of disputes regarding whether particular water is covered by the CWA would likely decrease. And the litigation expenses of businesses, investors, developers, and the government should decrease as a result.²⁴⁹ Given the long history of disputes regarding the CWA's jurisdiction, a decrease in litigation expenses could represent a significant amount of money saved.²⁵⁰

The decrease in expenses required for professional analyses and litigation provides developers, investors, and businesses with more capital to invest in land, employees, and so forth. Similarly, predictable regulations encourage more investment from investors.²⁵¹ Thus, this increased amount of investment would likely result in more economic development, as well as higher wages and higher quality benefits.²⁵² Moreover, the positive economic impact due to increased predictably extends far beyond those directly involved with the investment, land development, or underlying business.²⁵³ Increased land development and investment in a community often equates to an increase in the amount and quality of housing, retail, utilities, and

247. See Hurley, *supra* note 10; Section 404 of the Clean Water Act: Guidance to Identify Waters Protected by the Clean Water Act, *supra* note 173; Snider, *supra* note 242; Wittenberg, *supra* note 82; see also *Civil Cases and Settlements*, *supra* note 242 (discussing past litigation).

248. For a discussion of the litigation and costs associated with the rule, see sources cited *supra* note 247.

249. For a discussion of the litigation and costs associated with the rule, see sources cited *supra* note 247.

250. See Hurley, *supra* note 10; Section 404 of the Clean Water Act: Guidance to Identify Waters Protected by the Clean Water Act, *supra* note 173; Snider, *supra* note 242.

251. See sources cited *supra* note 238.

252. See generally sources cited *supra* note 238 (providing an overview of the costs with unpredictable regulations).

253. See DEPT' FOR INT'L DEV., GROWTH: BUILDING JOBS AND PROSPERITY IN DEVELOPING COUNTRIES 9-10 (2008), <https://www.oecd.org/derec/unitedkingdom/40700982.pdf> (discussing the link between growth and human development). See generally sources cited *supra* note 238 (providing an overview of the costs with unpredictable regulations).

businesses resulting in an increase in jobs, tax revenue, land values, and other economic benefits for the rest of the community.²⁵⁴ And these economic benefits often lead to non-economic benefits, such as higher quality public education systems, healthcare systems, roads, emergency services, parks, and so forth.²⁵⁵

B. Expanded Jurisdiction Results in Higher Water Quality

1. Obama's Rule Increases the Water Quality

Obama's Rule protects more water from pollution than Trump's Rule.²⁵⁶ Obama's Rule expanded the CWA's jurisdiction by around 3% when compared to the previous iteration of the CWA.²⁵⁷ Conversely, Trump's Rule not only reverses Obama's Rule, but results in a rollback of regulations that have been enacted since President George H.W. Bush's administration.²⁵⁸ By protecting more water, Obama's Rule would provide an exceedingly higher quality of water than Trump's Rule.²⁵⁹

Wetlands act as natural filters for water, and, as such, the Obama administration purposefully increased the number of wetlands protected by its rule.²⁶⁰ Wetlands across the country capture many

254. See generally sources cited *supra* note 238 (providing an overview of the costs with unpredictable regulations).

255. See DEP'T FOR INT'L DEV., *supra* note 253, at 9–10.

256. See *Cama*, *supra* note 87 (discussing the jurisdiction under Obama's Rule); *In Case You Missed It*, *supra* note 6 (stating that Trump's Rule would decrease protections).

257. See *Hopkinson*, *supra* note 46 (EPA Administrator Gina McCarthy stated that "[Obama's Rule] would expand the reach of the Clean Water Act by only about 3 percent."); see also *Cama*, *supra* note 87 (discussing Obama's Rule).

258. See *Vast Reworking of Clean Water Protections*, *supra* note 4; *Rott*, *supra* note 108; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108.

259. See Merrit Kennedy, *Trump Aims to 'Eliminate' Clean Water Rule*, NPR (Feb. 28, 2017, 3:14 PM), <https://www.npr.org/sections/thetwo-way/2017/02/28/517016071/trump-aims-to-eliminate-clean-water-rule> (stating that continuing to protect the smaller streams and river is important for water quality); see also Michelle Chen, *Trump Moves to Gut the Clean Water Act*, NATION (Dec. 13, 2018), <https://www.thenation.com/article/trump-clean-water-act/> (stating that the change threatens water supplies); *Why Are Wetlands Important?*, *supra* note 135 (discussing the importance of wetlands, which Trump's Rule provides less protection for).

260. See Rebecca Shaw, *Wetlands Do Triple Duty to Protect People and the Environment*, EDF (Feb. 2, 2015), <https://www.edf.org/blog/2015/02/02/wetlands-do-triple-duty-protect-people-and-environment>; *Wetlands Protection and Restoration*, EPA, <https://www.epa.gov/wetlands> (last updated Aug. 10, 2018); see also Press

types of pollution, including runoff from the agriculture industry, which is important as that industry maintains its exemptions, even under Obama's Rule.²⁶¹ The Trump administration admitted the value of wetlands in 2018 by stating, on EPA's website, that "[w]etlands are important because they protect and improve water quality."²⁶² Yet, Trump's Rule excludes approximately 51% of the wetlands in the United States from the CWA's jurisdiction.²⁶³ Thus, Obama's Rule protects a far greater amount of wetlands and as a result decreases the amount of water pollution across the United States.²⁶⁴

Another significant difference between the two rules is that under Obama's Rule, an entire body of water is considered "adjacent," and protected by the CWA, if any part of it is bordering, contiguous, or neighboring a jurisdictional water.²⁶⁵ The Obama administration justified this expansion of adjacency based on the impact that adjacent waters have on the quality of downstream water as proven in the Report.²⁶⁶ Thus, this definition is an improvement because more adjacent water would be protected by the CWA, resulting in less pollution in downstream water.²⁶⁷ The Obama administration made a similar change regarding isolated waters.²⁶⁸ Under Obama's Rule, the CWA applies to waters that have a significant nexus with a jurisdictional water and are within 4000 feet or within the 100-year

Release, Senator Tom Carper, *supra* note 219 (discussing the elimination of ephemeral streams from protection and the impact of that).

261. See U.S. ENVTL. PROT. AGENCY, FUNCTIONS AND VALUES OF WETLANDS 1–2 (2002), <https://nepis.epa.gov/Exe/ZyPDF.cgi/200053Q1.PDF?Dockey=200053Q1.PDF>; *Section 404 of the Clean Water Act: Clean Water Act Section 404 and Agriculture*, EPA, <https://www.epa.gov/cwa-404/clean-water-act-section-404-and-agriculture> (last updated Oct. 26, 2018); Shaw, *supra* note 260; *Wetlands Protection and Restoration*, *supra* note 260; see also sources cited *supra* note 118 (discussing the benefits wetlands provide).

262. *Wetlands Protection and Restoration*, *supra* note 260.

263. Pittman, *supra* note 84.

264. See sources cited *supra* note 260.

265. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,058 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328).

266. See U.S. ENVTL. PROT. AGENCY, *supra* note 37, at ES2–ES5.

267. See Cama, *supra* note 87; Chen, *supra* note 259; *Obama New Rule*, *supra* note 4; Kennedy, *supra* note 259; *Report on the Environment: Wetlands*, *supra* note 135; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; *Why Are Wetlands Important?*, *supra* note 135; see also Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,058 (overview of Obama's Rule protections).

268. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059.

floodplain of that jurisdictional water.²⁶⁹ This increases water quality because an isolated water meeting these specifications has a significant impact, proven through the significant nexus test, on downstream water.²⁷⁰ And by protecting this isolated water from pollution, the downstream water is similarly protected.²⁷¹

Trump's Rule narrows and possibly completely eliminates pollution protections for ephemeral and intermittent waterways that are protected by Obama's Rule.²⁷² According to the EPA, ephemeral and intermittent waterways constitute approximately 60% of all streams in the United States.²⁷³ Thus, Trump's Rule has the potential to allow pollution in a significant portion of water across the country.²⁷⁴ Moreover, approximately 33% of the U.S. population rely on such waterways, as well as wetlands, for their drinking water.²⁷⁵ Thus, given the rollback of protections for the majority of wetlands combined with the elimination of protections for ephemeral and intermittent waterways, the drinking water of one in three people could be polluted.²⁷⁶

The former chief of environmental crimes for the Department of Justice under President George W. Bush said that Trump's Rule ignores "basic science" and endangers "drinking-water supplies across the country."²⁷⁷ Thus, if Trump's Rule is adopted, it will likely have a negative impact on the nation's health as well as the economy.²⁷⁸

269. *Id.*

270. U.S. ENVTL. PROT. AGENCY, CLEAN WATER RULE FOR: LOCAL GOVERNMENT FACTSHEET, <https://archive.epa.gov/epa/cleanwaterrule/clean-water-rule-factsheets.html> (last updated Apr. 12, 2017); see Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059.

271. See sources cited *supra* note 270.

272. See Haltiwanger, *supra* note 206 ("The Trump administration is seeking to narrow that definition, opening the door for ephemeral/intermittent or seasonal waterways to be contaminated with pollutants."); see also Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4204 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401) (excluding "ephemeral features" from the definition of waters of the United States).

273. LAINIE R. LEVICK ET AL., *supra* note 108, at iii.

274. See, e.g., Haltiwanger, *supra* note 206.

275. See Press Release, Senator Tom Carper, *supra* note 219 (stating that one in three people in the United States rely on these types of waters for drinking water); Stadel, *supra* note 219 (same).

276. See sources cited *supra* note 275.

277. Haltiwanger, *supra* note 206.

278. See Haltiwanger, *supra* note 206 ("Environmental groups have warned that Trump's [Rule] could affect the drinking water of over 115 million people."); *Magnitude*

Obama's Rule, which would cover more water and protect more water from pollution, would not cause such results.²⁷⁹

2. The Impact of Water Quality on the Economy

i. Health Risks Associated with Water Pollution and the Economic Impact

Although it is often far from people's thoughts, in 2009, prior to the implementation of Obama's Rule, the tap water of more than 49 million people contained an illegally high amount of pollutants in the United States.²⁸⁰ And consuming water containing the type of pollutants found is linked to millions of people contracting illnesses each year, including cancer and gastrointestinal illnesses.²⁸¹ Moreover, hundreds of millions of dollars are spent to treat these illnesses.²⁸² The Centers for Disease Control and Prevention (CDC) stated that in the United States, there are between 4 and 32 million cases of gastrointestinal illness each year linked to the poor quality of tap water.²⁸³ And the health care cost to treat just the low level side-effects, like diarrhea, cost around \$14–\$32 per case.²⁸⁴ Thus, improving the water quality to a level that would eliminate diarrhea alone could save anywhere from \$56 million to \$1 billion in health care costs per year.²⁸⁵

& Burden of Waterborne Disease in the U.S., CDC (Nov. 10, 2016), <http://www.cdc.gov/healthywater/burden>.

279. See Cama, *supra* note 87; *In Case You Missed It*, *supra* note 6.

280. Charles Duhigg, *Millions in U.S. Drink Dirty Water, Records Show*, N.Y. TIMES (Dec. 7, 2009), <http://www.nytimes.com/2009/12/08/business/energy-environment/08water.html>.

281. See Duhigg, *supra* note 280; *Magnitude & Burden of Waterborne Disease in the U.S.*, *supra* note 278.

282. See *Cost-benefit Analysis: Treat the Illness or Treat the Water?*, SDWF, <https://www.safewater.org/fact-sheets-1/2017/1/23/cost-benefit-analysis> (last visited Jan. 30, 2020).

