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NOTES

IS INDIANA CONSERVING ITS GROUNDWATER?: THE FUTURE OF INDIANA GROUNDWATER AFTER *TOWN OF AVON V. WEST CENTRAL CONSERVANCY DISTRICT*

ALEXANDRIA HANAUER*

INTRODUCTION

The world's groundwater is "being sucked dry at rates far greater than [it is] being replenished."[1] This news came in June 2015 from NASA's GRACE satellite, whose data revealed that groundwater is being threatened globally by overuse.[2] The amount of water left in the world's biggest aquifers remains unknown, but scientists warn that global conflict could increase as water supplies dwindle.[3]

In the United States, the water crisis has been magnified by the ongoing drought in the western United States.[4] In April 2015, California's governor ordered mandatory water restrictions statewide in light of historic droughts.[5] These restrictions required cities and towns to reduce their water use by twenty-five percent.[6] California needs "a staggering 11 trillion gallons" of water to recover from drought conditions.[7] In response, California passed groundwater

* J.D. Candidate, 2016, Indiana University Robert H. McKinney School of Law; B.A., 2013, Marquette University, Milwaukee, Wisconsin. I would like to thank my family and friends for their support. I would also like to thank Professor Eric Dannenmaier for his assistance and feedback throughout the writing process.

1. Geoff Brumfiel, *NASA Satellites Show World's Thirst for Groundwater*, NAT'L PUB. RADIO (June 17, 2015), http://www.npr.org/sections/thetwo-way/2015/06/17/415206378/nasa-satellites-show-worlds-thirst-for-groundwater?utm_medium=RSS&utm_campaign=environment [http://perma.cc/CZ9L-DGQC].

2. *Id.*

3. *Id.*

4. Alan Neuhauser, *Drought Regions Show High Levels of 'Water Stress,'* U.S. NEWS & WORLD REP., http://www.usnews.com/news/blogs/data-mine/2014/04/16/drought-regions-show-high-levels-of-water-stress [http://perma.cc/QME5-YP67] (last visited Nov. 16, 2014).

5. Ray Sanchez, *Low California Snowpack Ushers Mandatory Water Restrictions*, CABLE NEWS NETWORK (Apr. 2, 2015), http://www.cnn.com/2015/04/01/us/california-water-restrictions-drought/ [http://perma.cc/55J8-HBUB].

6. *Id.*

7. *Id.*

http://dx.doi.org/10.18060/4806.0065

management legislation, advanced emergency funding, and started to implement water efficiency measures.[8]

California is not alone. In 2012, Indiana also experienced a historic drought.[9] The effects of the drought were widespread and affected individuals and businesses statewide.[10] Afterwards, officials around the state were left to consider the state of water in Indiana and the tools available for its protection.[11] Most notably, officials called for solutions to help mitigate the likely effects of future droughts.[12]

Although Indiana has water, its water is not always accessible where and when people need it.[13] Situations like drought, changing precipitation patterns, and increased demand for water can hinder energy production, manufacturing, agriculture, and economic growth.[14] Management and conservation plans focused on long-term water supply are essential to lessening the impact from droughts, changing precipitation patterns, and increased demands.[15] Local tools to regulate underground aquifer withdrawals are also important to combat water scarcity and promote conservation.

The purpose of this Note is to examine the state of groundwater in Indiana, investigate the legal tools available, and make suggestions for the future of Indiana groundwater law. Part I provides background information about water as a natural resource. Part II discusses the history of the legal treatment of groundwater in Indiana. Part III discusses the *Avon* decision and how the Indiana Supreme Court interpreted the definition of a "watercourse." Part IV analyzes the Indiana legislative response to *Avon*. Part V examines tools available in Indiana for water conservation. Part VI analyzes other Midwest states' approaches to groundwater. Finally, Part VII proposes suggestions for the future of Indiana

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8. *Id.* (stating that some measures included water recycling infrastructure and flood protection).

9. *See* Jim Suhr, *U.S. Drought 2012: Half of Nation's Counties Now Considered Disaster Areas*, HUFFINGTON POST (Aug. 2, 2012), http://www.huffingtonpost.com/2012/08/02/us-drought-2012-disaster-areas_n_1731393.html [http://perma.cc/J9AG-DUKQ].

10. LEGISLATIVE SERVS. AGENCY, WATER RESOURCES STUDY COMMITTEE EXHIBIT 3 (Aug. 2013), *available at* http://www.in.gov/legislative/interim/committee/minutes/WRSCG8J.pdf [http://perma.cc/6BJT-GNQ8].

11. Marilyn Odendahl, *Drought Fuels Renewed Drive for a Statewide Water Policy*, IND. LAW. (Dec. 5, 2012), http://www.theindianalawyer.com/article/print?articleId=30237 [http://perma.cc/HCK8-6XR8?type=source].

12. *Id.*

13. *Climate Impacts on Water Resources*, U.S. ENVTL. PROTECTION AGENCY (Aug. 13, 2014), http://www.epa.gov/climatechange/impacts-adaptation/water.html [http://perma.cc/4EWX-FNXT].

14. Odendahl, *supra* note 11.

15. *See* Amy Patterson Neubert, *2012 Drought Surprises and Reminds People of Past, Says Ag Historian*, PURDUE UNIV. (Aug. 2, 2012), http://www.purdue.edu/newsroom/general/2012/120802T-HurtDrought.html [http://perma.cc/5MF7-FJQ5] (noting that agricultural historian R. Douglas Hurt called for policymakers to think about cyclical drought patterns and climate change when creating contingency plans in light of agricultural needs).

groundwater law. These suggestions focus on creating tools that local governments and the state of Indiana can utilize for water conservation.

