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The Right to Rainwater: An Unlikely Fairy Tale

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Comment

The Right to Rainwater: An Unlikely Fairy Tale*

I. INTRODUCTION

Everyone loves a good story, but what makes a story good?

First, a good story has a hero. Cinderella's fairy godmother helped her to realize her potential, Harry Potter saves the wizarding world once again, and rainwater changed our world.[1] Of course this contention sounds strange, but if presented with the question of which natural resource is most vital to sustaining life on earth, most people would give the same answer: water.[2] This is a statement that would likely be met with little resistance. That is because from a very early age, just like we are taught the importance of literary heroes, we are taught to keep in mind just how essential this resource is in our day to day operations.[3] It is common knowledge that water facilitates life and vegetation on Earth.[4] Water keeps us and our environment clean, hydrated, and healthy.[5]

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1. *See, e.g.*, CHARLES PERRAULT, CINDERELLA (reprint ed., 2013); J.K. ROWLING, HARRY POTTER AND THE DEATHLY HALLOWS (2009).

2. *See* L. Schelwald-van der Kley & L. Reijerkerk, *Water, a Way of Life E-Book*, http://www.waterandculture.org/263_Water_a_source_of_life (last visited Jan. 1, 2018).

3. *See Water Conservation for Kids*, WATER PAGE, http://www.thewaterpage.com/water-conservation-kids.htm (last visited Jan. 1, 2018).

4. *See* Jonas Martonas, *Why Is Water So Important to Life on Earth?*, LIVESTRONG, http://www.livestrong.com/article/134084-why-is-water-so-important-life-earth/ (last visited Jan. 1, 2018),

5. *See id.*

Water is incredibly and undeniably important. Rain quite literally sustains the world's surface water supply.[6] For all intents and purposes, rainwater is a modern-day hero.

Second, a good story often presents a villain. In this story, as in most other iconic tales, many people do not fully appreciate the hero until the strength of that hero is nearly depleted by evil. We all know that water is important, but unfortunately the clean water supplies of many communities across the country, and even worldwide, have been threatened in recent years.[7] For reasons ranging from pollution and overconsumption to climate change, the future of this hero has become increasingly grim.[8] Fortunately, individual home and business owners have banded together to fight against these villains. Many of these people chose to implement a system of rainwater collection on their own properties.[9] The goal of these systems was to reduce waste and recycle water so community supplies of groundwater could be replenished and purified.[10]

This leads to the final and most well-known element of a story. Readers always seek a happy ending, but what is considered a happy ending is highly subjective. Many considerations, emotions, and opinions on characters factor into a reader's satisfaction with the story's resolution. A polarizing character can create quite a controversy, and that is exactly what is happening here. Enter the Environmental Protection Agency (EPA) and its counterpart, state government. Some states have recently introduced regulations regarding rainwater collection and the purification of a county's rainwater supply in order to comply with the EPA standards for clean water and stormwater

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6. *See generally The Water Cycle-USGS Water Science School*, U.S. GEOLOGICAL SURVEY, https://water.usgs.gov/edu/watercyclesummarytext.html (last visited Jan. 1, 2018); *Water Supply*, NAT'L CLIMATE ASSESSMENT, https://nca2014globalchange.gov/highlights/report-findings/water-supply#intro-section-2 (last visited Jan. 1, 2018; Thomas C. Brown, et al., *Projected Freshwater Withdrawals in the United States Under a Changing Climate*, WILEY, http://onlinelibrary.wiley.com/doi/10.1002/wrcr.20076/pdf (last visited Jan. 1, 2018) (discussing the water cycle and precipitation as an integral factor in sustaining an area's water supply).

7. David S. Beckman, *The Threats to Our Drinking Water*, N.Y. TIMES, https://www.nytimes.com/2014/08/07/opinion/the-threats-to-our-drinking-water.html (last visited Jan. 1, 2018).

8. *See Overuse*, FRESHWATER CRISIS, http://thefreshwatercrisis.weebly.com/overuse.html (last visited Aug. 22, 2017); *Water and Climate Change*, UNION CONCERNED SCIENTISTS, http://www.ucsusa.org/global_warming/science_and_impacts/impacts/water-and-climate-change.html#.WaSzmE2ovIU (last visited Aug. 22, 2017).

9. *Rainwater Harvesting Information*, CITY SAN DIEGO, https://www.sandiego.gov/water/conservation/rainwater (last visited Aug. 22, 2017).

10. *See id.*

management in an effort to achieve the happy ending that everyone longs for.[11] While some perceive the EPA and state governments as a sidekick of sorts, others are critical of their roles in the water crisis.[12] Is there a reason for concern, or does the government have the best interests of both water and our local communities at heart?

This Comment presents the different outcomes to the above story and considers an ending that is happy for everyone. First, this Comment canvasses the history of the EPA's role and the considerations regarding the existence (or non-existence) of restrictions and regulations on rainwater collection. Second, this Comment looks at the implementation by different states, particularly Georgia, of such regulations. Third, this Comment explores the pros and cons of each states' different positions and discusses which options are ultimately best for preservation of the national clean water supply.

II. HISTORY & BACKGROUND

A. An Overview of Rainwater Harvesting

Rainwater collection, or harvesting, is a technique that many property owners use as a way to store and repurpose rain that collects on their land.[13] To understand the impact rainwater harvesting can have on the water supply as a whole, it is important to understand the process and its goals.

1. The Process

Each collection system consists of the same basic elements: a catchment surface, gutters and downspouts, leaf screens, roof washers, a storage tank, and a delivery system.[14] It is easier to understand the harvesting process as a whole when the function of each of these elements is understood. A catchment surface is a sloped surface from which the rain flows as it is falling.[15] The gutters and downspouts collect the water from the catchment and distribute the water by directing its flow to a

11. *See* John Grimaldi, *EPA's New Power Grab Includes Rain Water, says AMAC*, AMAC, https://amac.us/epas-new-power-grab-includes-rain-water-says-amac/ (last visited Jan. 1, 2018).

12. *Id.*

13. *Rainwater Harvesting Information, supra* note 9.

14. *Rainwater Harvesting for System Designers and Contractors*, UNIV. GA. COOPERATIVE EXTENSION, http://extension.uga.edu/publications/detail.html?number=B1372, at 2–3 (last visited Jan. 1, 2018).

15. *Id.*

holding container.[16] The storage tank, or cistern, plays the most integral part in the collection process.[17] The cistern, which can be made from a variety of different materials that each affect the quality of the water and the amount the tank can store, holds the collected rainwater that flows directly from the supply line.[18] Leaf screens and roof washers both serve as preventative measures and attempt to filter pollutants from the collected water. Leaf screens catch leaves as the water flows and separates them from the supply.[19] A roof washer, an optional but often utilized component, diverts the "first flush" of rain before collection to rid the supply of any pollutants or debris collected as the water flows from the catchment.[20] Finally, the delivery system is the element that directs the collected water to fulfill its next purpose, whatever that purpose may be.[21]

2. The Goals

Many landowners have different, but equally important, goals in harvesting rainwater on their property. First and foremost, rainwater is essentially a free resource.[22] It is possible to collect around 600 gallons of rainwater runoff just from the roof of a home after an hour of moderate rainfall in almost any area in the country.[23] The average household in America uses between 80 and 100 gallons of water per day for a multitude of purposes ranging from bathing to cooking to drinking.[24] Estimating even from the top end of that range, a typical family's water consumption per month would be about 3,000 gallons. In 2015, the average monthly water bill in the Atlanta area was $253.[25] Accordingly, someone who effectively harvests the rainfall on their property could significantly reduce their monthly water bill with just five hours of moderate rainfall in a month. Based on these figures, a dedicated local harvester could

16. *Id.*

17. *Id.* at 4.

18. *Id.*

19. *Id.* at 2.

20. *Id.* at 3.

21. *Id.* at 5.

22. *Why Everyone Should Care about Rainwater Harvesting*, CUSTOM MADE, https://www.custommade.com/blog/rainwater-harvesting/ (last visited Jan. 1, 2018).

23. *Id.*

24. *Water Questions and Answers*, U.S. GEOLOGICAL SURVEY, https://water.usgs.gov/edu /qa-home-percapita.html (last visited Jan. 1, 2018).