283. *Magnitude & Burden of Waterborne Disease in the U.S.*, *supra* note 278.

284. See GUY HUTTON & LAURENCE HALLER, WORLD HEALTH ORG., EVALUATION OF THE COSTS AND BENEFITS OF WATER AND SANITATION IMPROVEMENTS AT THE GLOBAL LEVEL 17 (2004), https://www.who.int/water_sanitation_health/wsh0404.pdf. The dollar amounts are adjusted for inflation from the amounts in the 2004 source to the 2019 dollar amount using a CPI Inflation Calculator published by the U.S. Department of Labor. See *infra* note 290.

285. See HUTTON & HALLER, *supra* note 284; see also *Cost-benefit Analysis: Treat the Illness or Treat the Water?*, *supra* note 282 (discussing the potential savings of having safe drinking water); *Magnitude & Burden of Waterborne Disease in the U.S.*,

A scientific study analyzed the number of annual medical episodes caused by water pollution at two beaches in Southern California.²⁸⁶ The study found that, in addition to gastrointestinal illnesses, an average of nearly 37,000 illness episodes occurred per year due to water pollution at these two beaches alone.²⁸⁷ The study further determined that some 38,000 additional non-gastrointestinal illness episodes per year resulting from this water pollution, including respiratory infections, ear infections, and eye infections.²⁸⁸ The economic cost of each illness episode was also analyzed.²⁸⁹ When updated to reflect 2019 dollars,²⁹⁰ the study found the following: the cost per gastrointestinal illness is \$48; the cost per respiratory infection is \$101; the cost per ear infection is \$50; and the cost per eye infection is \$36.²⁹¹ The study found that the combined annual cost was \$4.4 million for these two beaches.²⁹² Thus, given the likelihood that water pollution causes similar health problems for people across the nation, if water pollution were improved to decrease the number and severity of these water pollution-caused illnesses, the health care savings would be substantial.

The study mentioned above demonstrates that there is a significant amount of cost to treat just relatively minor health issues caused by water pollution.²⁹³ Thus, there is great opportunity for cost savings if there is a reduction in the frequency of serious health issues.²⁹⁴ Per the EPA, many water pollutants commonly used by

supra note 278 (detailing the number of overall cases in the United States). The numerical values are adjusted for inflation. *See infra* note 290.

286. See Ryan H. Dwight et al., *Estimating the Economic Burden from Illnesses Associated with Recreational Coastal Water Pollution—A Case Study in Orange County, California*, J. ENVTL. MGMT. 95, 95 (2005), https://www.researchgate.net/publication/7803432_Estimating_the_economic_burden_from_illnesses_associated_with_recreational_coastal_water_pollution_-_A_case_study_in_Orange_County_California (discussing a study analyzing economic consequences resulting from illnesses caused by water pollution).

287. *See id.*

288. *Id.*

289. *Id.*

290. This update uses a CPI Inflation Calculator published by the U.S. Department of Labor, Bureau of Labor Statistics. *See CPI Inflation Calculator*, U.S. DEPT OF LAB., <https://data.bls.gov/cgi-bin/cpicalc.pl> (last visited Jan. 30, 2020).

291. Dwight et al., *supra* note 286, at 95.

292. *Id.*

293. *Id.*

294. This being said, there are other health related costs and issues that may not be completely resolved by protecting public drinking water. *See, e.g.*, Robert E. Smith Jr., *The Clinical and Economic Burden of Anemia*, 16 AM. J. MANAGED CARE 59 (2010), https://www.ajmc.com/journals/supplement/2010/a279_2010mar_anemia/a279_2010

large industries are linked with extremely serious health issues, including acute and chronic toxicity, anemia, and cancer, as well as damage to the kidney, liver, circulatory system, nervous system, and reproductive system.²⁹⁵ Therefore, if there was a decrease in the amount of cases in which water pollution caused these health issues, the dollar amount saved in healthcare expenses and loss of productivity would be significant as these health issues are often extremely expensive to treat.²⁹⁶

Finally, given the environmental justice aspect of water pollution—that poor and disenfranchised people are more likely to not have access to clean water—increasing the water quality could drastically reduce the costs of healthcare programs like Medicare and Medicaid and improve the health of these communities.²⁹⁷ In 2018,

mar_smith?p=4; *Health and Economic Costs of Chronic Diseases*, CDC, <https://www.cdc.gov/chronicdisease/about/costs/index.htm> (last visited Jan. 30, 2020); Peter Moore, *The High Cost of Cancer Treatment*, AARP (June 1, 2018), <https://www.aarp.org/money/credit-loans-debt/info-2018/the-high-cost-of-cancer-treatment.html>; *Potential Well Water Contaminants and Their Impacts*, EPA, <https://www.epa.gov/privatewells/potential-well-water-contaminants-and-their-impacts> (last updated Aug. 8, 2019) (discussing the potential issues with well water). However, protecting drinking water may have an impact on reducing these health issues. See *infra* notes 295–96 and accompanying text.

295. *Potential Well Water Contaminants and Their Impacts*, *supra* note 294.

296. See *Health and Economic Costs of Chronic Diseases*, *supra* note 294; Moore, *supra* note 294; Smith, *supra* note 294; see also Allen R. Nissenson et al., *Economic Burden of Anemia in an Insured Population*, 11 J. MANAGED CARE PHARMACY 565, 570 (2005) (discussing the high cost associated with treating anemia).

297. See Sarah Frostenson, *America Has a Water Crisis No One is Talking About*, VOX (Mar. 22, 2018, 11:17 AM), <https://www.vox.com/science-and-health/2017/5/9/15183330/america-water-crisis-affordability-millions>; Keith Matheny, *Michigan's Worst 'Environmental Injustice' Areas ID'd*, DETROIT FREE PRESS (July 25, 2019, 5:40 PM), <https://www.freep.com/story/news/local/michigan/2019/07/25/michigan-environmental-injustice-pollution/1829162001/>; George McGraw, *For Millions of Americans, Lack of Access to Water Isn't Just a Drought Problem*, L.A. TIMES (Mar. 22, 2018), <https://www.latimes.com/opinion/op-ed/la-oe-mcgraw-water-poverty-data-20180322-story.html> (“African Americans are twice as likely as whites to live without modern plumbing. In majority-black Lowndes County, Ala., for instance, only 20% of the community is connected to the municipal sewer system. On the Navajo Nation, where I work, 40% of the nearly 170,000 residents still haul water home in bottles or buckets, often at great expense. Impoverished rural communities in Appalachia face water-borne diseases at rates rarely seen in developed nations. Even here in California more than 1 million people rely on public drinking water systems that have violated state safety standards, threatening their health.”); cf. Alexei Koseff, *Gov. Gavin Newsom Signs \$1 Billion Clean-Water Package for Poor Areas*, S.F. CHRON. (July 24, 2019, 6:28 PM), <https://www.sfchronicle.com/politics/article/Gavin-Newsom-signs-1-billion-clean>

the annual amount of money spent on Medicare and Medicaid in the United States was incredibly high—over \$750 billion and \$597 billion, respectively.²⁹⁸ And this amount is growing every year.²⁹⁹ In 2018, Medicare spending grew by 6.4%, and Medicaid spending grew by 3%.³⁰⁰ Curtailing the amount of pollution in the water will likely lead to less water pollution-related illnesses and decrease the amount of expense the federal government is spending through these programs.

ii. Employees and Employers Economically Benefit
from Cleaner Water

A recent investigation and analysis of 680,000 water quality and monitoring violations from the EPA found that approximately 63 million people in the United States were exposed to unsafe drinking water multiple times.³⁰¹ This number is alarming for two reasons. First, the number of people exposed to dangerous drinking water is significant, approximately 20% of the entire U.S. population.³⁰² Second, the illnesses caused by the type of contaminants found in the water are very serious, including cancer, gastrointestinal diseases, and developmental delays in children.³⁰³ This is particularly concerning because according to the CDC, approximately 10%–15% of the U.S. population rely on drinking water that is not subject to federal health regulations or monitoring.³⁰⁴ It is unknown how many days of work those people miss per year from illnesses arising from contaminants in water sources not covered by regulatory

-water-package-14120132.php?psid=eZLEL (providing that federal and state grant money is being used for water treatment).

298. *NHE Fact Sheet*, CMS.GOV, <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html> (last updated Dec. 5, 2019, 6:18 PM).

299. *Id.*

300. *Id.*

301. Agnel Philip et al., *63 Million Americans Exposed to Unsafe Drinking Water*, USA TODAY (Aug. 15, 2017, 6:30 PM), <https://www.usatoday.com/story/news/2017/08/14/63-million-americans-exposed-unsafe-drinking-water/564278001/>; see Agnel Philip et al., *Millions Consumed Potentially Unsafe Water in the Last 10 Years*, TROUBLED WATER (Aug. 14, 2017), <https://troubledwater.news21.com/millions-consumed-potentially-unsafe-water-in-the-last-10-years/>.

302. See sources cited *supra* note 301.

303. See sources cited *supra* note 301.

304. CTRS. FOR DISEASE CONTROL & PREVENTION, *PICTURE OF AMERICA: DRINKING WATER QUALITY 2* (2017), https://www.cdc.gov/pictureofamerica/pdfs/Picture_of_America_Drinking_Water.pdf.

standards.³⁰⁵ However, even if it is only a fraction that miss one day of work, the number would likely still be in the millions.³⁰⁶ Millions of days missed per year results in significant and serious negative economic consequences for employers and employees.³⁰⁷

Employers are negatively impacted by an employee's absence in the workplace due to direct costs, such as wages paid to absent employees and replacement workers, including overtime pay for other employees and high-cost temporary workers.³⁰⁸ Additionally, there are often added administrative costs of managing absenteeism such as finding an employee that is willing to work overtime and finding temporary workers.³⁰⁹

Further, there are other indirect costs for the employer, including a decrease in the quality of goods and services, as well as reduced productivity, both of which stem from overtime fatigue or understaffing.³¹⁰ Additionally, there is an increase in safety issues and their related costs, including employees filling in for the missing

305. See *id.* at 3 (listing commonly-found contaminants in drinking water that are covered and prevented by the Safe Drinking Water Act); *Contamination of Groundwater*, USGS, https://www.usgs.gov/special-topic/water-science-school/science/contamination-groundwater?qt-science_center_objects=0#qt-science_center_objects (last visited Jan. 30, 2020) (listing contaminants that may be found in private and unregulated groundwater sources).

306. See sources cited *supra* note 301.

307. See Jack Altman, *How Much Does Employee Turnover Really Cost?*, HUFFPOST (Jan. 19, 2017), https://www.huffpost.com/entry/how-much-does-employee-turnover-really-cost_b_587fbaf9e4b0474ad4874fb7; Bill Conerly, *Companies Need to Know the Dollar Cost of Employee Turnover*, FORBES (Aug. 12, 2018, 7:00 AM), <https://www.forbes.com/sites/billconerly/2018/08/12/companies-need-to-know-the-dollar-cost-of-employee-turnover/#5b9a3bdad590>; Elisabeth Natter, *How Employees with Poor Attendance Affect the Workplace*, CHRON (Oct. 19, 2018), <https://smallbusiness.chron.com/employees-poor-attendance-affect-workplace-11517.html>; *The Causes and Costs of Absenteeism in the Workplace*, FORBES (July 10, 2013, 9:40 AM), <https://www.forbes.com/sites/investopedia/2013/07/10/the-causes-and-costs-of-absenteeism-in-the-workplace/#3170c9de3eb6>; see also Christopher Ingraham, *Employers Who Don't Offer Paid Sick Leave Are Making Flu Season Worse and Hurting Their Own Bottom Line*, WASH. POST (Feb. 13, 2018, 9:48 AM), https://www.washingtonpost.com/news/work/wp/2018/02/13/employers-who-dont-offer-paid-sick-leave-are-making-flu-season-worse-and-hurting-their-own-bottom-line/?utm_term=.8cd8251b537b (discussing the cost savings that would result in more paid sick days); Mark Koba, *For Millions of Workers, Getting Sick Doesn't Pay*, CNBC (July 12, 2013, 2:33 PM), <https://www.cnbc.com/id/100857686> (discussing the lack of paid sick leave).