I. BACKGROUND

The future of water across the nation is stressed, and droughts, like the one Indiana experienced in 2012 and those that are ongoing in the western United States, are expected to increase.[16] The eastern United States, typically regarded for its abundance of water, is not immune, as cycles of water scarcity and demand for water increase.[17] Two main risks to future water supply include changes in precipitation and changes in water withdrawal.[18] In Indiana alone, the population has increased and is expected to continue to rise from 6.4 million in 2010 to 7.3 million by 2040.[19] Such an increase is bound to add stress on water resources in the state.[20] However, population growth is not the only added pressure to water supply. Water is also essential for agricultural use, power plant cooling, and domestic use.[21]

The United States Environmental Protection Agency ("EPA") estimates that two-thirds of Indiana's population relies on groundwater for drinking and household use.[22] Groundwater is water located beneath the surface of the earth's soil in crevices and spaces in the ground.[23] It is also used for public supply,

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16. Neuhauser, *supra* note 4.

17. Shannyn Snyder, *Water Scarcity—The U.S. Connection*, WATER PROJECT, http://thewaterproject.org/water_scarcity_in_us [http://perma.cc/N7GY-ATNJ] (last visited Oct. 6, 2014).

18. Jason J. Gurdak et al., *Effects of Climate Variability and Change on Groundwater Resources of the United States*, U.S. GEOLOGICAL SURV. (Sept. 2009), http://pubs.usgs.gov/fs/2009/3074/pdf/FS09-3074.pdf [http://perma.cc/M88A-HAN8].

19. *National Population Projections*, WELDON COOPER CTR. FOR PUB. SERV., http://www.coopercenter.org/demographics/national-population-projections [http://perma.cc/8RWB-WV3N] (last visited Oct. 6, 2014).

20. *See Groundwater*, U.S. ENVTL. PROTECTION AGENCY (Mar. 10, 2011), http://cfpub.epa.gov/eroe/index.cfm?fuseaction=list.listBySubTopic&ch=47&s=201 [http://perma.cc/Q5NG-V7AQ].

21. *Total Water Use in the United States, 2005*, U.S. GEOLOGICAL SURV., http://water.usgs.gov/edu/wateruse-total.html [http://perma.cc/BAL6-EM4W] (last visited Sept. 1, 2015) (noting that these activities make up the three highest categories for water demand).

22. *Indiana Water Fact Sheet*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/WaterSense/docs/indiana_state_fact_sheet.pdf [http://perma.cc/62YS-QAA6] (last visited Oct. 6, 2014).

23. *What Is Ground Water?*, U.S. ENVTL. PROTECTION AGENCY, http://water.epa.gov/learn/resources/groundwater.cfm [http://perma.cc/7BE2-7UGC] (last updated Mar. 6, 2012). Another type of water is stormwater. Stormwater is the result of precipitation from rain. It does not percolate into the ground, but flows over land and surfaces. *Stormwater Homepage*, U.S. ENVTL. PROTECTION AGENCY, http://water.epa.gov/polwaste/npdes/stormwater/index.cfm [http://perma.cc/EKY2-3W4F] (last updated June 4, 2015). Surface water is also another type of water and includes "water that collects in surface water bodies, like oceans, lakes, or streams." *Surface Water*

individual use, irrigation, livestock and aquaculture, industry, mining, and thermoelectricity.[24] Irrigation accounts for sixty-five percent of groundwater withdrawal and public supply for eighteen percent.[25] Groundwater is also a source of drinking water for half of the people in the United States.[26] Groundwater is not only important for domestic daily use, but it is also influential in local business and industry.[27] Without adequate water supplies, irrigation for food and energy production would be severely impacted.[28] Tools for water conservation are critical in light of a nationwide water crisis and the many activities for which water is essential.

II. HISTORY OF INDIANA GROUNDWATER WITHDRAWAL RIGHTS

This Part traces the history of groundwater law in Indiana. Indiana's groundwater law has been evolving since the nineteenth century to now.[29]

A. New Albany & Salem Railroad Co. v. Peterson

As early as 1860, the Indiana Supreme Court addressed Indiana law regarding groundwater when the New Albany & Salem Railroad ("Railroad") began constructing its railroad adjacent to Peterson's property.[30] In the process of digging, the Railroad diverted an underground spring that fed into a well on Peterson's land.[31] When Peterson's well dried up, he sued the Railroad for fifty dollars in damages.[32] The Indiana Supreme Court was asked to consider the law regarding surface water and groundwater.[33] The court held that the same law does not govern groundwater and surface water.[34] The court reasoned:

Contamination, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/superfund/students/wastsite/srfcspil.htm [http://perma.cc/MZ4X-FCAB] (last updated Aug. 9, 2011).

24. *Groundwater Use for America*, NAT'L GROUND WATER ASS'N, http://www.ngwa.org/Documents/Awareness/usfactsheet.pdf [http://perma.cc/7XG3-9K8W] (last visited Nov. 16, 2014).

25. Venkatesh Uddameri & Kevin McCray, *Importance of Groundwater to the US Economy*, NAT'L GROUND WATER ASS'N, http://water.epa.gov/action/importanceofwater/upload/21-Uddameri.pdf [http://perma.cc/TNJ5-7ARG] (last visited Nov. 16, 2014).