25. Mark Niesse & Jennifer Peebles, *AJC Analysis: Water Bill Triples for 1 in 8 DeKalb Customers*, ATLANTA J. CONST., http://www.myajc.com/news/local-govt-politics/ajc-analysis-water-bills-triple-for-dekalb-customers/1ObgTBfdpo7HyLchBFK XbI/ (last visited Jan. 1, 2018) .

easily save $3,000 per year. Rainwater collection has a substantial economic benefit, and many homeowners seek to save money by implementing a harvesting system.[26]

Next, many people collect rainwater to decrease their environmental footprint.[27] Rainwater harvesting collects water so that it can be recycled and used for various purposes.[28] Rainwater can be used to complete many household tasks, even when left untreated.[29] Homeowners use collected water to wash their cars, landscape their lawns, and water their gardens.[30] Using harvested water lessens the environmental impact of these necessary tasks that would be otherwise demanding on the water supply.[31] When homeowners use rainwater runoff to complete these chores, less water is drawn from the lakes, rivers, wells, and reservoirs in any given area.[32] Additionally, rainwater harvesting positively impacts the environment by conserving energy.[33] Energy is rarely used to purify and access the rainwater when it is used privately and taken from storage.[34] Further, many rainwater collection systems are gravity driven.[35] As such, no energy is used to transfer the water.[36] Gravitational pull causes the water to run directly through the private supply area established by the collector.[37]

Not only does harvesting help sustain the water and energy supplies in an area, it can also help treat and purify the water and return it, at least more closely, to its natural state.[38] Because rainwater is captured as it falls, the water usually does not immediately come into contact with any surface water or community water supplies.[39] Because the water is stored by property owners, it does not run the course of other stormwater

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26. *Why Everyone Should Care about Rainwater Harvesting, supra* note 22.

27. *See Environmental Benefits*, ECOVIE, http://ecovieenvironmental.com/environmental-benefits/ (last visited Aug. 26, 2017).

28. *Why Everyone Should Care about Rainwater Harvesting, supra* note 22.

29. *Id.*

30. *Id.*

31. *See* Ken Blair, *7 Reasons to Collect Rainwater*, RAINBANK, https://rainbank.info/7-reasons-to-collect-rainwater/ (last visited Jan. 1, 2018).

32. *See id.*

33. *Id.*

34. *Id.*

35. *Id.*

36. *See* Noah Garrison, et al., *Capturing Rainwater from Rooftops: An Efficient Water Resource Management Strategy that Increases Supply and Reduces Population*, https://www.nrdc.org/sites/default/files/rooftoprainwatercapture.pdf, at 3 (last visited Jan. 1, 2018).

37. *See id.*

38. *Environmental Benefits, supra* note 27.

39. *See* Blair, *supra* note 31.

in an area.[40] As such, there is less chance for sediment, pesticides, or fertilizers to be picked up and find their way into these community waters.[41] It follows that pollutants, which are less present in the water supply, can be more effectively filtered out because filtration systems are not overloaded with contaminated rainwater.[42]

Finally, rainwater collection can be directly beneficial to the community in which it occurs.[43] Harvesting rainwater facilitates the control of stormwater,[44] and therefore reduces the risk of erosion that would affect the lay of the land or any present farming ventures.[45] Additionally, control of stormwater can minimize the impact of large amounts of rain on a community's infrastructure and sewer systems and can reduce flooding.[46] In any community where harvesters are present, harvesters divert rainfall into their personal supplies.[47] Again, this may result in significantly less stormwater for the local government to manage at the time of a rain event.[48] Because the infrastructure in the area is not overloaded, rainwater that is not harvested can more effectively be absorbed into the ground.[49] A greater amount of free water can be absorbed when more rainwater is personally collected—even during heavy rain events[50]—because open drainage systems allow water to flow freely and reduces flooding.[51]

3. The Problem

Rainwater harvesting provides numerous benefits and is a great private effort to positively impact a community's water supply. While legal rights to the ownership of water are admittedly cloudy, it seems intuitively unlikely that a person would not be entitled to collect and use rainwater on their own property as they wish.[52] However, both federal agencies and state governments have imposed regulations and

40. *Id.*

41. *Id.*

42. *See The Importance of Operation and Maintenance for the Long-Term Success of Green Infrastructure*, EPA, https://www.epa.gov/sites/production/files/2015-04/documents/green_infrastructure-om_report.pdf, at 3 (last visited Jan. 1, 2018).

43. *Why Everyone Should Care about Rainwater Harvesting, supra* note 22.

44. *Id.*

45. *Id.*

46. *Id.*

47. *See* Blair, *supra* note 31.

48. *Id.*

49. *Id.*

50. *See id.*

51. *See id.*

52. Christine A. Klein, *Water Bankruptcy*, 97 MINN. L. REV. 560, 566 (2012).

restrictions, directly or indirectly, on the process of rainwater harvesting.[53] Environmentalist groups and citizens alike share concerns regarding private rainwater collection.[54] However, the regulations and the reasoning behind them should be fairly understood before evaluating their impact on communities involved in harvesting.

B. The EPA's Involvement and Necessity for Stormwater Management

The EPA has historically struggled with regulating stormwater runoff so as to protect the clean water supply in any given community.[55] Congress passed the Federal Water Pollution Control Act after a societal push for environmental reform in the late 1940s.[56] The Act was amended in 1972 to become what is more commonly known as the Clean Water Act (CWA).[57] The CWA still governs water quality and integrity in the country.[58] The EPA focused on the problem at length after acknowledging the necessity for some sort of regulatory system for stormwater.[59] As a result, the EPA constructed a statutory framework for the handling of the water and implemented the regulations in two phases beginning in the 1990s.[60] The overarching concern of these phases was to provide a standard of cleanliness and sanitation for the water supply in municipalities.[61] The CWA provides that municipalities must maintain statutory standards for clean water within their respective boundaries.[62] In order to ensure compliance with this standard, many municipalities placed restrictions on water use and collection on private land.[63] Concerns were presented regarding how these restrictions would burden the right to collect rainwater and repurpose its use.[64] In 2009, the EPA announced its intention to revisit the originally implemented framework as a response to the push for green infrastructure in many communities nationwide.[65] The EPA reworked its plan in 2014, but not in the way that

53. *See* Samuel L. Brown & Gerard Olson, *Stormwater-The Next Phase*, 30 NAT. RES. & ENV'T 53, 54 (2016).

54. *See id.*

55. *Id.*

56. *Summary: Clean Water Act*, EPA, http://www.epa.gov/laws-regulations/smmary-clean-water-act (last visited Sept. 23, 2017).

57. 33 U.S.C. §§ 1251–1388 (1972).

58. *See id.*

59. Brown & Olson, *supra* note 53, at 53.

60. *Id.*

61. *Id.*

62. 33 U.S.C. § 1302 (2017).

63. Brown & Olson, *supra* note 53, at 55.

64. *Id.* at 55–56.

65. *Id.*

many expected.[66] Though the EPA did not substantively revise its current stormwater program, it did offer "incentives, technical assistance, and tools to communities to encourage [states] to implement strong stormwater programs."[67] So, though addressed, this issue today is still largely unresolved.[68]

The greatest issue created by the EPA's regulatory framework for clean water is the irregularity that its open-endedness leaves. The modern trend toward implementing green infrastructure such as rain barrels and other types of rainwater harvesting rendered general regulation problematic.[69] While the EPA rightfully respects the need for a certain standard of water quality in all areas, the process in achieving this standard is largely unguided on the federal level.[70] One can assume that this is the result of good intentions and an attempt to let each state craft its own regulations in a way most reciprocal to the needs of its citizens. The primary result, however, is that the process to ensure achievement of the standard is essentially left up to state and local governments.[71] The incentive of a state to be in compliance with an administrative regulation is important, but so is the right of individual citizens to contribute to environmental conservation. These differing interests create disparity among jurisdictions, and citizens often find the regulation of their rainwater harvesting ventures to be unclear.[72]

Additionally, existing stormwater management across the country enables many municipalities to regulate stormwater and direct its flow so as to preserve the availability of clean, pollutant-free water in their respective communities.[73] Some academics argue that harvesting rainwater in large quantities disturbs this process[74] by negatively

66. *Id.*

67. *Proposed National Rulemaking to Strengthen the Stormwater Program*, EPA, https://www.epa.gov/npdes/proposed-national-rulemaking-strengthen-stormwater-program# info (last visited Jan. 1, 2018).

68. *See* Brown & Olson, *supra* note 53, at 56.

69. Caswell F. Holloway, *Solving the CSO Conundrum: Green Infrastructure and the Unfulfilled Promise of Federal-Municipal Cooperation*, 38 HARV. ENVTL. L. 335, 338 (2014).