308. *The Causes and Costs of Absenteeism in the Workplace*, *supra* note 307.

309. *Id.*

310. *Id.*

employee without proper training.³¹¹ Moreover, there is often low morale among employees who have to replace a sick employee by performing extra work to make up for absent coworkers.³¹² This poor morale can lead to high employee turnover, which can cost businesses significant amounts of money—studies have estimated that the cost to replace an employee is 50% to 200% of their annual pay.³¹³ If the employee is in a leadership role, consistent absences at work can result in a loss in direction and a loss in management for the employees the absent employee supervises.³¹⁴ This can create an environment in which other employees may feel disconnected from their work, employer, and absent leader.³¹⁵ And this feeling can lead to more turnover for the employer which, again, is often extremely expensive.³¹⁶

For an employee, the economic impact of missing work due to illness is also significant.³¹⁷ Employees often do not get paid for the time they miss, or if they do get paid, the amount of their vacation or sick time is decreased accordingly.³¹⁸ This could also result in a decrease in potential earnings by missing out on raises due to not achieving certain requirements of being promoted—like reliability and attendance.³¹⁹ Similarly, many employers provide bonuses for attendance; thus, an employee who is sick from water pollution would not receive that bonus.³²⁰ Employees who miss a substantial amount of time also risk losing their health and retirement benefits if they are terminated for their absence.³²¹

Furthermore, an employee under these circumstances will experience indirect costs of missing work.³²² For example, an

311. *Id.*

312. *See id.*

313. *Id.*; see Altman, *supra* note 307; Conerly, *supra* note 307.

314. *See* Natter, *supra* note 307.

315. *See id.*

316. *See id.*

317. *See* Ingraham, *supra* note 307; Koba, *supra* note 307.

318. *See* sources cited *supra* note 317.

319. *See* Kimberlee Leonard, *Why Is Punctuality Important in the Workplace?*, CHRON (Feb. 4, 2019), <https://smallbusiness.chron.com/punctuality-important-workplace-10253.html>.

320. *See, e.g.,* *Walmart to Pay Bonuses for Good Attendance*, WGN9 (Feb. 2, 2019, 3:36 PM), <https://wgntv.com/2019/02/02/walmart-will-pay-bonuses-for-good-attendance/>.

321. *See* *Benefits Employees Are Entitled to After Termination*, HG.ORG, <https://www.hg.org/legal-articles/benefits-employees-are-entitled-to-after-termination-31293> (last visited Jan. 30, 2020).

322. Leonard, *supra* note 319.

employee that misses work for a substantial amount of time or frequently misses work will likely be viewed by the company as unreliable.³²³ This is likely even if the sickness is not the employee's fault and the employee provides a doctor's note.³²⁴ If an employee is viewed as unreliable, that employee's job security will likely decrease, and the employee will receive less opportunity to advance within that company.³²⁵

It is apparent that employee absence is a significant issue with negative economic implications.³²⁶ These implications not only affect the sick employee but also impact other employees and the employer.³²⁷ With such a large number of people that are sick each year from water pollution, the total annual economic impact is likely very high.³²⁸ Thus, decreasing the amount of water pollution and water pollution-related sickness would improve overall health, the bottom line of employers, and would increase the economic outlook of employees.³²⁹

iii. The Cost to Treat Polluted Water

In many states, high amounts of water pollution results in the state and its citizens using a significant amount of resources to treat the water to make it safe for human consumption.³³⁰ For example,

323. *See id.*

324. *See id.*

325. *See id.* ("Not only is a punctual arrival a basic job requirement, it also puts employees in a position to be seen as loyal, professional and ambitious. These are qualities business owners and management seek to develop for promotion and professional development.").

326. *See Altman, supra* note 307; *Ingraham, supra* note 307; *Koba, supra* note 307; *Leonard, supra* note 319; *Natter, supra* note 307; *The Causes and Costs of Absenteeism in the Workplace, supra* note 307.

327. *See* sources cited *supra* note 326. According to Kimberly Leonard: Morale in the workplace is higher when everyone is punctual. When someone is chronically late, the natural flow of work is disrupted as other team members adjust to cover for the delay. . . . Tension and resentment rise within teams when someone is chronically late causing other team members feel a lack of respect. Punctual employees are disgruntled when that they must cover a late co-worker's responsibilities frequently.

Leonard, *supra* note 319.

328. *See* sources cited *supra* note 326.

329. *See* sources cited *supra* note 326.

330. *See, e.g.,* TENN. DEPT OF ENV'T & CONSERVATION, 2014 305(B) REPORT: THE STATUS OF WATER QUALITY IN TENNESSEE 11-12 (2014), https://www.tn.gov/content/dam/tn/environment/water/documents/wr_wq_report-305b-2014.pdf;

the average U.S. family uses over 300 gallons of water per day for their everyday needs.³³¹ The cost of water treatment for water with typical pollution levels is around \$1 for every 250 gallons.³³² Thus, families may pay between \$1 and \$3 per day just to have access to water that is safe for drinking.³³³ Considering that the U.S. Census Bureau estimated that the 2017 median national household income was \$61,372, this expense represents around 1% of the average household income per year.³³⁴

In some states, this cost has even greater significance as there is a much lower average household income, and many of those same states are also maligned with more water pollution issues.³³⁵ In West Virginia, a state consistently dealing with pollution by large industries, the median household income was \$43,469 in 2017.³³⁶ Thus, the cost of water treatment represents over 1% of the average household income per year, without factoring in that the cost of treatment is likely significantly higher due to increased concentrations of pollution.³³⁷

Obama's Rule would result in a reduction in the pollution level of water, which would in turn result in less filtering and treatment

Freshwater Pollution Costs US At Least \$4.3 Billion a Year, SCIENCEDAILY (Nov. 17, 2008), <https://www.sciencedaily.com/releases/2008/11/081112124418.htm>.

331. *How We Use Water*, EPA, <https://www.epa.gov/watersense/how-we-use-water> (last updated Feb. 5, 2018).

332. See TENN. DEPT OF ENV'T & CONSERVATION, *supra* note 330, at 11 (estimating that the cost of water treatment could be between \$1 and \$2.50 for every 250 gallons); *Nutrient Pollution: The Effects: Economy*, EPA, <https://www.epa.gov/nutrientpollution/effects-economy> (last updated Jan. 30, 2020).

333. See *How We Use Water*, *supra* note 331; sources cited *supra* note 332.

334. See Jonathan L. Rothbaum, *Redesigned Questions May Contribute to Increase*, U.S. CENSUS BUREAU (Sept. 12, 2018), <https://www.census.gov/library/stories/2018/09/highest-median-household-income-on-record.html>; sources cited *supra* note 333.

335. See Grant Suneson, *Wealth in America: Where Are the Richest and Poorest States Based on Household Income?*, USA TODAY (Oct. 8, 2018, 11:09 AM), <https://www.usatoday.com/story/money/economy/2018/10/08/wealth-america-household-income-richest-poorest-states/38051359/>; see also, e.g., Naomi Spencer, *Majority of West Virginia Counties Rank Worst in US for Water Quality*, WWSWS (Sept. 28, 2019), <https://www.wsws.org/en/articles/2019/09/28/wate-s28.html> (discussing the water quality issues in West Virginia, which is ranked among the lowest for median household income).

336. See sources cited *supra* note 335.

337. See Suneson, *supra* note 335; see also sources cited *supra* note 332.

costs.³³⁸ This could save the average household hundreds of dollars and provide an economic boost throughout the nation.³³⁹ Conversely, Trump's Rule will likely increase the pollution levels in water.³⁴⁰ Thus, the costs to treat such water would rise, causing households to spend an even greater amount of money on such a basic necessity.³⁴¹

iv. Highly Filtered Water Is a Requisite for Some Businesses

For many businesses, highly filtered water is necessary to the function of their business.³⁴² Industries like high-tech manufacturing, restaurants, and even breweries rely on high-quality, clean water as a direct input in their business production.³⁴³ Under current circumstances, tap water is often heavily polluted and requires these businesses to filter the water to the level that is needed for their business.³⁴⁴ This filtration often represents a significant business expense, and that expense will continue to rise if pollution protections are rolled back.³⁴⁵

338. See Cama, *supra* note 87; Haltiwanger, *supra* note 206; *In Case You Missed It*, *supra* note 6; *Magnitude & Burden of Waterborne Disease in the U.S.*, *supra* note 278.

339. See *Nutrient Pollution: The Effects: Economy*, *supra* note 332; *How We Use Water*, *supra* note 331; Rothbaum, *supra* note 334.

340. See sources cited *supra* note 338.

341. See sources cited *supra* note 339.

342. See Andrew Clarke, *Businesses Depend on Strong Clean-Water Rules*, CHI. TRIB. (Oct. 1, 2015, 2:57 PM), <http://www.chicagotribune.com/suburbs/daily-southtown/opinion/ct-sta-clean-water-commentary-st-0925-20151001-story.html> (“[W]hen I hear people say that the U.S. Environmental Protection Agency’s new Clean Water Rule is a burden on the economy, I can’t help but wonder what they’re talking about. Water is more than something we all rely on for life—it’s something our businesses rely on, too.”); *Clean Water Is Good for Business*, N.J. SUSTAINABLE BUS. COUNCIL, <https://njsbcouncil.org/2018/05/01/clean-water-is-good-for-business/> (last visited Jan. 30, 2020).

343. See Clarke, *supra* note 342 (“Businesses need clean water to operate, whether for irrigation, production, tourism or so many other sectors. For sectors such as agriculture, tourism or even high-tech manufacturing, water is a basic input into their products.”); see also Phil McClausland, *Clean Water Case Ferments Trouble for Craft Breweries*, NBC NEWS (Aug. 2, 2019, 4:35 PM), <https://www.nbcnews.com/news/us-news/clean-water-case-ferments-trouble-craft-breweries-environmentalists-n1035401> (discussing the issue that polluted water poses for breweries).

344. See TENN. DEP’T OF ENV’T & CONSERVATION, *supra* note 330; *Freshwater Pollution Costs US At Least \$4.3 Billion a Year*, *supra* note 330; McClausland, *supra* note 343; Philip et al., *supra* note 301.