26. *What Is Ground Water?*, *supra* note 23; Brumfiel, *supra* note 1 ("Globally, scientists estimate that roughly 2 billion people rely on water supplied from underground aquifers as their main source of freshwater.").

27. *Water Use Today*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/WaterSense/our_water/water_use_today.html [http://perma.cc/R2KC-R2EX] (last updated Aug. 31, 2015).

28. *Id.*

29. *See* New Albany & Salem R.R. Co. v. Peterson, 14 Ind. 112 (Ind. 1860); Gagnon v. French Lick Springs Hotel Co., 72 N.E. 849 (Ind. 1904); Wiggins v. Brazil Coal & Clay Corp., 452 N.E.2d 958 (Ind. 1983); Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598 (Ind. 2011).

30. *Peterson*, 14 Ind. at 112.

31. *Id.*

32. *Id.*

33. *Id.*

34. *Id.* at 114.

> [W]e think the present case, for the reasons above given, is not to be governed by the law which applies to rivers and flowing streams, but it rather falls within that principle which gives to the owner of the soil all that lies beneath his surface; that the land immediately below is his property, whether it is solid rock, or porous ground, or venous earth, or part soil part water; that the person who owns the surface may dig therein, and apply all that is there found to his own purpose, at his free will and pleasure; and that if in the exercise of such right, he intercepts or drains off the water collected from underground springs in his neighbor's well, this inconvenience to his neighbor falls within the description of *damnum absque injuria*, which cannot become the ground of an action.[35]

Thus, a surface owner of land holds the rights to all the groundwater beneath his or her land and is free to use the surface soil as he or she wishes, even where it harms other landowners.[36] The court found that Peterson was not entitled to damages for his loss because the Railroad had a right to the surface of the property and whatever lies beneath it.[37]

This case illustrates that the law governing groundwater was closely tied to the ownership of property and favored the property owners who used their land, even when such use resulted in injury to others.[38]

B. Gagnon v. French Lick Springs Hotel Co.

In 1903, Gagnon and others drilled wells into property he owned located near the French Lick Springs Hotel Company ("Hotel").[39] The Hotel was built around artesian springs known for their "healing and medicinal properties."[40] Many visitors came to the Hotel to drink from and bathe in the springs.[41]

Gagnon and the others had previously owned stock in the French Lick Spring Company, which sold its property to the Hotel in 1901.[42] The property was sold for $385,000; however, without the springs the same piece of property would have been valued at only $20,000.[43] Gagnon had hoped to sell his property to the Hotel, but the Hotel did not accept his offer and a rivalry between the two

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35. *Id.*; 9 IND. LAW ENCYC. *Damages* § 2 (2015) (stating that *damnum absque injuria* means "damage without legal injury or infringement of right").

36. *Peterson*, 14 Ind. at 114.

37. *Id.* at 113-15.

38. *See generally id.*

39. Gagnon v. French Lick Springs Hotel Co., 72 N.E. 849, 850 (Ind. 1904).

40. *Id.*; *Artesian Water and Artesian Wells*, U.S. GEOLOGICAL SURV., http://water.usgs.gov/edu/gwartesian.html [http://perma.cc/JG7S-4RKJ] (last updated Aug. 7, 2015) (stating that artesian spring waters are those that rise to the earth's surface from confined pressure underground).

41. *Gagnon*, 72 N.E. at 850.

42. *Id.*

43. *Id.*

developed.[44]

Underlying both the Hotel and Gagnon's property was a common "subterranean body of water."[45] From that water, natural springs were "forced upwards through the rocks by . . . hydrostatic pressure."[46] Motivated by his rivalry with the Hotel, Gagnon drilled wells into his property intentionally to "intercept the flow of water into the said natural springs of the French Lick Company, and thereby destroy the value of its property."[47] He knew that the subterranean water beneath his property and the springs were connected, so he placed a pump on the well.[48] The pump was powerful enough that it "dr[e]w the underlying waters away from [the] springs and destroy[ed]" them.[49] Gagnon and the others pumped continuously and wasted millions of gallons of water.[50] As a result, the flow of water at the Hotel was greatly decreased.[51] The Hotel subsequently sued Gagnon and asked the court to temporarily restrain and enjoin his pumping.[52] The Orange circuit court issued the restraining order and Gagnon appealed.[53]

In Gagnon's appeal to the Indiana Supreme Court, the court acknowledged that there was a direct connection between the subterranean waters and the natural springs.[54] The court noted that the connection was "so well defined that when the pumping from said wells from any cause ceased for a few hours, the waters would again begin to flow" and when the pumping resumed the springs would "cease flowing."[55] The court's analysis began by stating that the general rule governing groundwater has allowed landowners "unlimited and irresponsible control over subterranean water on his own land, without regard to the injuries which might thereby result to the lands of other proprietors in the neighborhood;" however, courts have qualified this rule with many exceptions.[56] The first exception to the doctrine is that an injunction may be issued when "diversion of the water is purely malicious, and is detrimental to another proprietor."[57] The second exception applies when water is "simply wasted."[58] The third exception favors natural uses over artificial ones.[59] Lastly, the fourth exception declares that an

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44. *Id.* at 852.
45. *Id.* at 850.
46. *Id.*
47. *Id.*
48. *Id.*
49. *Id.*
50. *Id.*
51. *Id.* at 851.
52. *Id.* at 849.
53. *Id.*
54. *Id.* at 851.
55. *Id.*
56. *Id.* at 852.
57. *Id.* at 851 (citing Miller v. Black Rock Springs Imp. Co., 40 S.E. 27 (Va. 1901)).
58. *Id.* (citing Stillwater Water Co. v. Farmer, 93 N.W. 907 (Minn. 1903)).
59. *Id.* (citing Willis v. City of Perry, 60 N.W. 727 (Iowa 1894)).