70. *See How are Water Quality Standards Developed?*, EPA, https://www.epa.gov/standards-water-body-health/how-are-water-quality-standards-developed (last visited Jan. 1, 2018).

71. *Id.*

72. *See* Nicholas Riccardi, *Who owns Colorado's Rainwater?*, L.A.TIMES, http://articles.latimes.com/2009/mar/18/nation/na-contested-rainwater18 (last visited Jan. 1, 2018).

73. *See What is NPDES?*, EPA, https://www.epa.gov/npdes (last visited Jan. 1, 2018).

74. *See Rainwater Harvesting: A Lifeline for Human Well-Being*, STOCKHOLM ENV'T INST., http://www.gwp.org/globalassets/global/toolbox/references/rainwater-harvesting.-a-lifeline-for-human-well-being-unepsei-2009.pdf, at 6 (last visited Jan. 1, 2018).

impacting the amount of water in the community's public supply.[75] As a result, some limitations have been imposed regarding the process of rainwater harvesting as it relates to stormwater management in these areas.[76]

C. State Involvement

The EPA's position regarding stormwater management shows great deference to state and local governments.[77] The EPA encouraged states to adopt a more authoritative stance on stormwater regulation through influential motivation and readily accessible assistance.[78] However, the actual restrictions on the process were left widely up to each state to craft and implement. Citizens are affected differently depending on where they live, with some states restricting the EPA's basic framework in a way that disallows rainwater harvesting altogether.[79]

Currently, only some states have active regulations restricting the collection and use of rainwater on private property. Regulations for rainwater harvesting are in place in nine states, and each of those rules differs in severity of restriction and punishment.[80] Interestingly, the development of these regulations corresponds with the historical pattern of riparian rights and the prior appropriation doctrine.[81] For example, governments in the Western United States have more closely monitored the process of rainwater harvesting.[82] This is a fascinating consequence of the development of water rights in these states, which had been overly-appropriated in the late 1800s.[83] As a response to an influx of miners and farmers, resulting in a water shortage, many Western states adopted a prior appropriation system for water in response to the water shortage

75. *Id.*

76. *Id.* at 27.

77. *Why Everyone Should Care about Rainwater Harvesting, supra* note 22.

78. Brown & Olson, *supra* note 53, at 54.

79. *See* Chaffin Mitchell, *Is Collecting Rainwater Legal in Your State?*, ACCUWEATHER, https://www.accuweather.com/en/weather-news/is-rainwater-harvesting-legal-in-your-state-us/61586739 (last visited Jan. 1, 2018).

80. *Id.*

81. *See* Stephen N. Bretsen, *Rainwater Harvesting Under Colorado's Prior Appropriation Doctrine: Property Rights and Takings*, 22 FORDHAM ENVTL. L. REV. 159, 160 (2011).

82. Jeff Guo, *It is Actually Illegal in Colorado to Collect the Rain that Falls on Your Home*, WASH. POST, https://www.washingtonpost.com /blogs/govbeat/wp/2015/03/24/it-is-actually-illegal-in-colorado-to-collect-the-rain-that-falls-on-your-home/?utm_term=.7e838f5a33eb (last visited Jan. 1, 2018).

83. *See* Bretsen, *supra* note 81, at 170.

caused by the influx of miners and farmers.[84] People simply called "dibs" to claim water, and it was theirs.[85] People began to store water by collecting rain and snow to combat this system and divert water to their private property before it became part of the claimed supply.[86] Decades later, rainwater collection is now subject to some restriction in most Western states, while other states freely allocate water as a broadly public, harvestable resource.[87]

Take, for example, the rainwater harvesting laws in the state of Colorado. Colorado restricts rainwater harvesting.[88] Legislation allows residential homeowners to legally use two catchment systems, not exceeding a combined capacity of 110 gallons, to capture stormwater from rain events on their property.[89] Rainwater may only be "collected from the rooftop of a building that is used primarily as a single-family residence or a multi-family residence with four or fewer units."[90] Further, the rainwater may only be repurposed for outdoor use, such as irrigation and farming.[91] The current law is less invasive than the complete ban on harvesting that was overturned only a few years ago.[92] Until that point, the law essentially provided that any drop of rain that fell from the sky was more or less considered property of the state and should be filtered into the streams, rivers, and other surface waters without diversion.[93] Legislation from several other Western states still reflects this attitude.[94]

This is an interesting contrast with the current state of the rainwater harvesting laws in Georgia. Currently in Georgia, a property owner can harvest rainwater and use it relatively freely.[95] Rainwater harvesting is

84. *See id.* at 168; Guo, *supra* note 82.

85. Bretsen, *supra* note 81, at 167.

86. *Id.*

87. Klein, *supra* note 52, at 566–67.

88. *See* H.R. 16-1005, 114th Cong. (2016).

89. *Id.*

90. *Id.*

91. *Id.*

92. *See* Bretsen, *supra* note 81, at 160.

93. COLO. CONST. art. XVI, § 5 (1877).

94. Guo, *supra* note 82. Executive director of the Colorado Water Congress (CWC) Doug Kemper publicly stated that a person who was collecting rainwater on his or her land is actually taking "water [that] really belongs to someone else." Further, he stated that the CWC "get[s] into a very detailed accounting on every little drop." Riccardi, *supra* note 72.

95. SA Loper, *Rainwater Harvesting State Regulations and Technical* Resource, PAC. NW. NAT'L LAB., http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-24347.pdf, at 2, 5 (last visited Jan. 1, 2018).

legal, but is closely monitored and regulated by the Department of Natural Resources in the Environmental Protection Division.[96]

Though Georgia does not currently have any restrictions on harvesting in place, this does not mean that the issue is unimportant or does not pose a threat. Municipalities are constantly working with the EPA to enhance both the quality and quantity of their water supplies to stay up-to-par with federal regulations.[97] In addition, the "business" of water becomes more and more profitable each year.[98] The threat of imposition of water restrictions for economic gain is certainly real where a state has a great deal of water resources.[99] As such, it is important to make a determination as to the detailed regulations in place in other states and how these, along with the basic framework provided by the EPA, could both positively and negatively impact the economy, water supply, and communities in which we live.

III. DISCUSSION

A. EPA's General Clean Water Framework

Under the CWA, Congress delegated to the EPA control of stormwater regulation at the federal level.[100] In furtherance of this responsibility, the EPA publishes a variety of notices associated with the implementation of its stormwater program requirements.[101] The publication of these notices is an update to the general framework for the regulation of stormwater management.[102] This general framework is provided by the National Pollutant Discharge Elimination System (NPDES), a program that the EPA created in 1972 as a targeted response to its duty for stormwater management.[103]

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96. *Id.* at 5.

97. *See Clean Water Act (CWA) Compliance Monitoring*, EPA, https://www.epa.gov/compliance/clean-water-act-cwa-compliance-monitoring (last visited Aug. 25, 2017).

98. Mitchell, *supra* note 79.

99. *See id.*

100. 33 U.S.C. § 1251 (2017).

101. *National Pollutant Discharge Elimination System (NPDES)*, EPA, https://www.epa.gov/npdes/npdes-stormwater-program (last visited Aug. 26, 2017). These notices primarily consist of drafts and their counterpart final stormwater permits, technical corrections to already-existing stormwater permits, and notices regarding other stormwater regulations. *See* 33 U.S.C. § 1342 (2017).

102. *About NPDES*, EPA, https://www.epa.gov/npdes/about-npdes (last visited Jan. 1, 2018).

103. *Stormwater Rules and Notices*, EPA, https://www.epa.gov/npdes/stormwater-rules-and-notices (last visited Jan. 1, 2018).

NPDES is in place to be a tool of the EPA. NPDES is a permit system that "addresses water pollution by regulating point sources that discharge pollutants to waters of the United States."[104] This system "provides guidance to municipalities and state and federal permitting authorities on how to meet stormwater pollution control goals as flexibly and cost-effectively as possible."[105] There are several targeted program areas.[106] Each of these areas contain regulations that govern the disbursement and harvesting of stormwater and provide a legal basis for state and local governments to place restrictions on the process as they see fit.[107] The NPDES program is primarily a starting point for state and local governments to clean and maintain the water supply in their respective jurisdictions.[108] As such, the system suggests several general guidelines that each state and municipality should tailor in a way in which they can best comply.[109]

The main premise of regulating stormwater as an attempt to purify an area's water is simple. Stormwater is usually transported through a municipality's sewer system, which is called an MS4.[110] According to the CWA, there is an established basis of regulation because this system will discharge into United States waters.[111] Because the CWA prohibits any citizen from discharging pollutants into a water of the United States, certain business owners and local citizens are required to obtain NPDES permits.[112] An NPDES permit contains limitations on what substances the permit holder can legally discharge, monitoring and reporting requirements for any stormwater they collect, and other miscellaneous provisions to ensure that pollutant discharge does not negatively impact

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104. *What is NPDES?*, *supra* note 73.