345. See Cama, *supra* note 87; Tim Devaney, *Beer Fight Brewing Over EPA Rule*, HILL (Sept. 19, 2014, 6:00 AM), <http://thehill.com/regulation/energy-environment/218249-beer-fight-brewing-over-epa-rule>; Haltiwanger, *supra* note 206;

Filtration costs are often very expensive, resulting in diminished profit for companies and leaving the companies with less capital to reinvest.³⁴⁶ For example, due to such high filtration costs, Unilever (a large corporation that employs over 155,000 people) stated in a public release that making clean water readily available would improve their business significantly and would likely increase profits.³⁴⁷ Unilever requires clean water to produce many of its products, such as food and beverages, cleaning supplies, beauty products, and personal care products.³⁴⁸ Similarly, other businesses that are reliant on clean water, such as brewers New Belgium and Sierra Nevada, voiced their opinion that an increase in CWA jurisdiction would result in cleaner water.³⁴⁹ And cleaner water would save them a significant amount of money on filtering water to a level suitable for making their products.³⁵⁰

If these businesses had access to water that did not need such extensive filtration, they would save a considerable amount of money and resources.³⁵¹ This savings would likely allow for these companies to hire more employees, increase wages, and increase the quality of employee benefits provided. However, given that Trump's Rule protects less water from pollution, businesses that need highly filtered water will see an increase in filtration expenses as they will have to increase their filtration efforts.³⁵² This increase in expenses could result in layoffs, a decrease in wages, and even could result in an increase in the price of beer—something that all Americans can agree

Hannah Greig et al., *Three Reasons Why Businesses Win by Providing Clean Water, Taps, and Toilets*, GUARDIAN (Sept. 9, 2015, 7:09 AM), <https://www.theguardian.com/sustainable-business/2015/sep/09/business-private-sector-water-sanitation-hygiene-developing-countries-wateraid-unilever-coca-cola>; *In Case You Missed It*, *supra* note 6; *Magnitude & Burden of Waterborne Disease in the U.S.*, *supra* note 278.

346. See sources cited *supra* note 345.

347. See *About Unilever*, UNILEVER, <https://www.unilever.com/about/who-we-are/about-Unilever/> (last visited Jan. 30, 2020); Greig et al., *supra* note 345.

348. See *Water Use*, UNILEVER, <https://www.unilever.com/sustainable-living/reducing-environmental-impact/water-use/> (last visited Jan. 30, 2020) (stating that "[w]ater is critical for the manufacturing and use of our products").

349. See Devaney, *supra* note 345.

350. See *id.*

351. See Devaney, *supra* note 345; Greig et al., *supra* note 345.

352. See *Cama*, *supra* note 87; Greig et al., *supra* note 345; Haltiwanger, *supra* note 206; *In Case You Missed It*, *supra* note 6; *Magnitude & Burden of Waterborne Disease in the U.S.*, *supra* note 278.

is unacceptable.³⁵³

v. Tourism Relies on Clean Water

A substantial portion of the tourism industry relies on water to attract tourists.³⁵⁴ Rivers, lakes, oceans, ponds, wetlands, mountains, and the tourist companies in these areas all rely on clean water to attract tourism dollars.³⁵⁵ In 2017, the tourism industry in the United States generated over \$1.6 trillion in revenue and employed over 7 million people.³⁵⁶ The tourism industry comprised nearly 3% of the entire gross domestic product of the nation in 2017, and that number is expected to continue to grow.³⁵⁷ Thus, for areas that are reliant on tourism dollars, clean water is necessary for the success of the economy. Further, heavily polluted water can have disastrous consequences on the national economy.³⁵⁸

For example, a few years ago, the economy of the Lake Erie area was severely impacted from a large drop in tourists and tourism dollars.³⁵⁹ This drop was due to toxic algae overrunning a large part of the lake.³⁶⁰ This pollution severely decreased the over \$10 billion in estimated annual tourism revenue that typically pours into the area.³⁶¹ Due to this pollution, large populations of fish died and almost half of the Lake Erie area charter fishing companies were forced to permanently shut down their business.³⁶² The Brookings Institution studied the economic effects this pollution had on Lake Erie's

353. See generally sources cited *supra* note 352 (discussing the impacts of a lack of clean water).

354. See *How Important Is the Ocean to Our Economy?*, NAT'L OCEAN SERV., <https://oceanservice.noaa.gov/facts/oceaneconomy.html> (last visited Jan. 30, 2020); see also *Travel, Tourism & Hospitality Spotlight*, SELECTUSA, <https://www.selectusa.gov/travel-tourism-and-hospitality-industry-united-states> (last visited Jan. 30, 2020) (discussing the impact of the tourism industry).

355. See sources cited *supra* note 354.

356. *Travel, Tourism & Hospitality Industry Spotlight*, *supra* note 354.

357. *Id.*

358. See *infra* notes 359–64 and accompanying text.

359. See Michael Wines, *Spring Rain, Then Foul Algae in Ailing Lake Erie*, N.Y. TIMES (Mar. 14, 2013), <http://www.nytimes.com/2013/03/15/science/earth/algae-blooms-threaten-lake-erie.html>.

360. *Id.*

361. *Id.*; see GREAT LAKES COMM'N, GREAT LAKES RESTORATION AT WORK IN OHIO 1 (2014), http://lakeerie.ohio.gov/Portals/0/GLRI/Ohio_GLRI_State_Factsheet_2014_final_Feb_28.pdf (discussing the economic importance of Lake Erie).

362. See Wines, *supra* note 359.

economy.³⁶³ The study found that if the pollution ceased and the ecology of the area was restored, the economy would reap benefits of more than \$80 billion.³⁶⁴

Although it is unlikely that Obama's Rule would completely solve Lake Erie's problem (as agriculture is one of the causes of this pollution),³⁶⁵ the implementation of Obama's Rule would reduce some of this pollution and likely provide an increase of a significant portion of the tourism dollars back in the area.³⁶⁶ Requiring businesses to change their current pollution habits may cause an increase in expenses for the polluting businesses around the Great Lakes.³⁶⁷ But allowing the pollution to become more of a problem may eventually cause the tourism economy in the area to completely collapse.³⁶⁸ The economic consequences of this collapse would likely far outweigh the benefits of allowing industries to continue their calamitous polluting practices.³⁶⁹ Lake Erie and the Great Lakes region are not the only areas experiencing pollution issues like this.³⁷⁰

363. See GREAT LAKES COMM'N, *supra* note 361.

364. See Wines, *supra* note 359.

365. See *Lake Erie Algae Blooms: Polluting Our Drinking Water*, ALLIANCE FOR GREAT LAKES, <https://greatlakes.org/campaigns/lake-erie-algae-blooms/> (last visited Jan. 30, 2020).

366. See Cama, *supra* note 87; Chen, *supra* note 259; *In Case You Missed It*, *supra* note 6; Kennedy, *supra* note 259; *Report on the Environment*, *supra* note 135; *Why Are Wetlands Important?*, *supra* note 135.

367. See Sarah Burns, *Economic Implications, Viewpoints and Solutions for the Success of the Clean Water Rule*, WHARTON PUB. POL'Y INITIATIVE (June 16, 2015), <https://publicpolicy.wharton.upenn.edu/live/news/743-impact-of-the-clean-water-rule-on-the-us->; Wines, *supra* note 359; see also GREAT LAKES COMM'N, *supra* note 361 (discussing the restoration efforts for the Great Lakes).

368. See GREAT LAKES COMM'N, *supra* note 361; Wines, *supra* note 359.

369. See sources cited *supra* note 368.

370. See Kimberly Bosco, *Two Ocean County Beaches Closed Due to Bacteria*, JERSEY SHORE ONLINE (July 25, 2019), <https://www.jerseyshoreonline.com/ocean-county/two-ocean-county-beaches-closed-due-to-bacteria>; *Nutrient Pollution: The Effects: Economy*, *supra* note 332; John Sharp, *'All Bets Are Off': Toxic Algae Bloom Shuttters Mississippi Beaches, Causes Worry in Alabama*, AL.COM (July 12, 2019), <https://www.al.com/news/mobile/2019/07/all-bets-are-off-toxic-algae-bloom-shuttters-mississippi-beaches-causes-worry-in-alabama.html>. As Mr. Sharp reports:

The closure of 21 Mississippi beaches is the result of a decision by the Mississippi Department of Environmental Quality (MDEQ). . . . Toxins in the blue-green algae in Mississippi can cause rashes, nausea, diarrhea, and vomiting, according to the MDEQ. Eating seafood from the affected areas is also not recommended. . . . South Florida has seen its share of these environmental hazards in recent years. The blue-green blooms have repeatedly infected Lake Okeechobee, the second largest

This is a common issue throughout the country as the national tourism industry loses nearly \$1 billion every year to pollution, largely due to decreases in recreational business revenue.³⁷¹ For many states, tourism is a vital part of the economy because it produces revenue and jobs for both local businesses and government.³⁷² Both Obama's and Trump's Rule would impact states that rely on tourism. However, whether that impact is positive or negative is dependent on which rule is in place.³⁷³

In Tennessee, the wildlife-related recreation industry, which includes hunting, fishing, and nature observation, is a vital part of the state's economy, as it generated \$20.7 billion in direct visitor spending in 2017.³⁷⁴ Additionally, almost 117,000 people travel to Tennessee each year for fishing alone and the average person that fishes spends over \$1300 on trip-related costs.³⁷⁵ Without clean waters the wildlife-related recreation industry in Tennessee would significantly suffer, as would the economy of the state.³⁷⁶ Obama's Rule would positively impact this industry by providing more protection of water, lands, and wildlife's habitat, which would create an opportunity for more wildlife activities and increased revenue.³⁷⁷

Moreover, as the quality of water increases nationwide under Obama's Rule, some areas that were not previously tourist destinations because of the poor quality of water will likely attract tourists when the water quality improves. This improvement in water

natural freshwater lake in the U.S. More than 33 square miles of the lake was infested with a toxic algae bloom in 2016 . . .

Sharp, *supra*.

371. *Nutrient Pollution: The Effects: Economy, supra* note 332.

372. See Claire Bradley & Troy Segal, *10 States Cashing in on Tourism*, INVESTOPEDIA (Feb. 4, 2020), <https://www.investopedia.com/financial-edge/0710/10-states-cashing-in-on-tourism.aspx>.

373. See *id.*; Cama, *supra* note 87; *In Case You Missed It, supra* note 6; see also *Trump Rolls Back Decades of Clean Water Act Protections, supra* note 108 (discussing Trump's changes to Obama's Rule).

374. Nate Rau, *Tennessee Sets Tourism Record with \$20.7B in Direct Visitor Spending*, TENNESSEAN (Aug. 28, 2018, 3:21 PM), <https://www.tennessean.com/story/money/2018/08/28/tennessee-sets-tourism-record-20-7-b-direct-visitor-spending/1120030002>.

375. U.S. FISH & WILDLIFE SERV., 2011 NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION 68, 106 (2011), <https://www.census.gov/prod/2012pubs/fhw11-nat.pdf>.

376. See generally *TDEC Lifts Water Contact Advisory in Sevier County*, TENN. DEP'T. ENV'T & CONSERVATION (Nov. 1, 2016, 10:48 AM), <https://www.tn.gov/environment/news/2016/11/1/tdec-lifts-water-contact-advisory-in-sevier-county.html> (providing an example of the environmental impact of bacteria).