owner of land may not remove water below the soil for sale if it deprives those nearby of "water necessary for its profitable enjoyment."[60]

With these exceptions in mind, the court recognized that landowners' unlimited right to the groundwater under their property has been abridged with regard to "their supposed power to injure their neighbors without benefitting themselves."[61] The court held that Gagnon was not entitled to modify the court's earlier injunction prohibiting him from pumping.[62] The court found that the pumping was not done in good faith, but "for the purpose of stopping the flow of water" to the Hotel.[63]

This case is important as it qualifies the harsh doctrine from *New Albany*, whereby the surface owner of land could use the groundwater in whatever way he wished and any inconveniences to other water users were not compensable.[64] *Gagnon* places limits on the withdrawal of water where the withdrawal is motivated by malice.[65] The court arrived at this qualification based on the rivalry that existed between Gagnon and the Hotel and the subsequent waste of millions of gallons of water.[66] The court also recognized the existence of a hydrological connection underground between Gagnon's land and the springs at the Hotel, although it could not be seen.[67]

C. Wiggins v. Brazil Coal & Clay Corp.

In 1977, the Brazil Coal and Clay Corp. ("Mining Company") began mining coal near an old strip pit that Wiggins owned.[68] Wiggins had developed homes around the strip pit and allowed it to fill with water over the years and it was commonly referred to as a lake.[69] Once mining operations began, water flowed into the Mining Company's pits and flooded them.[70] Mining operations were unable to continue with water present in the pits so the mining corporation began to dewater them.[71] At the same time, Wiggins realized the level of his lake was falling.[72] It was determined that the water flooding the pits was coming from the

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60. *Id.* (citing Katz v. Walkinshaw, 74 P. 766 (Cal. 1903)); 3 WELLS ALECK HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 198 (1977) (natural uses generally include water for domestic uses, whereas artificial uses of water include activities such as irrigation or manufacturing).

61. *Gagnon*, 72 N.E. at 852.

62. *Id.*

63. *Id.*

64. New Albany & Salem R.R. Co. v. Peterson, 14 Ind. 114 (Ind. 1860).

65. *Gagnon*, 72 N.E. at 851.

66. *Id.* at 852.

67. *Id.*

68. Wiggins v. Brazil Coal & Clay Corp., 452 N.E.2d 958, 960 (Ind. 1983).

69. *Id.*

70. *Id.*

71. *Id.* at 960-61.

72. *Id.* at 961.

lake through "deep mine shafts and laterals" or "beneath the upper vein of coal."[73] Prior to the mining operation, neither Wiggins nor the Mining Company knew that the lake and pits shared a hydrological connection.[74]

Wiggins sued the Mining Company for damages and an injunction to stop the dewatering of pits and subsequent lowering of the lake's water level.[75] The trial court ruled in favor of the Mining Company and denied Wiggins's request for damages and injunction.[76] Wiggins then appealed.[77] The First District of the Indiana Court of Appeals reversed and adopted the Restatement (Second) of Torts as it relates to liability for users of groundwater.[78] Thereafter, transfer was granted to the Indiana Supreme Court and the Court of Appeals' opinion was vacated.[79]

The Indiana Supreme Court held that water underground that moves from one owner's property to another's does not belong to the property owner, rather that water is "lost water and is considered at any given time to be part of the land with which it mingles."[80] The owner has the right to use the water, but may not withdraw to the point that it causes "injury gratuitously or maliciously to nearby lands and their owners."[81]

The court found that Wiggins's lake was originally an open coalmine.[82] It was not created to hold water.[83] When the Mining Company began mining, they did not "alter the character," make the land "porous," or "physically invade" Wiggins's property.[84] The Mining Company did not mine with the intent to injure Wiggins.[85] The trial court's holding that pumping the water from the pits to continue mining operations was "a beneficial use of the water in connection with the land" was affirmed by the Indiana Supreme Court.[86]

Justice Hunter dissented from the majority's opinion in *Wiggins* and argued that the Restatement (Second) of Torts should be applied when determining

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73. *Id.*

74. *Id.*

75. *Id*. at 959.

76. *Id*.

77. *Id*.

78. *Id*.; RESTATEMENT (SECOND) OF TORTS § 858 (1979) (noting that liability for use of groundwater is not found unless the proprietor of land, who withdraws water and uses it for a beneficial use, "unreasonably causes harm to a proprietor of neighboring land" due to the proprietor's withdrawal, "exceeds the proprietor's reasonable share of the annual supply or total store" of the groundwater, or the withdrawal "has a direct and substantial effect upon a watercourse or lake and unreasonably causes harm to a person entitled to the use of its water").

79. *Wiggins*, 452 N.E.2d at 959.

80. *Id*. at 963-64.

81. *Id*. at 964.

82. *Id*. at 959.

83. *Id*. at 964.

84. *Id*.

85. *Id*.