105. *Water*, EPA, https://www.epa.gov/regulatory-information-topic/regulatory-information-topic-water (last visited Sept. 23, 2017).

106. *See National Pollutant Discharge Elimination System (NPDES)*, *supra* note 101. Such areas include stormwater maintenance, long-term stormwater planning, and stormwater discharges from construction activities, industrial activities, transportation sources, and municipalities. *Id.*

107. *Id.*

108. *Watershed-Based National Pollutant Discharge Elimination System (NPDES) Permitting Implementation Guidance*, EPA, https://www3.epa.gov/npdes/pubs/watershed permitting_finalguidance.pdf, at 2-1 (last visited Jan. 1, 2018).

109. *Id.*

110. John H. Minan, *Municipal Separate Storm Sewer System (MS4) Regulation under the Federal Clean Water Act: The Role of Water Quality Standards*, 42 SAN DIEGO L. REV. 1215, 1217 (2005). More specifically, an MS4 is a system of conveyance owned by a state, city, or some other entity that is designed to collect and transport any runoff from a rain event in a particular area. *Id.*

111. *See id.* at 1222.

112. *Id.* at 1223.

a community's water quality.[113] Basically, an NPDES permit tailors general CWA provisions into specific requirements on the operations of each person who may collect water and thereby discharge potential pollutants.[114] This is of particular concern to businesses who use harvested rainwater on a large scale and discharge into nearby MS4s because these procedures may qualify for regulation by the NPDES.[115]

Beyond issuing these permits, municipalities are required to develop stormwater management programs (SWMPs).[116] An SWMP describes water regulation practices that will be implemented to further minimize the discharge of pollutants from the sewer system.[117] Some municipalities create SWMPs that place restrictions on citizen rainwater harvesting and thus create an issue for citizens who wish to host a catchment system on their properties.[118] Other SWMPs actively encourage the use of rain barrels on personal property and create incentives for citizens who participate in the trend toward green infrastructure.[119] However, this approach has drawbacks: these systems can be expensive to install and not all government systems are in agreement on the legality of personal stormwater collection.[120]

1. Does the EPA Actively Regulate Rainwater Harvesting?

In January 2013 the EPA conducted and published an in-depth case study on rainwater harvesting, how the process tied into the agency's stormwater management and pollutant runoff concerns, and economic costs and benefits of the harvesting process.[121] The review focused on water harvesting systems of all types and included the most commonly-used system, the rain barrel.[122]

The first important point this case study made is that "[t]here are currently no federal regulations governing rainwater harvesting for non-

113. *NPDES Permit Program-General Information*, EPA OFF. WASTEWATER MGMT., https://www3.epa.gov/npdes/pubs/gen2.htm (last visited Jan. 1, 2018).

114. *Stormwater Discharges from Municipal Sources*, EPA, https://www.epa.gov/npdes/stormwater-discharges-municipal-sources (last visited Sept. 26, 2017).

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.*

121. *Rainwater Harvesting: Conservation, Credit, Codes, and Cost Literature Review and Case Studies*, EPA, https://www.epa.gov/sites/production/files/2015-11/documents/rainharvesting.pdf, at 1 (last visited Jan. 1, 2018). This study focused on both individual properties and business-run harvesting systems. *Id.* at 2.

122. *Id.*

potable use."[123] It is important to note that, although the EPA does have the Congress-given right to regulate water harvesting in an area, the agency itself typically declines to make such direct regulations.[124] As previously mentioned, this authority can still be problematic for rainwater harvesters. There is a greater chance that runoff will occur after repurposing and contaminate water supplies that have otherwise gone through the purification process because harvested rainwater is not typically purified and is usually only legally permitted for outdoor use.[125] Though the EPA does not currently have any federal rainwater harvesting regulations in place, the issue is not eradicated. Some states are indirectly forced to regulate and restrict rainwater harvesting in order to comply with existing clean water standards.[126]

To the same point, this most current case study presents a second issue. The study recognizes that state-imposed regulations are fragmented with regard to water conservation.[127] Allowable uses for harvested water vary depending on the climate, location, and overall reliability of the water supply.[128] The level of detail in these regulations also varies from one state or municipality to another.[129] Because there are no uniform federal or state regulations on the harvesting process, harvesters are often surprised to learn that catching rain is illegal in their area, per local government restriction.[130]

2. Can the EPA Actively Regulate Rainwater Harvesting?

A particularly important issue regarding the legality and future of rainwater harvesting clearly exists, though there are currently no federal regulations in place. For clarity, it is important to determine exactly how far the EPA's reach extends over the regulation of United States waters. Luckily, some courts and concerned legislators have helped clarify the

123. *Id.* at 6.

124. *Proposed National Rulemaking to Strengthen the Stormwater Program*, *supra* note 67.

125. *See Rainwater Harvesting: Conservation, Credit, Codes, and Cost Literature Review and Case Studies*, *supra* note 121, at 28.

126. *See generally* O.C.G.A. §§ 12-5-20–53 (1996); COLO. REV. STAT. ANN. §§ 25-8-101–106 (1981) (describing the clean water standards in Georgia and Colorado).

127. *Rainwater Harvesting: Conservation, Credit, Codes, and Cost Literature Review and Case Studies*, *supra* note 121, at 6.

128. *Id.*

129. *Id.*

130. *See Rainwater Harvesting Regulations Map*, OFF. ENERGY EFFICIENCY & RENEWABLE ENERGY, https://energy.gov/eere/femp/rainwater-harvesting-regulations-map (last visited Jan. 1, 2018).

EPA's reach and how it applies to stormwater and other incidental discharge or water collection.

In *Environmental Defense Center, Inc. v. U.S. EPA*,[131] various environmental, municipal, and industry groups brought petitions for review of an EPA rule. The disputed rule mandated that any discharge from small storm sewers and construction sites be subject to NPDES permitting requirements.[132] Here, the United States Court of Appeals for the Ninth Circuit made several important findings. First and foremost, the court recognized that although the NPDES stormwater permitting system was previously known to exempt stormwater conveyance systems, the exemption was not all-encompassing.[133] In fact, the court found that "[s]torm sewers are established point sources subject to NPDES permitting requirements."[134] This case helped distinguish state-regulated stormwater runoff from privately collected and used rainwater, suggesting rainwater which is not channeled directly through a point source as generally being out of the reach of the EPA's power of regulation, except on an "as-needed" basis.[135]

The court further elaborated the same point in *Ecological Rights Foundation v. Pacific Gas & Electric Co.*[136] The plaintiff-appellant Ecological Rights Foundation (ERF) filed suit against defendants-appellees Pacific Gas & Electric Company (PG&E) and Pacific Bell Telephone Company (Pacific Bell) for owning telephone poles treated with a harmful biocide that discharged into the environment in violation of the CWA. Stormwater containing the harmful chemicals ran off the poles, pooled on land, and was subsequently absorbed into the groundwater supply.[137] The ERF claimed that this water could be regulated and the utility company should be fined by the EPA under the provisions of the CWA.[138] The Ninth Circuit held that "allegations of generalized stormwater runoff [did] not establish a 'point source' discharge [within meaning of Clean Water Act (CWA)] absent an allegation that the stormwater [was] discretely collected and conveyed to waters of the United States."[139] This case points out an important distinction when considering the authority of the EPA to regulate United

131. 344 F.3d 832 (9th Cir. 2003).
132. *Id.* at 840.
133. *Id.* at 841–42.
134. *Id.* at 841.
135. *Id.* at 842–43.
136. 713 F.3d 502 (9th Cir. 2013).
137. *Id.* at 504.
138. *Id.* at 504–09.
139. *Id.* at 509.