377. See sources cited *supra* note 366.

quality will increase the opportunities to swim, fish, hunt, and enjoy the water, resulting in an increase in tourist destinations.³⁷⁸ And increasing the amount of tourist destinations will also increase revenue for local businesses.³⁷⁹ For example, approximately twenty years ago, Little Pigeon River, near the Great Smokey Mountain National Park, had water with such a high pollution level that a contact advisory was implemented.³⁸⁰ After a multitude of environmental changes and improvements to the water quality in that area, the advisory was lifted partially in 2014 and 2016.³⁸¹ Due to the improved quality of water, the local area will benefit from an increase in tourism as more tourists visit Little Pigeon River to enjoy the water and the surrounding wildlife.³⁸²

An increase in revenue would likely occur for businesses engaged in direct tourism activities like hotels, fishing guides, and boat rentals,³⁸³ as well as restaurants, grocery stores, and gas stations.³⁸⁴ Additionally, the property values in areas like Little Pigeon River generally rise as the water quality rises and water-based recreation becomes more attractive.³⁸⁵ Then, revenues from property tax increases could provide improved public schools, parks, and many other benefits.³⁸⁶

378. See generally sources cited *supra* note 366 (discussing the positive environmental impacts of increased water protection).

379. See sources cited *supra* note 374, 375 (discussing the importance of tourism to the economy).

380. *TDEC Lifts Water Contact Advisory in Sevier County*, *supra* note 376.

381. See *id.*

382. See SE. WATER POLLUTION BIOLOGISTS ASS'N, TENNESSEE 2014 SWPBA UPDATE 1 (2014), www.swpba.org/docs/2014_Newsletters/TN_2014_SWPBA_Newsletter.docx (stating that the advisory lift "is a great boost for the local economy and recreational activities such as fishing and swimming").

383. See *id.*; GUND INST. FOR ECOLOGICAL ECON. & LAKE CHAMPLAIN BASIN PROGRAM, THE ECONOMIC IMPACT OF CLEAN WATER 1 (2016), <https://dec.vermont.gov/sites/dec/files/wsm/erp/docs/EconomicImpactCleanWaterFactSheet.pdf>.

384. See Ann Jennings, *Cleaning Up VA Waters Will Create Jobs, Attract Tourism*, BAY J. (Dec. 1, 2010), https://www.bayjournal.com/article/cleaning_up_va_waters_will_create_jobs_attract_tourism; GUND INST. FOR ECOLOGICAL ECON. & LAKE CHAMPLAIN BASIN PROGRAM, *supra* note 383; SE. WATER POLLUTION BIOLOGISTS ASS'N, *supra* note 382.

385. See GUND INST. FOR ECOLOGICAL ECON. & LAKE CHAMPLAIN BASIN PROGRAM, *supra* note 383; *Nutrient Pollution: The Effects: Economy*, *supra* note 332.

386. For a discussion of potential positive impacts, see GUND INST. FOR ECOLOGICAL ECON. & LAKE CHAMPLAIN BASIN PROGRAM, *supra* note 383; Jennings, *supra* note 384; SE. WATER POLLUTION BIOLOGISTS ASS'N, *supra* note 382; see also *Nutrient Pollution: The Effects: Economy*, *supra* note 332.

Relatedly, many individuals and companies in the fishing industry across the nation are witnessing their business deplete right in front of them.³⁸⁷ This business failure is not due to a lack of demand for fish and seafood; instead, pollution is literally killing the market.³⁸⁸ Many fishermen and fishing companies in the Chesapeake

387. See Carlos Anchondo, *Environmentalists Take Petrochemical Giant Formosa to Court Over Plastics Pollution*, TEX. TRIB. (Mar. 25, 2019, 12:00 AM), <https://www.texastribune.org/2019/03/25/formosa-goes-to-federal-court-for-alleged-plastic-pollution/>; *Flooding, Pollution Devastating State's Fishing Industry*, KLFY.COM (June 1, 2019, 2:36 AM), <https://www.klfy.com/news/local/flooding-pollution-devastating-states-fishing-industry/>; see also Duncan Adams, *Northwest Towns Concerned About Selenium Pollution*, DAILY INTER LAKE (July 27, 2019, 5:00 AM), https://www.dailyinterlake.com/local_news/20190727/northwest_towns_concerned_about_selenium_pollution (discussing the impact of pollution); Darryl Fears & Lori Rozsa, *Florida's Unusually Long Red Tide Is Killing Wildlife, Tourism and Businesses*, WASH. POST (Aug. 28, 2018), https://www.washingtonpost.com/national/health-science/floridas-unusually-long-red-tide-is-killing-wildlife-tourism-and-businesses/2018/08/28/245fc8da-aad5-11e8-8a0c-70b618c98d3c_story.html?noredirect=on&utm_term=.2354d145a352 (same); Steve Schultz, *Industrial Ag Pollution Threatens Minnesota Lakes and Rivers*, MINNPOST (Mar. 26, 2019), <https://www.minnpost.com/community-voices/2019/03/industrial-ag-pollution-threatens-minnesota-lakes-and-rivers/> (same); John Vidal, *How a Picturesque Fishing Town Became Smothered in Trash*, HUFF POST (Apr. 10, 2019, 5:45 AM), https://www.huffpost.com/entry/indonesia-plastic-waste-pollution-solutions_n_5cabc096e4b02e7a705c317c (same). But see James Gilbert, *Record High Lake Levels Impact on the Fishing Industry*, ROCHESTERFIRST.COM (July 9, 2019, 8:35 PM), <https://www.rochesterfirst.com/news/local-news/record-high-lake-levels-boosting-commercial-fishing-business/> (discussing the positive impact of a clean lake).

388. See Laura Adams Boycourt, *New James River Limits to Fight Harmful Algae*, CHESAPEAKE BAY MAG. (July 11, 2019), <https://chesapeakebaymagazine.com/new-james-river-limits-to-fight-harmful-algae/>; Timothy Dean, *Chesapeake Bay's Decline Endangers Watermen's Livelihoods*, BALT. SUN (Mar. 21, 2019, 6:00 AM), <https://www.baltimoresun.com/news/opinion/oped/bs-ed-op-0322-watermen-bay-20190319-story.html>; Chris Dollar, *Wild Chesapeake: Anglers Compete in Trash Cleanup "Tournament,"* CHESAPEAKE BAY MAG. (July 8, 2019), <https://chesapeakebaymagazine.com/wild-chesapeake-anglers-compete-in-trash-cleanup-tournament/>; Paul Gessler, *Pollution Forecast for Chesapeake Bay Predicts More Fish Kills, Dead Zones*, CBS BALT. (July 9, 2019, 4:42 PM), <https://baltimore.cbslocal.com/2019/07/09/chesapeake-bay-pollution-dead-zones/>; Tamara Dietrich, *Near-record Dead Zones Forecast for Chesapeake Bay, Gulf of Mexico*, VIRGINIAN PILOT (June 28, 2019, 4:20 PM), https://pilotonline.com/news/local/environment/article_2764563e-99e2-11e9-ad6b-8bb4eb811bc1.html; David McFadden, *Experts Warn of 'Dead Zone' in Chesapeake Bay from Pollution*, BALT. SUN (July 7, 2019), <https://www.baltimoresun.com/news/environment/bs-md-conowingo-pollutants-rainfall-chesapeake-20190706-story.html>; Gerald Winegrad et al., *'Code Red' for the Chesapeake Bay*, BALT. SUN (Jan. 11, 2019, 6:00 AM), <https://www.baltimoresun.com/news/opinion/oped/bs-ed-op-0113->

Bay area are being forced to close their businesses because of the vast amount of pollutants in the bay water.³⁸⁹ The decline in water quality has directly resulted in a decline in the number of oysters, crabs, clams, and fish.³⁹⁰

Specifically, as a result of pollution in Chesapeake Bay, the oyster population has decreased by 50% over the last twenty years.³⁹¹ This decline not only decreased the amount of oysters sold for consumption but also decreased the overall water quality as oysters naturally filter out pollution.³⁹² Additionally, any fisherman in the area that continues to fish risks serious physical harm.³⁹³ This is because diseases, including multiple flesh eating diseases, have become more prevalent in the area.³⁹⁴ Water pollution has also caused a dead zone, an oxygen depleted zone, to grow to several hundred square miles in the Chesapeake Bay.³⁹⁵

This is not a problem that is unique to the Chesapeake Bay as many people in the fishing industry across the nation are dealing with the ramifications of polluted water.³⁹⁶ Trump's Rule will decrease the amount of water protected from such pollution while increasing the amount of pollution and number of fishing businesses negatively impacted by pollution.³⁹⁷ Additionally, the economic impact is not limited to just the fishing industry—other local tourism businesses are often severely crippled by increased water pollution.³⁹⁸ Pollution is a problem for many local economies, and decreasing the CWA's jurisdiction, as Trump's Rule does, will continue to negatively impact the economy.

bay-state-20190110-story.html ("The legal-sized Maryland bay oyster population declined by half The 2018 blue crab survey showed a 42 percent decline in mature female crabs, well below the goal. There was a 23 percent decline in the population of all adult crabs.").

389. See Dean, *supra* note 388; Winegrad et al., *supra* note 388.

390. Dean, *supra* note 388; Winegrad et al., *supra* note 388.

391. Winegrad et al., *supra* note 388.

392. *Id.*

393. See *id.*

394. *Id.*

395. *Id.*

396. See Anchondo, *supra* note 387; Fears & Rozsa, *supra* note 387.

397. See sources cited *supra* note 352.

398. See Anchondo, *supra* note 387; Fears & Rozsa, *supra* note 387; Winegrad et al., *supra* note 388.

vi. Major Urban Development Depends on Access to Clean Rivers
and Lakes

Many cities across the nation are experiencing unprecedented growth as people flock to “it” cities.³⁹⁹ A common factor in these high-growth cities is access to rivers, lakes, streams, and parks for various outdoor activities.⁴⁰⁰ Given this, many cities are investing significant resources in establishing or revitalizing such “natural” assets in their cities with an eye towards appealing to more people and, ultimately, improving the city’s economy.⁴⁰¹ Without clean water, a city’s attractiveness significantly declines and likely fails to attract potential development and economic growth.⁴⁰²

Nashville, Austin, and Seattle are some of the fastest growing cities in America.⁴⁰³ This growth is attributed to many factors; however, one thing all of these cities have is close proximity to bodies of water that are clean and support outdoor activities including

399. See Samantha Sharf, *Full List: America’s Fastest-Growing Cities 2018*, FORBES (Feb. 28, 2018, 3:53 PM), <https://www.forbes.com/sites/samanthasharf/2018/02/28/full-list-americas-fastest-growing-cities-2018/#1843effc7feb>; Samantha Sharf, *Full List: America’s Fastest-Growing Cities 2017*, FORBES (Feb. 10, 2017, 9:52 AM), <https://www.forbes.com/sites/samanthasharf/2017/02/10/full-list-americas-fastest-growing-cities-2017/#38d644fe3a36>.

400. See Neil O’Farrell, *How to Attract People to Your City (and It’s Not Just About Jobs)*, ECONOMICDEVELOPMENT.ORG (Apr. 21, 2015), <http://economicdevelopment.org/2015/04/how-to-attract-people-to-your-city-and-its-not-just-about-jobs/>; see also Richard Florida, *The Beauty Premium: How Urban Beauty Affects Cities’ Economic Growth*, CITYLAB (May 15, 2019), <https://www.citylab.com/life/2019/05/beautiful-cities-economic-growth-data-beauty-premium/589480/> (discussing attractiveness as an urban-growth factor); Jordi Lippe-McGraw, *These Are the Best Places to Live in America*, TODAY (Apr. 9, 2019, 7:12 AM), <https://www.today.com/money/these-are-20-best-us-cities-live-t151754> (listing the best places to live in America); sources cited *supra* note 399 (providing information on which cities are growing rapidly).