86. *Id*.

groundwater liability.[87] Justice Hunter wrote "[T]he common law rule on ground water was formulated to relieve courts of the responsibility of decision making during an era when there was little scientific knowledge regarding hydrology. This rationale no longer applies."[88] Hunter reasoned that the "[T]heory of absolute ownership of percolating ground water conflicts with our modern view on property because it shields property owners from liability.[89] Instead, the law should require reasonable use of groundwater and adopt the Restatement (Second) of Torts to determine liability.[90]

The court's decision in *Wiggins* represents a step backwards for the development of groundwater law and water conservation efforts. The court describes water that is underground as "lost water" as if it cannot be understood or located.[91] However, as the court in *Gagnon* recognized, underground water is not really "lost" because its connections can be traced and understood.[92] *Wiggins* is consistent, however, with the limitations from *Gagnon*, as the use is beneficial and not malicious or wasteful.[93] The dissent in *Wiggins* was forward thinking in respect to the laws governing groundwater when Justice Hunter argued for a reasonable use standard.

III. *TOWN OF AVON V. WEST CENTRAL CONSERVANCY DISTRICT*

A. Facts and the Indiana Supreme Court's Holding

Washington Township ("Township") owned a community park and West Central Conservancy District ("WCCD") owned 100 acres of property within the Town of Avon.[94] The Township and WCCD's land sat atop an underground aquifer, known as the White Lick Creek Aquifer.[95] Beginning in 2005, the Township and WCCD explored the possibility of drilling wells into the aquifer to extract the underground water.[96] The Township and WCCD wanted to pump the water and "make commercial use of the water in its aquifers by leasing it for production and sale by third parties or by selling the water to third parties at wholesale."[97]

In 1982, a series of statutes were signed into Indiana law known as the

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87. *Id.* at 965 (Hunter, J., dissenting).
88. *Id.* at 966.
89. *Id.*
90. *Id.* at 966-68.
91. *Id.* at 963-64.
92. *See* Gagnon v. French Lick Springs Hotel Co., 72 N.E. 849, 851 (Ind. 1904).
93. *Compare id.*, *with Wiggins*, 452 N.E.2d at 964.
94. Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598, 601 (Ind. 2011).
95. *Id.*
96. *Id.*
97. Brief of Appellee at 3, Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598 (2011) (No. 32S05-1104-PL-217).

"Watercourse Statutes."[98] These statutes authorized local governments to "regulate the taking of water . . . from a watercourse."[99] Watercourse was defined to include "lakes, rivers, streams, and any other body of water."[100] Pursuant to delegated authority and the Watercourse Statutes, in 2008 the Town of Avon in Indiana passed Ordinance No. 2008-8, which regulated the withdrawal of water from watercourses "for 'retail, wholesale, or other mass distribution' unless done by or on behalf of Avon," within ten miles of Avon's limits.[101] The ordinance defined watercourses to include "lakes, river, streams, groundwater, aquifers, and/or any other body of water whether above or below ground."[102]

Avon's ordinance was passed to protect and conserve the town's water resources.[103] Expert water studies conducted in 2003 and 2005 provided support for the ordinance as a way to conserve and protect Avon's existing supply of water because supplies were threatened by potential droughts.[104] Avon enacted the ordinance to "ensure that water resources are not unduly depleted" and to require a permit for commercial wells.[105]

The Township and WCCD sued Avon and challenged the ordinance under Indiana's Home Rule Act and the inclusion of underground aquifers within the definition of watercourse.[106] The trial court granted summary judgment in favor of the Township and WCCD and the Court of Appeals affirmed.[107] The Indiana Supreme Court granted transfer.[108]

Indiana Code section 36-9-1-10 provided, at the time Avon passed its ordinance, that a watercourse "includes lakes, rivers, streams, and any other body of water."[109] In *Avon*, the court was tasked with deciding whether an aquifer met the definition of "any other body of water" within the statute.[110] To determine this, the court applied the doctrine of *ejusdem generis*.[111] Under the doctrine, "any other body of water" includes "things as are of like kind or class to those

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98. *See* IND. CODE §§ 36-9-2-8 to -13 (2011).

99. *Id.* § 36-9-2-10.

100. *Id.* § 36-9-1-10 (2011) (amended 2012).

101. *Avon*, 957 N.E.2d at 601.

102. *Id*.

103. Brief of Appellant at 3-4, Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598 (2011) (No. 32S05-1104-PL-217).

104. *Id.* at 3.

105. *Id*. at 4.

106. *Avon*, 957 N.E.2d at 601.

107. *Id*.

108. *Id*.

109. IND. CODE § 36-9-1-10 (2011) (amended 2012).

110. *Avon*, 957 N.E.2d at 602.

111. *Id*. at 603; 26 IND. LAW ENCYC. *Statutes* § 75 (2015) (stating that the doctrine applies in statutes "where words of specific and limited signification . . . are followed by general words of more comprehensive import . . . ." The doctrine is a "helpful aid[] used in the various methods of reaching the meaning intended where vagueness and uncertainty are claimed to exist.").

designed by the specific words."[112] The court compared the characteristics of lakes, rivers, and streams from the statute to the characteristics of aquifers.[113] The specific characteristics included "defined boundaries, flow, and historic existence."[114] The court found that the White Lick Creek Aquifer has "definable boundaries and depth" and "a regular and dependable source of water."[115] Based on these facts, the court held that the White Lick Creek Aquifer was a watercourse within the meaning of the statute and distinguishable from the "lost water" in *Wiggins*.[116] Unlike the strip mining pits in *Wiggins*, the aquifer in *Avon* was not hidden without "a known channel or course."[117] The court concluded that the aquifer was a watercourse within the meaning of the statute and therefore Avon could regulate the withdrawal of water from it, as the aquifer's water was not subject to the common-law right to use groundwater as the property owner desired.[118]

The Indiana Supreme Court's holding that aquifers fit the definition of a watercourse unraveled decades of misunderstanding about the importance of groundwater.[119] It is also significant because it affirmed a tool local governments could use to conserve and regulate the withdrawal of water from underground aquifers within their municipal limits.