States waters. The court noted that the CWA authorizes the regulation of stormwater runoff "associated with industrial activity" as being rightfully regulated within its meaning.[140] Under this ruling, water collected or associated with any rain event can be regulated under the CWA in one of two ways.[141] First, any source that is used to convey or collect stormwater to a water of the United States is considered a point source.[142] A point source may be rightfully regulated by the EPA.[143] Most point sources are owned by municipalities.[144] Therefore, it seems that the CWA gives the right to regulate the water to the municipalities once it is in a public conveyance point source, which may help to dispel the fear that private rainwater harvesting can be federally regulated.[145] Second, the EPA may require NPDES permitting for discharges composed entirely of stormwater when such discharge is associated with industrial activity.[146] The inclusion of such industrial activity alludes to the monitoring and regulation of businesses and discharges "from any conveyance that is directly related to manufacturing [or] processing . . . at an industrial plant," but not necessarily to the inclusion of individually-owned and operated rainwater collection systems.[147]

It is important to note that these holdings are applicable only to point source discharges. This may implicate industrial harvesters that discharge and divert collected water into municipality-owned MS4 drains as a waste product, but not necessarily an individual or small-scale harvester whose collected water finds a way back into the community supply naturally. Conversely, section 319 of the CWA[148] was drafted and approved in response to a push for greater federal involvement and leadership in the regulation of water.[149] Specifically, section 319 establishes a set of guidelines for states to focus on as they create necessary laws regarding nonpoint source discharge.[150] Section 319 establishes the availability of grant money states use to support activities, incentives, and education geared toward eliminating nonpoint

140. *Id.* at 511.

141. *See id.* at 509–11.

142. 33 U.S.C. § 1362(a)(14) (2017).

143. *Ecological Rights Found.*, 713 F.3d at 505.

144. *Stormwater Discharges from Municipal Sources*, *supra* note 114.

145. *Ecological Rights Found.*, 713 F.3d at 509–10.

146. *Id.* at 511.

147. *Id.* at 512.

148. 33 U.S.C. § 1329 (2017).

149. *Clean Water Act Section 319*, EPA, https://www.epa.gov/lakes/clean-water-act-section-319(last visited Jan. 1, 2018).

150. 33 U.S.C. § 1329.

source pollution.[151] Section 319 is incredibly important to individual or small-scale harvesting because nonpoint source pollution is pollution that is introduced by a large, non-specific source rather than an identifiable medium (like an MS4).[152] Though states must apply for these section 319 grants, and therefore must comply with applicable requirements, there is one general goal for any issuance—the prevention of nonpoint source pollution.[153] Any programs or procedures that state governments implement as a result of a section 319 grant may implicate concerns for harvesters because rainwater collection could easily be considered a nonpoint water source.[154]

Finally, the issue of federal regulation of stormwater was further discussed in 2014 in *Mrosek v. City of Peachtree City*.[155] The United States District Court for the Northern District of Georgia held that the stormwater regulation "call[s] for flexible active efforts to meet measurable goals, along with regular monitoring, inspection, and reporting to the Georgia EPD."[156] Further, the court stated that "[i]t is well-recognized that pollutant reduction goals, appropriate best management practices, and pollution control strategies are not equivalent for all municipalities. In developing and implementing their respective SWMPs, municipalities are given broad discretion."[157]

This opinion illustrates the more pressing issue posed by the lack of uniformity in state and local government regulatory laws regarding rainwater collection and stormwater. Because it seems well settled that the EPA implements a framework-guided process and not specific regulations pertaining to nonpoint discharges (which include the majority of rainwater harvesting systems), states are left to manage and control stormwater and small-scale rainwater harvesting. To fully grasp the problems that the differences in state legislation pose, it is important to address the current laws on rainwater harvesting and stormwater management in different states.

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151. *Id.*

152. *Id.*

153. *Id.*

154. *What is Nonpoint Source?*, EPA, https://www.epa.gov/nps/what-nonpoint-source (last visited Jan. 1, 2018).

155. No. 3:12-cv-0094-TCB, 2014 U.S. Dist. LEXIS 185469 (N.D. Ga. Dec. 22, 2014).

156. *Mrosek*, 2014 U.S. Dis. LEXIS 185469, at *8.

157. *Id.*

B. The States

1. State Regulations on Stormwater

The federal government regulates the practice of stormwater management as a whole but does not directly regulate private stormwater collection such as rainwater harvesting. Because rainwater harvesting is not regulated by the federal government, but the cleanliness of the water supply as a result of stormwater management is, it is up to individual states to craft and impose regulations on the collection and use of rainwater.[158] State-level rainwater harvesting regulations vary widely.[159] Though some states enforce no rainwater harvesting regulations, others have regulations in place that allow and encourage the collection and use of rainwater while others outlaw the practice altogether.[160]

The varying state stances on the practice do not just affect whether harvesting is legal in a state.[161] A state's regulatory scheme can impact many aspects of rainwater collection in equally-important ways because they apply to those who harvest.[162] For example, a number of states do not prohibit rainwater harvesting but do not have regulations protecting it.[163] In contrast, other states have dedicated resources to rainwater harvesting to encourage its collection and use.[164] Other states do not prohibit rainwater collection altogether, but do regulate the amount that a harvester may collect.[165] Some states regulate the practice of collection as it applies to other laws in the state.[166] In essence, though the states do not regulate harvesting as a process, the government may enforce regulations on the harvested water as it applies to the state plumbing code.[167] Some states regulate harvesting in either commercial or residential capacities, while most regulate both.[168] Further, there are local municipality agencies that are authorized by the state to regulate rainwater harvesting.[169] This may influence potential project

158. Loper, *supra* note 95, at 1.
159. *Id.* at 2.
160. *Id.*
161. *See id.* at 1.
162. *Id.*
163. *Id.*
164. *Id.* at 2.
165. *Id.* at 1.
166. *Id.*
167. *Id.*
168. *Id.*
169. *Id.*

development in areas differently and may impact the citizens or business opportunities that are attracted to a community.[170]

2. Range of Regulation

In theory, states generally allow rainwater harvesting.[171] However, very few unabashedly encourage the collection process and its benefits without limitation. Instead, many states choose to regulate the process indirectly through reference to plumbing codes, stormwater management practices, or otherwise.[172]

Texas and Ohio contribute a substantial amount of attention to the issue.[173] Policies in these states are an accurate illustration of the shifting perspective on the issue and are quite favorable to the harvesting process.

Texas has recently enacted several regulations on the practice of rainwater harvesting.[174] In 2011, Texas legislators drafted one of the most comprehensive pieces of legislation regarding the issue.[175] Provisions of House Bill 3391[176] address harvesting as it applies to individuals and businesses and specifies the exact nature of use permitted.[177] The bill provides that banks and other lenders may now consider loans for developments and subdivisions that will use harvested rainwater as their primary or only water supply.[178] This particular bill also allows harvesting as a means of collecting drinking water, which is frequently excluded from other states' laws and regulations.[179] The bill suggests that rules governing the process of collecting rainwater for potable use must include a means to ensure that federal safe drinking water standards are met and that water does not come in contact with the public water supply at a location off of the property.[180] "Each municipality and county [in Texas] is encouraged to promote rainwater harvesting at residential, commercial, and industrial facilities through

170. *Id.*

171. *See State Rainwater Harvesting Laws and Legislation*, NAT'L CONF. ST. LEGIS., http://www.ncsl.org/research/environment-and-natural-resources/rainwater-harvesting.aspx (last visited Oct. 1, 2017).

172. Loper, *supra* note 95, at 1.

173. *State Rainwater Harvesting Laws and Legislation*, *supra* note 171, at 3.

174. Calvin Trey Scott, *Rain Catching: An Analysis of Rainwater Harvesting Law in Texas*, 44 TEX. ENVTL. L.J. 375, 378 (2014).

175. *Id.* at 380.