401. See *2017 State of Our Environment Report*, DATA.AUSTINTEXAS.GOV, <https://data.austintexas.gov/stories/s/2017-State-of-Our-Environment-Report-Public-Open-S/638d-vmef/> (last visited Jan. 30, 2020); *Greenspace Blog*, SEATTLE.GOV, <https://greenspace.seattle.gov/#sthash.10miiskJ.dpbs> (last visited Jan. 30, 2020); Katherine Gregor, *Greenbacks for Green Space*, AUSTIN CHRON. (May 4, 2017), <https://www.austinchronicle.com/news/2007-05-04/471782/>; David Plazas, *Nashville’s Green Spaces Critical*, TENNESSEAN (Mar. 16, 2015, 6:34 PM), <https://www.tennessean.com/story/opinion/columnists/david-plazas/2015/03/16/nashville-green-spaces-key-future/24873757/>.

402. For background on the importance of attractiveness and the growing cities, see Florida, *supra* note 400; Lippe-McGraw, *supra* note 400; O’Farrell, *supra* note 400; sources cited *supra* note 399.

403. See sources cited *supra* note 399.

kayaking, paddle boarding, running along the river, and so forth.⁴⁰⁴ The importance of such activities to the growth of these cities cannot be dismissed as these bodies of water act as a medium to not only exercise but also to read, relax, think, and meet.⁴⁰⁵ Without clean water, these cities would likely not have grown as fast and would have missed out on many of the economic benefits that come with population growth.

As previously discussed in Section B of Part II, Obama's Rule increases the amount of water protected from pollution resulting in an overall higher quality of water.⁴⁰⁶ The opposite is true of Trump's Rule.⁴⁰⁷ Under Trump's Rule, the water quality in many of these cities could decrease, resulting in a plateau, or possibly even a decline, in growth.⁴⁰⁸ Maintaining high water quality is essential for these cities to attract, retain, and supplement their high growth, and, as such, Obama's Rule positions these cities, and other cities like them, to continue to have sustainable growth and reap economic benefits.

Major population growth in urban areas provides many economic benefits but also presents unique economic challenges.⁴⁰⁹ One such

404. See O'Farrell, *supra* note 400; see also Joshua McNichols, *Water Fuels Seattle's Growth. But in North Bend, Activists Say Water Could be Running Out*, KUOW (June 20, 2018, 12:41 PM), <https://www.kuow.org/stories/water-fuels-seattle-s-growth-north-bend-activists-say-water-could-be-running-out> (stating the role of water in Seattle's growth); sources cited *supra* note 399 (listing these cities among the fastest growing).

405. See Lee Foster, *Water-Rich Activities in Seattle, Washington*, FOSTER TRAVEL PUB. (June 29, 2014), <https://www.fostertravel.com/water-activities-of-seattle-washington/>; *Nashville's Great Outdoors*, TRVL CHANNEL, <https://www.travelchannel.com/destinations/us/tn/nashville/articles/nashvilles-great-outdoors> (last visited Jan. 30, 2020); Elish O'Sullivan, *Water Parks, Swimming Holes, and More Options to Keep You Cool*, AUSTIN CHRON. (July 18, 2018, 7:00 AM), <https://www.austinchronicle.com/daily/events/2018-07-18/water-parks-swimming-holes-and-more-options-to-keep-you-cool/>; sources cited *supra* note 404.

406. See Cama, *supra* note 87; *In Case You Missed It*, *supra* note 6; *Obama New Rule*, *supra* note 4; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; *Vast Reworking of Clean Water Protections*, *supra* note 4.

407. See Chen, *supra* note 259; Kennedy, *supra* note 259; *Obama New Rule*, *supra* note 4; *Report on the Environment*, *supra* note 135; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; *Vast Reworking of Clean Water Protections*, *supra* note 4; *Why Are Wetlands Important?*, *supra* note 135.

408. See sources cited *supra* note 407.

409. See *As Gentrification Grips Denver Neighborhoods, the City's Housing Crisis Offers No Easy Solutions*, DENVER POST (July 17, 2018, 4:47 PM), <https://www.denverpost.com/2018/07/17/denver-housing-crisis/>; John Buntin, *What Kind of Place Does Nashville Want to Be: Musing City*, GOVERNING (July 2018), <https://www.governing.com/topics/urban/gov-nashville.html>; *Heavy Commuting into Boulder Drives Challenges for City*, DENVER POST (Apr. 1, 2019, 6:00 AM),

challenge is the need for increased development of residential and commercial real estate to keep pace with increased demand.⁴¹⁰ For example, around 85 to 100 new people moved to Nashville each day in 2016.⁴¹¹ As more people and businesses relocate to Nashville, the need for residential and commercial real estate escalates.⁴¹² Many major commercial real estate developments throughout the area are experiencing occupation rates of 99%.⁴¹³ And home prices in the

<https://www.denverpost.com/2019/04/01/boulder-commuting-climate-change/>; Andrew Kenney, "We Suck in Denver, Huh?" *Here's How Development Is Shaping the Mayor's Race in 2019*, DENVER POST (last updated Apr. 5, 2019, 1:00 PM), <https://www.denverpost.com/2019/02/22/denver-development-mayors-race/>; *Living with Amazon: What Nashville Should Learn from the Giant's Impact on Seattle*, NASHVILLE BUS. J. (Apr. 1, 2019, 11:12 AM), <https://www.bizjournals.com/nashville/news/2019/04/01/living-with-amazon-what-nashville-should-learn.html>; Jamie McGee, *State of Nashville: As Economy Thrives, Residents Struggle with Health, Housing, Prosperity*, TENNESSEAN (Dec. 6, 2018, 5:00 AM), <https://www.tennessean.com/story/money/2018/12/06/nashville-economy-income-health-housing-statistics/2139279002>; Bob Sechler, *Austin's 2019 Economic Outlook: Still Strong, but Could Slip from '18 Pace*, STATESMAN (Jan. 4, 2019, 11:27 AM), <https://www.statesman.com/news/20190104/austins-2019-economic-outlook-still-strong-but-could-slip-from-18-pace>; Butch Spyridon, *Nashville's Recent Growing Pains Are a Reflection of How Far the City Has Come*, TENNESSEAN (July 5, 2019, 12:00 PM), <https://www.tennessean.com/story/opinion/2019/07/05/nashvilles-growth-also-comes-growing-pains/1628134001/>.

410. See *As Gentrification Grips Denver Neighborhoods, the City's Housing Crisis Offers No Easy Solutions*, *supra* note 409; Andrew Kenney, "There's Speculators Buying up Houses:" *Denver's East Colfax Braces for Transit, Density and Displacement*, DENVER POST (last updated Aug. 26, 2019, 8:16 PM), <https://www.denverpost.com/2019/07/22/denver-east-colfax-transit-density-developement/>; Joe Rubino, *Denver Communities Putting More Faith in Land Trusts Amid Affordable Housing Crisis*, DENVER POST (July 8, 2019, 8:28 AM), <https://www.denverpost.com/2019/07/08/denver-affordable-housing-land-trusts/>; Michael B. Sauter, *Pricey Homes in These 15 US Cities Put Them at Risk of a Housing Crisis*, USA TODAY (May 31, 2019, 6:44 AM), <https://www.usatoday.com/story/money/2019/05/31/cities-on-a-verge-of-a-housing-crisis/39527629/>; Sechler, *supra* note 409; Patrick Sisson, *Hey, Middle Class, the Housing Crisis Is Coming for You Next*, CURBED (June 11, 2019, 12:22 PM), <https://www.curbed.com/2019/6/11/18661364/home-tuition-middle-class-housing-crisis>; Getahn Ward, *How Many People Are Really Moving to Nashville Every Day?*, TENNESSEAN (last updated May 2, 2016, 3:43 PM), <http://www.tennessean.com/story/opinion/2016/05/01/how-many-people-really-moving-nashville-every-day/83100468/>.

411. See Ward, *supra* note 410.

412. See Sauter, *supra* note 410; Adam Sichko, *First Look: Office Space Is Scarce, so Nashville's Dominant Office Developer Seizes the Moment*, NASHVILLE BUS. J. (Nov. 10, 2016, 11:59 AM), <http://www.bizjournals.com/nashville/news/2016/11/10/first-look-office-space-is-scarce-so-nashville-s.html>; Ward, *supra* note 410.

413. Sichko, *supra* note 412.

Nashville area increased by approximately 35% from 2016 to 2018.⁴¹⁴ Thus, an increase in the supply of developable land for housing and commercial real estate is needed to keep up with demand and to moderate pricing.⁴¹⁵

As detailed in Section A of Part II, Obama's Rule provides greater predictability of the CWA's jurisdiction and allows investors to feel more confident in their investments.⁴¹⁶ This will likely lead to more development, an increase in the supply of real estate, and lower real estate prices.⁴¹⁷ Conversely, Trump's Rule decreases overall jurisdictional predictability because of the vague, ambiguous, and unclear standards it has set forth.⁴¹⁸ This lack of predictability could decrease the amount of investment and development that is needed to keep up with the growth of these cities.⁴¹⁹

Obama's Rule supports and helps continue the substantial economic growth of many major cities in two separate ways.⁴²⁰ First, Obama's Rule would protect the high quality of life—great parks, lakes, rivers, and outdoor recreational activities—that has helped foster this growth.⁴²¹ By increasing and protecting the quality of water in these cities, outdoor activities flourish and continue to attract, retain, and supplement this significant growth.⁴²² Second, Obama's

414. See Joey Garrison, *Nashville Property Values Increasing at 'Historic' Clip*, TENNESSEAN (last updated Nov. 23, 2015, 11:13 AM), <http://www.tennessean.com/story/news/2015/11/22/nashville-property-values-increasing-historic-clip/76111386/>; Sandy Mazza, *Nashville's Housing Market Is Cooling, Here's What You Need to Know*, TENNESSEAN (last updated Feb. 15, 2019, 9:45 AM), <https://www.tennessean.com/story/money/2019/02/15/nashville-housing-market-slows-cooling-off-what-it-means-real-estate-home-buyer-seller/2836682002/>.

415. See sources cited *supra* note 414.

416. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,059 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328).

417. See A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17; sources cited *supra* note 175.

418. See Revised Definition of "Waters of the United States," 84 Fed. Reg. 4154, 4173–74, 4177–78 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401); Wittenberg, *supra* note 82.

419. See A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17; sources cited *supra* note 174.

420. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059; Cama, *supra* note 87; *In Case You Missed It*, *supra* note 6; *Obama New Rule*, *supra* note 4; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; *Vast Reworking of Clean Water Protections*, *supra* note 4.

421. See Cama, *supra* note 87; *In Case You Missed It*, *supra* note 6; *Obama New Rule*, *supra* note 4; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; *Vast Reworking of Clean Water Protections*, *supra* note 4.

422. See sources cited *supra* note 421.

Rule increases jurisdictional predictability, which assists in land planning and encourages real estate investment in these cities to keep up with the increase in demand.⁴²³ Trump's Rule fails to do either of these things.⁴²⁴

vii. Obama's Rule Increases Costs for Some Industries

Many large businesses and industries, especially those involved in coal and oil and gas, opposed Obama's Rule.⁴²⁵ This opposition likely began out of the concern that a new rule would require them to spend more money on activities like obtaining a permit, abiding by new standards, implementing new technology, conducting jurisdictional analyses, and renovating their business.⁴²⁶ These large industries argued that an increase in jurisdiction would increase overall costs, which would lead to an increase in the unemployment rate, a reduction in wages, and force some businesses to shut down.⁴²⁷ The Trump administration made similar arguments and maintained that the rollbacks in Trump's Rule eliminated such costs.⁴²⁸

An increase in the CWA's jurisdiction is an influential reason why some businesses oppose Obama's Rule.⁴²⁹ Although this increase in

423. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. at 37,059.