B. Avon's Ordinance and Indiana's Home Rule Act

The Township and WCCD also challenged Avon's ordinance under Indiana's Home Rule Act.[120] They argued that Avon was impermissibly trying to "regulate another political unit's attempt to withdraw water from the aquifer."[121] Indiana's Home Rule Act was enacted to abrogate the common law rule that counties, municipalities, and townships (collectively referred to as units) only had powers that were "expressly granted by statute," "necessarily and fairly implied in or incident to powers expressly granted," and those "powers indispensable to the declared purposes of the unit."[122] The Home Rule Act declares units have, in addition to "powers granted it by statute," "other powers necessary or desirable

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112. *Avon*, 957 N.E.2d at 603.

113. *Id*.

114. *Id*.

115. *Id*. at 604.

116. *Id*. at 604-05.

117. *Id*. at 609.

118. *Id*.

119. *Id*.

120. *Id*. at 601.

121. *Id*.; *About*, W. CENT. CONSERVANCY DIST., http://www.wccdin.org/about/ [http://perma.cc/4LFL-27RW] (last visited Mar. 9, 2015) (explaining that WCCD is a "political subdivision of the State of Indiana . . . [created] for the specific purpose of providing collection, treatment and disposal of sewage and other liquid wastes pursuant to Indiana Statute, IC 14-33." WCCD is "predominately within [the] Township.").

122. IND. CODE § 36-1-3-4(a) (2011).

in the conduct of its affairs, even though not granted by statute."[123] The Indiana Home Rule Act was enacted so units, like Avon, have the power to function at a local level effectively.[124]

Pursuant to the Watercourse Statutes, Avon enacted ordinance number 2008-8.[125] The Watercourse Statutes gave Avon the power to "establish, vacate, maintain, and control watercourse,"[126] as well as "regulate the taking of water . . . from watercourse."[127] Avon argued that it was delegated authority to enact regulations that have general applicability, which includes imposing duties on other political units, including the Township and WCCD.[128] The Township argued Avon's ordinance was in violation for two reasons.[129] First, the Township argued that the withdrawal of water is already granted to the park governor through the Indiana Park Resources Statutes.[130] Under those statutes, the park governor may "'[a]cquire and dispose of real and personal property' and '[s]ell, lease, or enter into a royalty contract for the natural or mineral resource of park land.'"[131] Second, the Township argued that Avon cannot regulate its withdrawal "[b]ecause the Watercourse Statutes do not explicitly provide authorization [for Avon] to review [the] Township's powers under the Park Resources Statutes."[132] The court held that the White Lick Creek Aquifer was a watercourse under the Watercourse Statutes and that Avon was permitted under the Indiana Home Rule Act to authorize "a regulation of general applicability (the ordinance)" to limit the withdrawal of water from it.[133] The court noted "the authority granted to Avon under the Watercourse Statutes is sufficient to permit it to regulate the Township's exercise of power pursuant to the Park Resources Statutes."[134] Thus, the Township was required, just as any other person or entity, to get a permit from Avon before withdrawing water from the aquifer, which Avon had the authority to regulate.[135]

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123. *Id.* § 36-1-3-4(b).

124. *Id.* § 36-1-3-2.

125. *Avon*, 957 N.E.2d at 601.

126. IND. CODE § 36-9-2-8 (2011).

127. *Id.* § 36-9-2-10.

128. *Avon*, 957 N.E.2d at 606.

129. *Id*.

130. *Id*.

131. *Id*.

132. *Id*.

133. *Id*. (citing Crown Point v. Lake Cnty., 510 N.E.2d 684, 686 (Ind. 1987), which held that the language "express statutory authority" permits a unit to enforce against another political subdivision "those regulations of general applicability which are specifically authorized by statute").

134. *Id*.

135. *Id*. at 607.

C. Legislative Response to Avon

Following the Indiana Supreme Court's decision in *Avon*, in March of 2012 the Indiana General Assembly retroactively amended the definition of a watercourse to exclude underground aquifers specifically.[136] The Indiana Code section interpreted in *Avon* defined a watercourse as including "lakes, rivers, streams, and any other body of water."[137] When the statute was amended in 2012, it was retroactively amended to be effective March 20, 2008 (predating the *Avon* decision).[138] The amended version modified the definition of a watercourse to exclude "underground aquifer[s] or water in an underground aquifer" specifically.[139]

Local officials in towns across Indiana opposed the amendment.[140] Officials feared that the amendment would lead to private water companies depleting local water supplies and selling the water to third parties.[141] Officials wanted to see their residents get water first, then use excess to supply counties with less water.[142] Additionally, private companies could reduce water in aquifers to levels that would limit "cities and towns from being able to compete for economic development projects and serve local citizens."[143]

At the same time, the amendment received support from interests such as the Indiana Farm Bureau so that farmers would not be required to obtain permits to pump water from aquifers on their own property or potentially be prohibited from pumping at all.[144] The amendment was ultimately passed and signed into law on March 16, 2012.[145]

The next summer, Indiana experienced a historic drought.[146] Local tools, like Avon's ordinance to regulate underground aquifer withdrawals, were gone and solutions to help mitigate the effects of drought were few.[147]

IV. OTHER WATER CONSERVATION TOOLS IN INDIANA

The Indiana Supreme Court's decision in *Avon* affirmed local control over

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136. IND. CODE § 36-9-1-10 (2011).