176. H.B. 3391, 82d Leg., Reg. Sess. (Tex. 2011).

177. *See id.*

178. *Id.*

179. *Id.*

180. *Id.*

incentives."[181] Some counties have incentivized the process by discounting rain barrels and installation or offering rebates for other forms of catchment systems.[182] Additionally, the Texas Water Development Board (TWDB) is now required to ensure that training on rainwater harvesting is available to government staff at least four times a year to encourage education and advocacy.[183]

Ohio legislators have also recently addressed rainwater harvesting by allowing collection for potable purposes.[184] Private water systems that collect drinking water for twenty-five people or less are approved by state statutory codes and are monitored by the Ohio Department of Health (ODH).[185] Ohio also recently established a Private Water Systems Advisory Council as a sub-bureau of the ODH.[186] The council, consisting of nine educated members, is appointed by the governor after an extensive approval process by the Senate and serves to develop law more tailored to rainwater harvesting procedures.[187]

Colorado, on the other hand, represents the other extreme. Colorado has the most restrictive laws regarding rainwater harvesting by private landowners.[188] While there is no longer a total ban on collection, state law imposes strict limitations.[189] Rainwater collection, though allowed on residential properties, must comply with certain conditions.[190] For example, stormwater diversion and use is still subject to the prior appropriation doctrine in accordance with Colorado's constitution.[191] Recently approved legislation provides for some limited situations where stormwater can be collected but only by meeting exceptions from strict state administration of the water right priority system.[192] In particular, this exemption applies primarily to individual harvesters and several larger-scale operations.[193] Stormwater collection is allowed only for water that is collected from single residences or multi-family residences with four or less units.[194] This harvesting is limited to those who are approved

181. *Id.*
182. *Id.*
183. *Id.*
184. *See* OHIO REV. CODE ANN. § 3701.344 (2016).
185. *Id.*
186. *Id.*
187. *Id.*
188. Loper, *supra* note 95, at 1.
189. Bretsen, *supra* note 81, at 172.
190. *See id.* at 172–73.
191. *Id.* at 172.
192. *Id.*
193. *Id.*
194. *Id.* at 172–73.

for a permit.[195] Collected water may only be used for household purposes, and the water may almost never be allocated for potable use or drinking.[196] This is the law as it applies to individuals, while other legislation dictates the legality of business interference with stormwater management.

Similarly, other Western states also restrict rainwater harvesting, though not quite as severely.[197] This demonstrates how unsettled the law still is on this important new issue. As such, it is extremely important for citizens to note rainwater harvesting laws as applicable to their own communities to determine the extent of its legality.

3. Georgia's Current Position

In Georgia, rainwater harvesting is technically legal.[198] However, the process is closely monitored by the Department of Natural Resources in the Environmental Protection Division.[199] While there are no apparent state laws against individual or business attempts at rainwater harvesting or catchment, Georgia counties and municipalities do still rightfully restrict the process in their respective localities.[200] To elaborate, state statutes permit rainwater harvesting and other catchment systems and do not impose any restriction where the usage of that rainwater will occur exclusively outdoors.[201] However, local community governments have the power to create jurisdictional rules that are stricter than set of minimum standards referenced in the state code.[202] Theoretically, this means there are certain areas in the state where rainwater harvesting and other catchments are not allowed, but are not technically illegal.[203] A person or business interested in harvesting should research every city, county, and housing development in the state to get an accurate picture of the rainwater harvesting laws and stormwater management schemes.[204] This leaves the current state of the law in somewhat of a gray area. Though neutral state laws are in

195. *Id.* at 173.

196. *Id.*

197. *See* Julien Conrad Juergensmeyer, *Rainwater Recapture: Development Regulations Promoting Water Conservation*, 43 J. MARSHALL L. REV. 359, 363 (2010).

198. *See* O.C.G.A. § 12-5-4 (2017).

199. *See id.*

200. *Georgia Rainwater Harvesting Guidelines*, DEP'T CONSUMER AFF., http://www.dca.state.ga.us/development/constructioncodes/programs/downloads/GeorgiaRainWaterHarvestingGuidelines_2009.pdf, at 3 (last visited Jan. 1, 2018).

201. *Id.* at 9.

202. *See id.* at 8.

203. *See* Loper, *supra* note 95, at 2.

204. *Id.*

place and do not seem very limiting, conflicts may arise when state citizens or local businesses actually attempt to implement catchment systems in their areas. As such, thorough examination of state legislation has helped clarify the extent to which rainwater harvesting can legally and successfully be implemented while still satisfying state stormwater management procedures.

First, it is important to note that rainwater catchment systems utilized in any county or municipality in Georgia must comply with the 2009 Georgia Amendments to the 2006 International Plumbing Code (IPC).[205] Harvesters, design professionals, contractors, and business administrators are all subject to the best management practice procedure in implementing systems.[206] Any of these parties who wish to implement some type of harvesting system on their personal property or design a business supported by catchment must do so in a way that honors the restrictions imposed by the Georgia-specific additions to the IPC.[207] The amendments address state-specific rules regarding the quality that collected water must reach to be useable and the proper means of treatment to meet that quality.[208] Georgia recognizes that rainwater is relatively pure in its natural state, but still determined it necessary to establish minimum water quality guidelines for its purported use.[209] For example, collected rainwater must be appropriately disinfected and meet an acceptable lever of microbial contamination as provided by state code where the water is utilized inside an occupied facility for non-potable indoor use.[210] Additionally, the collected water must comply with the state-mandated acceptable level of total coliform, a harmful type of bacteria.[211] Water should be frequently tested in order to ensure that the system is performing well and remaining in compliance with state guidelines.[212] Even rainwater intended for non-potable outdoor use must meet filtration standards to comply with the IPC amendments and state law.[213]

Next, Georgia already implements state-specific water quality standards in accordance with the CWA. The state Environmental Protection Division (EPD) addresses water quality concerns in the

205. *Georgia Rainwater Harvesting Guidelines*, *supra* note 200, at 8.
206. *See id.*
207. *Id.*
208. *Id.* at 50.
209. *Id.* at 48.
210. *Id.* at 51.
211. *Id.*
212. *Id.*
213. *Id.* at 50.

Georgia Water Quality Control Act (GWQCA).[214] The GWQCA is intended to preserve the state's water supply and maintain a safe level of purification to ensure the safety of all reliant citizens.[215] To uphold these standards, the EPD is authorized to take action in accordance with the laws.[216] Specifically, a branch of the EPD issues permits to regulate the use of state surface water, ensures that public water systems are adequately operating so as to provide safe drinking water to citizens and, importantly to rainwater harvesters, regulates nonpoint source discharges, particularly stormwater.[217]

The GWQCA is Georgia's effort to comply with federal CWA standards and to preserve the biological and chemical integrity of the entirety of Georgia's water supply.[218] The Act closely tracks the applicable CWA provisions and implements them on a state level, breaking the standards down into three important components.[219] First, the GWQCA addresses the permissible uses of water anywhere in the state.[220] Second, the rules within the GWQCA importantly identify both general and specific quantifiable water quality standards indicating an allowable amount of pollution or sediment.[221] The Act then tailors these standards to specific water use classifications and requirements, clarifying some appropriate potable and non-potable uses.[222] Finally, the GWQCA includes a federally-mandated antidegradation policy.[223] This policy is a tiered approach to maintain water quality that sets forth various procedures and processes to be followed for any activity that may impact the state's water quality overall.[224] Though these standards do not blatantly single out rainwater harvesters, the GWQCA is something that many harvesters would feel compelled to consider. Because collected rain undeniably impacts the state's water supply on some level, it is important that harvesters comply with the provisions of the GWQCA to maintain not only their own supply and health, but to ensure the health of their community as well.[225]

214. O.C.G.A. §§ 12-5-20–53.
215. O.C.G.A. § 12-5-21(a) (2017).
216. O.C.G.A. § 12-5-21(b) (2017); O.C.G.A. § 12-5-23 (2017).
217. *See* O.C.G.A. §§ 12-5-23.1–30.2 (2017).
218. O.C.G.A. § 12-5-21(a).
219. *See* O.C.G.A. §§ 12-5-21, 23.1, 29–30.1, 36 (2017).
220. O.C.G.A. § 12-5-21.
221. O.C.G.A. § 12-5-23.1.
222. *See* O.C.G.A. §§ 12-5-29–30.1.
223. *See* O.C.G.A. §§ 12-5-31–39 (2017).
224. *See id.*
225. *See* 9 GA. JUR. *Environmental Law* § 8:15 (2017).

Finally, the Georgia Water Stewardship Act also has some bearing on the responsibilities of active harvesters.[226] This Act, drafted to address ongoing water resource management concerns, allows local governments to act on several levels.[227] First, the Act required local government agencies to adopt or amend plans that restrict outdoor water use.[228] Second, the public works departments of most municipalities in the state were required to complete water loss audits for their respective areas of service and submit that data to the Georgia EPD.[229] Finally, the EPD and several other state agencies were called upon to collaborate and incentivize water conservation and rework state water-related policies and procedures.[230] Quite opposite from other legislation that does not mention the issue at all, this Act specifically exempted harvested rainwater from restricted use and even incentivized the process.[231] This shift toward encouragement of collecting and repurposing stormwater is promising, but may prove to many harvesters a need for more clear defining boundaries.