424. See Revised Definition of "Waters of the United States," 84 Fed. Reg. at 4173–74, 4177–78 (Feb. 14, 2019) (to be codified at 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401); see also *In Case You Missed It*, *supra* note 6; Rott, *supra* note 108; *Why Are Wetlands Important?*, *supra* note 135; *Report on the Environment: Wetlands*, *supra* note 135; Wittenberg, *supra* note 82.

425. See Hopkinson, *supra* note 46 ("The Obama administration announced new protections Wednesday for thousands of waterways and wetlands, pushing ahead despite a fierce counterattack from powerhouse industries like agriculture, oil and home-building—and their supporters in Congress."); Peter Quinlan, *Oil Industry Threatens Obama Admin Over Clean Water Act Guidance for Wetlands*, N.Y. TIMES (Apr. 15, 2011), <https://archive.nytimes.com/www.nytimes.com/gwire/2011/04/15/15greenwire-oil-industry-threatens-obama-admin-over-clean-96759.html?page=wanted=print>.

426. See, e.g., Alan Neuhauser, *EPA Broadens Clean Water Regulations*, U.S. NEWS (May 27, 2015, 12:30 PM), <https://www.usnews.com/news/articles/2015/05/27/epa-expands-clean-water-regulations>; *What They Are Saying About Trump's New WOTUS Proposal*, EPA (Dec. 12, 2018), <https://www.epa.gov/newsreleases/what-they-are-saying-about-trumps-new-wotus-proposal>; sources cited *supra* note 425.

427. See Hopkinson, *supra* note 46.

428. See Lisa Friedman & Coral Davenport, *Trump Administration Rolls Back Clean Water Protections*, N.Y. TIMES (last updated Sept. 19, 2019), <https://www.nytimes.com/2019/09/12/climate/trump-administration-rolls-back-clean-water-protections.html>.

429. See sources cited *supra* note 425.

jurisdiction will not alone cripple the economy, it is likely that this increase in jurisdiction will result in a loss of some important resources for impacted businesses.⁴³⁰ The reasoning behind this is two-fold. First, businesses that are not compliant with Obama's Rule and formerly were outside the bounds of the CWA's jurisdiction but are covered by the CWA under Obama's Rule would face a choice.⁴³¹ They could continue their practices and pay fines or change and comply with the regulations.⁴³² Both options can cost time and money and represent a negative cash outflow that did not occur prior to the increase in jurisdiction.⁴³³ Thus, under Trump's Rule, businesses involved with water that would be covered by Obama's Rule but are not covered by Trump's Rule could continue their business practices without concern for water pollution regulation or an increase in expenses.⁴³⁴ Such businesses could simply make the most economically beneficial decision.⁴³⁵ Therefore, in the short-term, Trump's Rule would benefit the economy.

Second, businesses within the increased jurisdiction that are completely compliant with Obama's Rule are likely to still feel some impact from a "jurisdictional rub."⁴³⁶ Before Obama's Rule was implemented, a company likely did not have to analyze its actions, by conducting expensive jurisdictional analyses, in the same way that it might after Obama's Rule.⁴³⁷ Also, it is possible that the property owned by the business was worth more before the jurisdiction covered the property and that the property is not as desirable for resale when under the CWA's jurisdiction.

An increase in the CWA's jurisdiction would likely result in some negative economic effects.⁴³⁸ It is unlikely, however, that such

430. See *Expanded Clean Water Act Rules Hurt Small Business: Commentary*, ROLL CALL (June 13, 2014, 4:00 AM), https://www.rollcall.com/news/expanded_clean_water_act_rules_hurt_small_business_commentary-233793-1.html; Jeremy Quittner, *Clean Water: Bad for Business?*, INC. (May 30, 2014), <https://www.inc.com/jeremy-quittner/small-businesses-oppose-clean-water-act.html>; Reagan Waskom & David J. Cooper, *Why Farmers and Ranchers Think the EPA Clean Water Rule Goes Too Far*, PBS NEWS HOUR (Mar. 4, 2017, 12:41 PM), <https://www.pbs.org/newshour/nation/farmers-ranchers-think-epa-clean-water-rule-goes-far>.

431. See sources cited *supra* note 430.

432. See sources cited *supra* note 430.

433. See sources cited *supra* note 430.

434. See sources cited *supra* note 430.

435. See sources cited *supra* note 430.

436. See sources cited *supra* note 430.

437. See sources cited *supra* note 430.

438. See sources cited *supra* note 430.

negative effects would have a large enough impact to create a substantial decrease in the U.S. economy.⁴³⁹ This is based on several factors. First, in the U.S. market, companies are innovative.⁴⁴⁰ When faced with regulations, large fines, or other roadblocks, companies have often proven their resilience and creativity in coming up with solutions that improve their bottom line while also complying with regulations.⁴⁴¹ Also, given the competitive nature of most major industries, if a company does not innovate to become compliant with Obama's Rule, it is likely that another company will innovate and take over that company's role in the economy.⁴⁴²

Second, many scientists agree that landowners impacted by Obama's Rule can learn how to make a jurisdictional analysis on their own without devoting substantial time to the analysis or hiring an outside professional.⁴⁴³ Thus, concern over constant expensive jurisdictional analyses is likely unwarranted for many of the new regulations within Obama's Rule.⁴⁴⁴ Third, the economic benefits of the increase in the CWA's jurisdiction will likely outweigh the negative effects.⁴⁴⁵ Thus, when looking at the economy at a national level, Obama's Rule would provide sustainable long-term economic growth and success for the United States.⁴⁴⁶

C. *The Agriculture Industry's Exclusions and the Economic Impact*

President Trump has long criticized the CWA and Obama's Rule.⁴⁴⁷ A focal point of that criticism was that Obama's Rule hurt farmers, made the agriculture business more difficult, increased expenses, decreased revenue, and decreased total agricultural output.⁴⁴⁸ Trump declared that his rule would provide far greater

439. See Brodwin, *supra* note 206.

440. See *id.*

441. See *id.*

442. See *id.*

443. Wittenberg, *supra* note 82.

444. See *id.*

445. See Brodwin, *supra* note 206.

446. See *id.*

447. See *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108.

448. *Id.*; see Catherine Boudreau & Annie Snider, *Environmental Rollbacks Give Trump Rare Win with Farmers*, POLITICO (Sept. 19, 2019, 2:44 PM), <https://www.politico.com/story/2019/09/19/epa-rollbacks-trump-farmers-1504300>; *Farmers Not Biggest Winners in Planned Trump Rollback of Clean Water Act's Wetland Protections*, *supra* note 86.

benefits to the agriculture industry as compared to Obama's Rule.⁴⁴⁹ Trump's critique of the impact of Obama's Rule on the agriculture industry is incorrect, as is his assertion that his rule would bring far more benefits to the industry.⁴⁵⁰

In comparison to Obama's Rule, Trump's Rule does not provide any additional agriculture exemptions.⁴⁵¹ In regard to agriculture industry exemptions, both rules are exceedingly similar.⁴⁵² The agriculture industry has held exemptions from the CWA under several administrations⁴⁵³ and, under Obama's Rule, "every single exemption or exclusion that agriculture' [previously] had was preserved."⁴⁵⁴ According to Cindy Barger, a Corps official involved in the creation of Trump's Rule, "[t]he gain for farmers would be the Trump administration's attempt to streamline [the] definition of protected wetlands, meaning farmers wouldn't have to consult experts to know if an area is protected."⁴⁵⁵ It is likely that only a few farmers own land containing such wetlands; therefore, the added benefit under Trump's Rule is that a select group of farmers would spend fewer resources on their jurisdictional analyses.⁴⁵⁶ This is a marginal difference when discussing the national economy.⁴⁵⁷

Both administrations likely exclude the agriculture industry because of, among other reasons, the economic impact the agriculture

449. See *Farmers Not Biggest Winners in Planned Trump Rollback of Clean Water Act's Wetland Protections*, *supra* note 86 ("President Donald Trump often points to farmers as among the biggest winners from the administration's proposed rollback of federal protections for wetlands and waterways across the country.").

450. See *id.* ("[U]nder longstanding federal law and rules, farmers and farmland already are exempt from most of the regulatory hurdles on behalf of wetlands that the Trump administration is targeting. Because of that, environmental groups long have argued that builders, oil and gas drillers and other industry owners would be the big winners if the government adopts the pending rollback, making it easier to fill in bogs, creeks and streams for plowing, drilling, mining or building. Government numbers released last month support that argument. Real-estate developers and those in other business sectors take out substantially more permits than farmers for projects impinging on wetlands, creeks and streams, and who stand to reap the biggest regulatory and financial relief from the Trump administration's rollback of wetlands protections.").

451. See *id.*; Snider, *supra* note 80.

452. See *Farmers Not Biggest Winners in Planned Trump Rollback of Clean Water Act's Wetland Protections*, *supra* note 86.

453. See *id.*

454. *Id.*

455. *Id.*

456. See *id.*; Snider, *supra* note 86; Snider, *supra* note 80.

457. See Brodwin, *supra* note 206.

industry has on the economy.⁴⁵⁸ In 2017, the agriculture industry contributed 5.4% to the gross domestic product of the United States.⁴⁵⁹ And the actual contribution of this industry is likely even greater because many industries heavily rely on agriculture products as inputs in their business, which is not factored into the 5.4% figure.⁴⁶⁰ Additionally, there are over 21 million agriculture-related jobs in the United States, which makes up 11% of all employment in the United States.⁴⁶¹ Also, in 2018, food expenses were around 13% of the average family's annual expenses.⁴⁶² The economic impact of both administrations' exemptions for the agriculture industry is positive for that industry as this influential sector has fewer regulations to comply with.⁴⁶³ This results in fewer resources devoted to ensuring compliance with the CWA and more resources devoted to producing crops.⁴⁶⁴

For example, if a farmer had to apply for a permit for common farming practices, that process could force the farmer to miss a growing season, leading to a reduction both in the number of crops grown and the total revenue for the farmer. This could result in less work for laborers in the agriculture industry, as well as lower wages.⁴⁶⁵ A lower supply of crops could also cause an increase in the price of those crops for consumers.⁴⁶⁶ The agriculture industry is obviously critical to the economy, as it is a large source of revenue, jobs, and food to the United States, and an increase in prices of agricultural products impacts all consumers.⁴⁶⁷ Thus, it is understandable why both administrations exempted this industry from the jurisdiction of the CWA. However, eventually the impact of exempting this industry will likely result in negative economic

458. See *Farmers Not Biggest Winners in Planned Trump Rollback of Clean Water Act's Wetland Protections*, *supra* note 86; Snider, *supra* note 86; Snider, *supra* note 80.

459. See *Ag and Food Sectors and the Economy*, U.S. DEP'T AGRIC. ECON. RES. SERV., <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy.aspx> (last updated Sept. 20, 2019).