137. *Id.*

138. IND. CODE § 36-9-1-10 (2012).

139. *Id.*

140. Darrell Smith, *Indiana Lawmaker Proposes Allowing Private Sale of Public Water*, IND. ECON. DIGEST (Feb. 2, 2012), http://www.indianaeconomicdigest.net/main.asp?SectionID=31&ArticleID=63789 [http://perma.cc/SL58-GPCZ].

141. *Id*.

142. *Id*.

143. *Id*.

144. Gary Truitt, *Farmers Called to Act on Statehouse Legislation*, HOOSIER AG. TODAY (Feb. 21, 2012), http://www.hoosieragtoday.com/farmers-called-to-act-on-statehouse-legislation/ [http://perma.cc/6VMQ-M72P].

145. S.B. NO. 132, 117th Gen. Assemb., 2nd Reg. Sess. (Ind. 2012).

146. Suhr, *supra* note 9.

147. Odendahl, *supra* note 11.

groundwater resources.[148] However, the Indiana General Assembly's subsequent amendment of Indiana Code section 36-9-1-10 took away a tool that local authorities could use to conserve and protect local water supplies.[149] In the absence of a statewide water plan, tools for managing and conserving groundwater are limited.

Indiana Code section 14-25-3-3 provides that it is the public policy of Indiana to "conserve and protect [the] ground water resources" and to "provide reasonable regulations for the most beneficial use and disposition of ground water resources."[150] To accomplish this, the Indiana Department of Natural Resources ("DNR") has been given the power to issue permits and designate restricted use areas for the withdrawal of groundwater.[151] However, permits are only required for withdrawals that exceed 100,000 gallons or more a day.[152] Withdrawals that are less than 100,000 gallons a day go unregulated. Restricted use areas may be designated when the "withdrawal of ground waters exceeds or threatens to exceed natural replenishment."[153]

In addition to permits from DNR, Indiana Code section 14-24-4-9 authorizes the regulation of groundwater in emergencies.[154] A groundwater emergency may be declared under this section when there is not a normal supply of water from a well, when groundwater in the area is low, when a well fails, or when groundwater is lowered beyond normal seasonal levels and use of the water is substantially impaired.[155]

DNR permitting and emergency regulations are ineffective tools for water conservation because they are only applicable when water is scarce, so they do not promote planning or water conservation. Indiana needs conservation efforts from the beginning, not tools that work after there is already significant depletion of water. The permitting system administered by DNR is also an ineffective tool because it only requires permits for withdrawals over 100,000 gallons a day. Withdrawals that are under this amount, however many there are, may continue without regulation. The cumulative amount of withdrawals under this amount can account for a large portion of total groundwater withdrawals, yet go unregulated.

In 1980, Governor Otis R. Bowen commissioned an assessment of Indiana water resources via Executive Order 11-77.[156] The study phase of the report highlighted the availability, uses, and needs of water in Indiana on a statewide

148. *See* Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598 (Ind. 2011).

149. Smith, *supra* note 140.

150. IND. CODE § 14-25-3-3 (2011).

151. *Id.* § 14-25-3.

152. *Id.* § 14-25-3-7.

153. *Id.* § 14-25-3-4.

154. *Id.* § 14-24-4-9.

155. *Id.*

156. IND. DEP'T OF NAT. RES., THE INDIANA WATER RESOURCE: AVAILABILITY, USES, AND NEEDS XI (1980), *available at* http://www.in.gov/dnr/water/files/804_all.pdf [http://perma.cc/3MDH-GLHV].

and regional basis.[157] Phase two of the report used the study phase findings to make recommendations for the future.[158] The study phase noted that "[t]he role of Indiana's water resource is inextricably interwoven with the development and growth of the state."[159] This is consistent with recent concerns about water management in Indiana.[160] However, the study phase went on to indicate that:

> Despite [Indiana's] impressive record of growth in population, agriculture, industry, and transportation, and the accompanying increases in uses and demands for water, it must be remembered that the Indiana of 1979 has exactly the same land area and water resource that it had in 1816. With diverse and growing demands upon the same finite water resource, the question of how multiple uses and needs can best be accommodated with equity faces the people of Indiana today.[161]

The same question of multiple uses and needs faces the people of Indiana in 2015, as it did in 1980. Yet, the report aptly characterized water as a finite resource whose levels had not changed since Indiana's statehood.[162] This idea points to the need for conservation and careful management of the water resources Indiana does have.

Phase two made recommendations for Indiana's future water "with respect to withdrawal and instream uses of water, flooding, drainage, and administration."[163] With regard to the withdrawal of water, phase two calls for "the creation of a water rights and use management statute" that incorporates the following:[164]

- "[P]rinciples of natural laws and hydrology."[165]
- Water serves many needs including "human, social and economic uses and needs" and "that specific uses and needs may, from time to time."[166]
- "Short-term water resource availability is highly variable in both time and space as a result of natural factors, the overall long-term resource is adequate . . . given proper planning and management."[167]
- Water should be used "for beneficial purposes; that waste, non-

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157. *Id.*

158. *Id.*

159. *Id.* at 5.

160. *See generally Indiana Water Fact Sheet*, *supra* note 22.

161. THE INDIANA WATER RESOURCE: AVAILABILITY, USES, AND NEEDS, *supra* note 156, at 5.

162. *Id.*

163. IND. DEP'T OF NAT. RES., THE INDIANA WATER RESOURCE: RECOMMENDATIONS FOR THE FUTURE 63 (1980), *available at* http://www.in.gov/dnr/water/files/805_all.pdf [http://perma.cc/M47Y-QQL3].