It is evident that Georgia legislators are open to embracing the idea of rainwater harvesting and other stormwater collection procedures. However, though harvesting systems themselves are legal, individuals and businesses interested in implementing these catchments must navigate many government-mandated barriers to create a system compliant with stormwater management protocol and other local rules.[232] This is an accurate representation of the approach that most states take in regard to this issue.[233] While it is clear that stormwater management is important, it is unclear whether that warrants governmental restriction and limitation of these other potentially beneficial avenues of water recycling. Arguments exist on both sides of the issue, and a thorough examination of the pros and cons of unrestricted water collection is necessary in finding a resolution that is a "happy ending" for every citizen in every community.

IV. ANALYSIS

It seems that the primary concern of all citizens and businesses that are interested in rainwater harvesting is not the legality of the process

226. Ga. S.B. 370, Reg. Sess., 2010 Ga. Laws 97.
227. *See id.*
228. *Id.*
229. *Id.*
230. *Id.*
231. *Id.*
232. *See Georgia Rainwater Harvesting Guidelines*, *supra* note 200, at 2.
233. *See* Loper, *supra* note 95, at 1.

as a whole but the lawfulness of the details and end goal of that harvesting. To elaborate, because harvesting and catchment is a process that has quickly and recently taken off in popularity, the specificities of law are still largely underdeveloped as they apply to the issue.[234] Regulation of the process has only just become a pressing concern, and the issue lies in the fact that the minute details of the process still remain widely unaddressed in detail at any level of government. It is true the EPA requires states, and indirectly, harvesters to be in compliance with the CWA.[235] However, the enforcement of this compliance is left up to state and local governments. To that end, it seems that most states have made a definitive ruling as to the legality of rainwater harvesting as a process but have opted to leave detailed regulation and close monitoring of that process up to the municipalities and counties in which the harvesting actually occurs. Since harvesting has been notably rare until a societal push for eco-friendly living and environmental conservation, municipalities address the issue to enforce required stormwater management in general.[236] Most counties and municipalities address stormwater concerns as they apply to the community water supply as a whole. Because harvested rainwater is not technically a public water supply, but will likely find its way into the community supply in some capacity, there is a gray area in applying stormwater management procedures to rainwater harvesting. As such, many people are surprised to find that they are doing something that the county or city regards as illegal, especially when there is not much legal precedent to put them on notice.[237]

On the contrary, some involved activists advocate for the free and unlimited use of their own property.[238] Encompassed in this idea is the notion that, as a whole, society does not want the government to become too involved with the affairs of their private lives on their own property. Though societal norms regard government rules and regulations as necessary, citizens harbor a natural fear of losing all independence and autonomy in decision making. Some argue that if you cannot even collect rainwater on your property at your expense and for personal use, the government has overstepped its boundaries.

The law needs an approach that reconciles these two tough issues. Citizens seem to desire to be told what is acceptable without necessarily

234. Holloway, *supra* note 69, at 338–39.

235. Brown & Olson, *supra* note 53, at 55.

236. *Id.*

237. *See* Bretsen, *supra* note 81, at 171; *Rainwater Harvesting: Conservation, Credit, Codes, and Cost Literature Review and Case Studies*, *supra* note 121, at 30.

238. *Id.*

being told what is not acceptable. The legislative and judicial branches in our government play an essential, albeit tough, role in balancing this societal interest in independent and autonomous decision making with the governmental and societal interest in providing clear and specific boundaries and requirements of law. Therefore, it is essential to explore the arguments for and against the governmental regulation of rainwater harvesting so as to come to a happy medium in developing the applicable law. Ultimately, it is important for the government to impose some minimum standards to ensure community health. Additionally, it is important for the government to provide clear guidelines as to the process and what is or is not acceptable. However, it is equally important to respect the right of citizens to maintain their private affairs and make independent decisions. Below is a description of each of these positions and a proposed solution to this tough issue.

A. Arguments for the Governmental Regulation Rainwater Harvesting

It is apparent that many states are not opposed to the idea of rainwater harvesting as a whole. In the vast majority of states, the collection process is legal.[239] For example, the Georgia Rainwater Harvesting Guidelines, a resource targeted at this exact issue, advocate for and educates citizens on the history and benefits of rainwater harvesting.[240] It may be difficult, then, to comprehend why such a beneficial process should be subject to governmental restriction and regulation. Though rainwater harvesting and stormwater collection can result in a multitude of benefits for many communities, it is still a risky process. Many activists proclaim that the process should be regulated, and the arguments for regulation are thought-provoking. It is clear that ineffective rainwater harvesting resulting in contamination or buildup can very quickly impact the overall health and quality of the entire water supply of a community.[241]

First, there is a need to recognize the age-old idea that there can be too much of a good thing. Many people depend on a publicly-maintained water supply. Without that supply, residents of some communities could not bathe, wash clothes or dishes, or even have access to drinking water. This notion warrants concern that, however beneficial rainwater harvesting may be to an individual or business within a community, too much of this good thing could potentially detract from the water supply. While this, on its face, does not seem to be much of a threat, it is

239. *Id.*

240. *See Georgia Rainwater Harvesting Guidelines*, *supra* note 200, at 13–17.

241. *See id.* at 248–49.

important to remember two things. First, most rainwater harvesting ventures are condoned and therefore only used in the event that the water is repurposed for outdoor tasks.[242] As such, most individuals who partake in rainwater harvesting still likely draw from the community water supply so that they may drink and bathe. Second, it is important to keep in mind that, in any given area, the water supply is comprised of and replenished through rainwater and storm events.[243] Taking this into account, it is easy to see that some regulation is necessary. If rainwater harvesters are allowed to collect rainwater without limit, the community water supply may become greatly diminished.

Additionally, federally-imposed and state-enforced water quality standards are an important way to ensure that the water supply of a community remains accessible and safe for all who need it. Water is used in a wide variety of ways and is fundamental to life. Not only do we drink water, we use it to wash, swim, fish, eat, and travel. Further, aquatic organisms depend on a clean and natural water supply, quite literally, for life. Currently, most of these water quality standards apply only to public water supplies or point sources.[244] However, as explained, harvested rainwater typically finds some presence in the community water supply in some capacity and at some point. Pollutants in this water may be collected as rainwater runs from a roof and into the catchment device for pooling. Contaminants can also be absorbed as this water is put to its typical outdoor uses. Soap and debris may mix with the water as it is used to wash cars, then running into nearby storm drains and releasing into an area's natural bodies of water.[245] Pesticides and other toxins might contaminate the water as it is used for lawn care and irrigation.[246] Runoff from that water also enters storm drains, but some amount of water is also absorbed into the ground and mixes with the groundwater supply of the community.[247] Water quality standards are in place to direct the purpose of an area's water supply, whether it preserves aquatic life, protects recreation, or offers public drinking water.[248] These standards also set forth criteria to protect these purposes and to maintain the quality that already exists. The argument of necessity for a similar sort of water quality standard to apply specifically to rainwater

242. *See Why Everyone Should Care about Rainwater Harvesting*, *supra* note 22.

243. *See The Water Cycle-USGS Water Science School*, *supra* note 6.

244. *See Ecological Rights Found.*, 713 F.3d at 509.

245. *The Importance of Operation and Maintenance for the Long-Term Success of Green Infrastructure*, *supra* note 42, at 3.

246. *Id.*

247. *Id.*

248. *Summary: Clean Water Act*, *supra* note 56.

harvesting and collected stormwater clearly follows. We want clean water for all to maintain health and happiness. This is, or should be, as much a right as collecting and using the water that falls on privately-owned property.

Finally, governmental regulation can be necessary simply for practicality. Rainwater harvesting is greatly important and its popularity has grown exponentially in recent years.[249] As there are clearly present risks associated with improper stormwater management, the government is in the best place to impose and enforce compliance with standards that keep the process safe and maximize benefits. Individuals may prefer to self-regulate, but the government has the power and resources to ensure that the process is done safely nationwide.

B. Arguments against the Governmental Regulation of Rainwater Harvesting

It is true that rainwater harvesting poses some significant risks if collection is not conducted in a careful and effective way. However, does the need for efficiency and care automatically suggest a need for the government to step in? Many proponents of harvesting fear that, even in areas where rainwater harvesting is encouraged, government regulation of the process will deter interested parties from pursuing harvesting. Whether these people believe that government regulation makes approval and compliance too lengthy or involved, or whether they believe that pursuit of the process places a target for government focus on their backs, it is undeniable that some citizens are apprehensive of governmentally regulated activities. As a result, some may refrain from harvesting altogether and deprive themselves, their families, and their land of the many proposed benefits of harvesting.