460. *Id.*

461. *Id.*

462. *Id.*

463. See sources cited *supra* note 458.

464. See sources cited *supra* note 458.

465. See sources cited *supra* note 458.

466. See *Ag and Food Sectors and the Economy*, *supra* note 459.

467. See *id.*

consequences throughout the nation that outweigh the benefits of exempting this industry.⁴⁶⁸

Many regions across the United States are currently dealing with the negative consequences of these exemptions.⁴⁶⁹ In Iowa, two rivers that supply drinking water to a large population of the state reached pollution levels considered dangerous by the EPA.⁴⁷⁰ Specifically, due to pollution from Iowa's agriculture industry, Iowa's waterways "have some of the highest nitrate levels in the country."⁴⁷¹ High nitrate levels cause many serious side effects, including severe brain damage and death.⁴⁷² To combat these high pollution levels, the water utility board had to use its nitrogen-filtration facility and combine the polluted river water with cleaner groundwater.⁴⁷³ Both of these actions are very expensive.⁴⁷⁴ The nitrogen-filtration facility alone cost \$4.1 million to construct and costs up to \$10,000 per week to operate.⁴⁷⁵ Thus, exempting the agriculture industry has resulted in local Iowa citizens paying for these expenses, via an increased water bill, so that the agriculture industry can continue to pollute major bodies of water.⁴⁷⁶ This is not a problem unique to Iowa.⁴⁷⁷ Many areas across the country are dealing with the same issue.⁴⁷⁸

In the short term, it is likely that the U.S. economy will receive a positive net gain as the agriculture industry continues to benefit from exemptions from major aspects of the CWA.⁴⁷⁹ These exemptions allow the industry to keep their costs low and production high.⁴⁸⁰

468. See, e.g., Susan Cosier, *A Sickening Swill*, NAT'L RESOURCES DEF. COUNCIL (Dec. 5, 2014), <https://www.nrdc.org/onearth/sickening-swill>; Dean, *supra* note 388; Winegrad et al., *supra* note 388; Wines, *supra* note 359.

469. See sources cited *supra* note 468.

470. Cosier, *supra* note 468.

471. *Id.*

472. See Margaret McCasland, Nancy M. Trautmann & Keith S. Porter, *Nitrate: Health Effects in Drinking Water*, PESTICIDE SAFETY EDUC. PROGRAM, <http://psep.cce.cornell.edu/facts-slides-self/facts/nit-heef-grw85.aspx> (last visited Jan. 30, 2020).

473. Cosier, *supra* note 468.

474. *Id.*

475. *Id.*

476. See *id.*

477. Cosier, *supra* note 468; Dean, *supra* note 388; Winegrad et al., *supra* note 388; Wines, *supra* note 359.

478. See sources cited *supra* note 468.

479. See *Ag and Food Sectors and the Economy*, *supra* note 459.

480. See Eric M. Dirth, *Successful Agriculture and Clean Water?: A Workable Path Forward for Regulating Drainage Districts as Point Sources Under the Clean Water Act*, 103 IOWA L. REV. 1213, 1229 (2018) (citing Donelle Eller, *How Do We Fix Iowa's*

However, agriculture is one of the main sources of water pollution in the United States.⁴⁸¹ From a long-term perspective, if pollution problems stemming from agriculture continue to occur and impact the nation, it is likely the negative consequences of exempting the agriculture industry will far exceed the benefits—resulting in a net loss for the economy.⁴⁸² This loss will likely result from increases in water filtration costs, increases in healthcare costs, decreases in tourism, decreases in recreational revenue, and declining economic growth.⁴⁸³ Agriculture is a large, important part of the nation's economy, and keeping food prices low is very important to all people throughout the United States, but eventually the negative consequences of these exemptions will likely outweigh the benefits if they are allowed to continue.⁴⁸⁴

Given that both Obama's Rule and Trump's Rule provide similar exemptions for the agriculture industry, the results of implementing either rule are likely to be substantially similar in this area.⁴⁸⁵ In the short term, the agriculture industry and the national economy will benefit.⁴⁸⁶ But in the long term, the national economy will likely experience a net loss in regard to exempting this industry.⁴⁸⁷ Thus, to increase the strength of the nation's economy, the exemptions provided in each rule should be modified to limit the agriculture

Nitrate Pollution?, DES MOINES REG. (last updated Jan. 23, 2018, 4:44 PM), <http://www.desmoinesregister.com/story/money/agriculture/2015/09/13/tiling-pollution-nitrates/72103422>).

481. See *Agriculture: Cause and Victim of Water Pollution, but Change Is Possible*, FOOD & AGRIC. ORG. UNITED NATIONS, <http://www.fao.org/land-water/news-archive/news-detail/en/c/1032702/>; *The Sources and Solutions: Agriculture*, EPA, <https://www.epa.gov/nutrientpollution/sources-and-solutions-agriculture> (last updated Apr. 15, 2019).

482. See Cosier, *supra* note 468; Winegrad et al., *supra* note 388; Wines, *supra* note 359; sources cited *supra* note 481.

483. See Devaney, *supra* note 345; Greig et al., *supra* note 345; *Health and Economic Costs of Chronic Diseases*, *supra* note 294; Moore, *supra* note 294; *The Causes and Costs of Absenteeism in the Workplace*, *supra* note 307; *Nutrient Pollution: The Effects: Economy*, *supra* note 332; Wines, *supra* note 359.

484. See *Ag and Food Sectors and the Economy*, *supra* note 459; *Agriculture: Cause and Victim of Water Pollution, but Change Is Possible*, *supra* note 481; *The Sources and Solutions: Agriculture*, *supra* note 481; Cosier, *supra* note 468; Winegrad et al., *supra* note 388; Wines, *supra* note 359.

485. See sources cited *supra* note 458.

486. *Ag and Food Sectors and the Economy*, *supra* note 459.

487. See *Agriculture: Cause and Victim of Water Pollution, but Change Is Possible*, *supra* note 481; Cosier, *supra* note 468; Winegrad et al., *supra* note 388; Wines, *supra* note 359.

industry's long-term negative impact on the economy.⁴⁸⁸ If these exemptions continue as currently constructed, the consequences will continue to accumulate and negatively impact the nation's economy, causing local economies to falter as citizens are forced to bear the negative effects of pollution and foot the bill to clean up the pollution.⁴⁸⁹

CONCLUSION

Obama's Rule sought to clarify what waters are included under the CWA while also increasing the jurisdictional coverage of the CWA.⁴⁹⁰ Trump's Rule also seeks to clarify what waters are included under the CWA while reducing the jurisdiction of the CWA.⁴⁹¹ Trump's Rule claims that this reduction in regulated water will have a positive impact on the economy.⁴⁹² Conversely, Obama's Rule claimed that an expansion of the jurisdiction of the CWA would have a positive impact on the economy.⁴⁹³ Although Trump's Rule would have some positive economic impact in some areas, Obama's Rule would support, assist, and supplement economic growth by providing jurisdictional predictability and protecting more water from pollution.⁴⁹⁴

Obama's Rule provides more specificity and less uncertainty of what water is covered and thus lowers land assessment costs and

488. See sources cited *supra* note 458.

489. See Cosier, *supra* note 468; Winegrad et al., *supra* note 388; Wines, *supra* note 359.

490. See ECONOMIC ANALYSIS OF THE EPA-ARMY CLEAN WATER RULE, *supra* note 6, at iv; ROBERT V. PERCIVAL ET AL., *supra* note 15, at 667; Cama, *supra* note 87. *But see In Case You Missed It*, *supra* note 6.

491. See Gardner, *supra* note 13; *In Case You Missed It*, *supra* note 6.

492. See ECONOMIC ANALYSIS OF THE EPA-ARMY CLEAN WATER RULE, *supra* note 6, at 53–54; ECONOMIC ANALYSIS FOR THE PROPOSED REVISED DEFINITION OF "WATERS OF THE UNITED STATES," *supra* note 167, at xii; *In Case You Missed It*, *supra* note 6; Kaufman, *supra* note 6.

493. See ECONOMIC ANALYSIS OF THE EPA-ARMY CLEAN WATER RULE, *supra* note 6, at 53.

494. See Cama, *supra* note 87; Florida, *supra* note 400; *In Case You Missed It*, *supra* note 6; *Obama New Rule*, *supra* note 4; O'Farrell, *supra* note 400; *Trump Prepares to Unveil a Vast Reworking of Clean Water Protections*, *supra* note 4; *Trump Rolls Back Decades of Clean Water Act Protections*, *supra* note 108; see also discussion *supra* Section II.B.2.vi (discussing the impact clean water has on the economies of growing cities).

encourages development.⁴⁹⁵ By protecting more water from pollution, Obama's Rule could lower health care costs for diseases associated with polluted water, decrease the number of days employees miss work, and improve overall health.⁴⁹⁶ Polluted water is expensive to treat, and individuals and businesses requiring clean water are impacted by the high cost of water treatment.⁴⁹⁷ Thus, Obama's Rule would decrease such filtration expenses for individuals as well as businesses that are reliant on clean water.⁴⁹⁸

Obama's Rule would have a similar impact on the tourism industry, as that industry is dependent on clean water for water-based activities like fishing and wildlife.⁴⁹⁹ This improvement to the tourism industry would also benefit the surrounding areas with increased land values, increased revenue for surrounding businesses, and increased property tax revenues.⁵⁰⁰ Moreover, many urban "it" cities depend on clean rivers, lakes, and oceans to attract and sustain growth.⁵⁰¹ Obama's Rule would sustain and supplement such growth by providing predictable standards that encourage investment in real estate development and protect bodies of water that provide the high quality of life that attracted the growth.⁵⁰²

Obama's Rule would increase the cost for some businesses to comply with the CWA, but it is not predicted that these costs would impact the economy dramatically.⁵⁰³ Agriculture, which provides employment for 11% of workers in the United States, is excluded by both rules, with only marginal differences between the two.⁵⁰⁴ In the long term, the agriculture exemptions from both rules may impact the

495. See A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17; sources cited *supra* note 174.

496. See discussion *supra* Section II.B.2.ii (discussing the impact of clean water on employers and employees).

497. *Nutrient Pollution: The Effects: Economy*, *supra* note 332; Greig et al., *supra* note 345.

498. See sources cited *supra* note 497.

499. See discussion *supra* Section II.B.2.v.

500. See GUND INST. FOR ECOLOGICAL ECON. & LAKE CHAMPLAIN BASIN PROGRAM, *supra* note 383; SE. WATER POLLUTION BIOLOGISTS ASS'N, *supra* note 382; Jennings, *supra* note 384.

501. See discussion *supra* Section II.B.2.vi (discussing the impact clean water has on the economies of growing cities).

502. See discussion *supra* Section II.B.2.vi. But see *In Case You Missed It*, *supra* note 6 (describing the narrowing of jurisdiction and added clarity of Trump's rule as positive for the economy).

503. See Brodwin, *supra* note 206.

504. See *Ag and Food Sectors and the Economy*, *supra* note 459; sources cited *supra* note 458.

economy more than any other component of either of the rules if those exemptions remain in place.⁵⁰⁵ Overall, examination of the specific differences in Obama's Rule and Trump's Rule shows that the predictability and expanded jurisdiction of Obama's Rule provides greater economic benefits than the unpredictability and decrease in jurisdiction caused by Trump's Rule.⁵⁰⁶

505. See Dean, *supra* note 388; sources cited *supra* note 489.

506. See Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,080–81 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328); Alber, *supra* note 174; Jennings, *supra* note 384; A REVIEW OF GOOD PRACTICES, *supra* note 224, at 12–17; Rossow, *supra* note 174; sources cited *supra* note 354.

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