First, citizens are historically hesitant to support any kind of regulation that may impact the use or enjoyment of their property. This same resistance has been evidenced in a multitude of controversial legal movements, such as the debates on civil rights and segregation.[250] A long-standing theme that has carried throughout the entire history of the country is the argument between federalists and antifederalists on just how much power the government should have.[251] Most people are willing to listen to governmental laws and regulations as they apply to society as a whole, but citizens are rarely willing to have their own practices and

249. *Rainwater Harvesting Information*, *supra* note 9.

250. *Federalist and Anti-Federalist Debate Rings True to this Day*, AMERICAN POLITICAL THOUGHT, https://polsci307.blog/2015/02/15/federalist-and-anti-federalist-debate-rings-true-to-this-day/ (last visited Mar. 9, 2018).

251. *Id.*

preferences controlled and subject to restriction. Whether this is because of a misunderstanding of the government's role or simply because, by human nature, no one likes to be told what to do, there is a solid argument for the human right entitlement to autonomous decision making. The country was founded on the right to pursue happiness, and while this right should clearly have limits, some find that the government may overstep where citizens are perfectly capable of self-regulation.

Additionally, it is important to recognize that all water is subject to contamination, not just harvested rainwater.[252] In essence, the entire water supply of a community is harvested rainwater. As such, current rules and regulations do indirectly apply to rainwater collection that will eventually find its way back into the community water supply. Stormwater procedures in the community regulate the public water supply. Thus, when harvested rainwater finds its way back into that collected body of water, stormwater regulation applies. While this extra step likely makes the filtration and purification processes slightly more involved and costly, the water eventually becomes filtered as a part of the community water supply before citizens access it for use.[253]

Further, where there is an argument that rainwater harvesting may deplete a community's water supply, there is a completely reasonable counter-argument that harvesting is a solution to drought. Particularly in urban areas, green infrastructure, including catchment systems, allow for greater collection.[254] This is because in these heavily developed areas, there are many more obstacles for falling water to navigate before entering the stormwater system.[255] Where water encounters too much resistance in finding its way to the collective supply, it begins to pool and then evaporate.[256] It logically follows that when water is diverted to a cistern or some other collection mechanism immediately as it falls, more of the water will be retained and available for use. Regulating that process or the amount that an individual or business collects may deter potential harvesters from implementing a catchment system on their properties.

Finally, it is worth mentioning that rainwater harvesting is a saving grace financially for almost all practicing families and businesses. Where

252. Minan, *supra* note 110, at 1228.

253. *See Green Infrastructure Opportunities and Barriers in the Greater Los Angeles Region: An Evaluation of State and Regional Regulatory Drivers that Influence the Costs and Benefits of Green Infrastructure*, EPA, https://www.epa.gov/sites/production/files/2015-10/documents/council_watershed_health_ gi_report.pdf, at 6 (last visited Jan. 1, 2018).

254. *See Environmental Benefits*, *supra* note 27.

255. *Green Infrastructure Opportunities and Barriers in the Greater Los Angeles Region*, *supra* note 253, at ii.

256. *See id.*

saving money is an option, people desire to become involved. An average family can save substantial amounts of money, or almost the entirety of a monthly water bill, by implementing a comparatively inexpensive replacement. These families have the option to learn about the harvesting process and begin their own—all while saving money to put toward other activities that may enrich the family's lifestyle. However, the savings and financial benefits may be lost on those who are intimidated by government involvement and regulation of the harvesting process. In fact, families could not only lose out on additional savings if regulation becomes stricter, they may actually lose money that they already have saved. The more involved the government becomes in researching, developing legislation, and enforcing new regulations, the more it actually costs families who must help fund the additional personnel that it may take to accomplish it all.

C. Overall Proposed Solution

It is overwhelmingly clear that rainwater harvesting is beneficial. Some argue that harvesting is important, if not necessary, to supplementing the overall water supply in their areas. Harvesting is also financially liberating for those who commit to such recycling. It is also clear that, though beneficial, harvesting can become dangerous if it does not comply with the purposefully drafted stormwater management procedures of the community in which it occurs. It is important to find a common ground on which to begin building a solution that can respect the valid concerns of each side of the argument. Specific regulation seems necessary to manage avoidable risk, but can be accomplished in a way that does not deter those interested in rainwater harvesting from pursuing its many benefits.

First, it is important to recognize that more research on the issue would be extremely beneficial before jumping into rules and laws that limit its scope. Small-scale rainwater harvesting has had a presence in almost all communities for as long as history can be traced.[257] However, harvesting has just become a more realistic and widely-imposed solution to the problems posed by climate change. Because rainwater harvesting has never before been so widely implemented, there are no concrete findings on the impact that it may or may not have on the water supply as a whole. Some contend that allowing unregulated harvesting may effectively increase the water supply and make water more readily

257. Christopher Kloss, *Managing Wet Weather with Green Infrastructure Municipal Handbook*, EPA, https://www.epa.gov/sites/production/files/2015-10/documents/gi_munichandbook_harvesting.pdf, at 1 (last visited Jan. 1, 2018).

available on a personal level.[258] Others worry that harvesters will draw from their own supply of water but still bear need on the community water supply, detracting from replenishment, but not from use.[259] Without purposeful and driven research, the numbers that reflect use of the millions of bodies of water that supply communities across the nation will remain highly speculative. Research with pointed and definite findings may ease the concerns of many citizens.

Next, it is essential to put that research in the hands of individuals who are educated on rainwater harvesting and environmental conservation. Definitive findings are useless if they cannot be interpreted in a way that can be applied to thoughtful legislation. Findings should be carefully studied and analyzed so as to establish the actual problems that can be addressed with regulation. As a result, regulation will not affect every possible issue that may be posed by harvesting, but instead issues that actually are posed. Resulting regulation will appeal to those who are concerned about government interference with private property because regulation will reflect how to improve their processes and support their personal goals, rather than simply limiting and restricting rights on harvesting as a whole.

Similarly, it is important that rainwater harvesting be regulated by state or local government. Though there is a definite need for laws that apply specifically to rainwater harvesting procedures and systems, rather than stormwater management as a whole, it seems counterintuitive to impose these regulations on the federal level. The federal government is certainly knowledgeable and capable, evidenced by the establishment of the EPA and its many acts providing for the conservation and cleanliness of the nation's waters. However, it is easily recognized that localized governments are in a better position to draft rules and regulations that address the needs of their respective communities more specifically. Broad, sweeping legislation can be harsher, particularly in a matter such as this, where each state and city has different needs regarding the existing water supply. This sort of harsh legislation is less personal, and therefore, less likely to respect the needs of individual communities. More general regulation is much more likely to be a deterrent than are rules that have been tailored specifically to the needs of interested individuals.

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258. *See* Garrison et al., *supra* note 36, at 11, 17–18.

259. *See Rainwater Harvesting for System Designers and Contractors*, *supra* note 14, at 12.

V. CONCLUSION

In conclusion, rainwater harvesting is a rapidly growing trend that provides ample benefits to businesses and individuals. Admittedly, for all its benefits, there are some clear risks involved if no regulation is present. Some level of government, be it federal, state, or local, should have and make use of authority to impose minimum standards of water quality and appropriate usage of harvested stormwater. It seems that most states are adopting laws to comply with federal regulations for clean water and are moving toward the appropriate middle ground for this issue. Conversely, states that have historically controlled the harvesting process more strictly are working toward more thoughtful and practical regulation. Further, states that have not previously recognized the possibility of resourceful use of recycled water are now recognizing the potential risks and benefits of the process and are creating legislation to keep citizens safe. Georgia, in particular, has paid attention to this issue. Georgia has effectively begun to develop applicable law in such a way that allows harvesters the rightful freedom of enjoyment of their property while making sure that said enjoyment does not interfere with legally imposed stormwater management procedures that protect the health and well-being of the community as a whole.

As in most stories, compromise is essential to ensure a "happy ending" to this narrative. As such, it is possible that it is time for a change in status quo. Everyone, at the end of a story, seeks a happy ending, usually resolving a story dramatically in favor of the protagonist. What if it is time to shift this need for a happy ending and instead focus on finding a happy medium? Though subject to negative connotations, governmental regulation of rainwater harvesting is absolutely necessary to further the ultimate goal of a safe, healthy, and substantial water supply, whether harvested by an individual or maintained by local government. This is not to say that people should not have a say in the collection process, the mechanics of their harvesting, or the use of the water that is, essentially, their property. All people deserve a hero, but by that same admission, no person should create danger by avoiding perceived danger, or any other misunderstood character. The ultimate happy medium for the resolution of this narrative is appreciation and respect of water as the main character, no matter the differing methods or avenues of access to it.

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