164. *Id.*

165. *Id.*

166. *Id.*

167. *Id.*

> beneficial use and degradation of the resource be prevented" and many beneficial uses of water should be balanced and accommodated "including multi-purpose use where feasible."[168]
> - "An express declaration that the public policy of the State of Indiana is to manage, regulate, and control the water resource because: a) water is a natural and public resource; b) water plays an essential and pervasive role in the human, social, and economic well-being of the people of Indiana; and c) it is of vital importance to the general health, safety, and welfare of the people of Indiana."[169]
> - "The State of the Indiana does not forfeit any responsibility for water rights and the management and regulation of the water resource within the boundaries of the state."[170]
> - "Establish a state system of water use permits."[171]

The 1980 recommendations for the future of Indiana water would have created a responsible water use system for Indiana. However, the recommendations remained just recommendations and "the creation of a water rights and use management statute[s]" did not come to fruition.[172]

Pursuant to Indiana Code section 2-5-25-1, a Water Resources Study Committee was formed in 2012.[173] The committee was formed in response to Indiana's "worst drought in history" that occurred earlier that year and the recognition that "water is a limited resource."[174] In August and October 2013, the committee met to discuss Indiana's water resources.[175] The committee's goal was to be the "first step in developing a comprehensive water plan for the state."[176] During the August 2013 meeting minutes, the committee recognized that water is "a valuable commodity" and "a limited resource."[177] But the committee expressed water's value in relation to its ability to support infrastructure and job creation.[178] Conservation was not a priority.[179] Additionally, the committee found that in Indiana, groundwater irrigation systems are likely to increase as the state moves away from relying on rain-fed systems.[180]

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168. *Id.* at 64.

169. *Id.*

170. *Id.*

171. *Id.*

172. *Id.* at 63.

173. IND. CODE § 2-5-25-1 (2012), *repealed by* P.L.53-2014, SEC.33, eff. March 24, 2014.

174. LEGISLATIVE SERVS. AGENCY, WATER RESOURCES STUDY COMMITTEE 1 (Aug. 2013), *available at* http://www.in.gov/legislative/interim/committee/minutes/WRSCG8J.pdf [http://perma.cc/6BJT-GNQ8].

175. *Id.*

176. *Id.*

177. *Id.*

178. *Id.*

179. *Id.*

180. *Id.* at Ex. 3.

In the August meeting minutes, the committee urged Indiana to formulate a statewide water plan.[181] Indiana Governor Michael R. Pence called for better management of water resources to ensure "sufficient quantity of water for business, industry, recreation, and life."[182] The manner in which Governor Pence prioritizes water management interests (business, industry, recreation, life) is revealing because it sheds light on his motivations for a water plan, namely that business and industry interests come first. The majority of the August meeting focused on developing a water plan in Indiana for economic reasons, particularly the nexus between water and economic development.[183]

The next meeting in October 2013 again emphasized water's important role in economic development.[184] The meeting minutes note, "although there is no comprehensive water strategy for the state yet, the development of a plan could be a significant advantage for Indiana" because "companies make decisions based on . . .water resources."[185] This ignores the need to conserve water as weather patterns shift and demand increases, times when water becomes most scarce. Although Indiana may have adequate water *now*, conservation efforts will ensure that water is available later. The August and October reports call for a water plan that boosts Indiana's economy and makes it more attractive for businesses, yet pays no attention to conserving water.

The committee's Final Report summarized the August meeting, which focused on Indiana's water status and some factors impacting water, and the October meeting, which focused on the ways in which water impacts Indiana's economy.[186] The Final Report called for more data from utility companies in Indiana, more information from future Indiana Utility Regulatory Commission reports, and for greater agency coordination.[187] The Final Report also called for a joint task force to address essentially the same issues that the August and October meetings addressed.[188] The Final Report concludes that from the joint task force a comprehensive proposal should be created.[189]

The Indiana Water Resources Study Committee's meetings and report amount to general discussions about the state of water in Indiana. They do not delve into any effective solutions to a growing problem and do not address conservation. While the information from the Committee is important in framing

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181. *Id.* at Ex. 4.

182. *Id.* at 1.

183. *Id.* at Ex. 6.

184. LEGISLATIVE SERVS. AGENCY, WATER RESOURCES STUDY COMMITTEE 1-3 (Oct. 2013), *available at* http://www.in.gov/legislative/interim/committee/minutes/WRSCGAN.pdf [http://perma.cc/S3AJ-75KH].

185. *Id.* at 1.

186. LEGISLATIVE SERVS. AGENCY, WATER RESOURCES STUDY COMMITTEE 1 (Nov. 2013), *available at* http://www.in.gov/legislative/interim/committee/reports/WRSCGB1.pdf [http://perma.cc/MW6V-2QJF].

187. *Id.* at 5.

188. *Id.* at 1.

189. *Id.*

the issue, it is not enough. The report only represents a modest step towards creating a comprehensive statewide plan.

In August 2014, the Indiana Chamber of Commerce offered its own water report.[190] The report was produced to serve as a background for a statewide water plan.[191] The report began much like the committee's report, noting that the "State has an economic advantage right now with its water availability."[192] Unlike the committee's report, it addressed Indiana's abundant water resources in light of conservation and management.[193] It stated that "only with conservation and proper management, can the state's rivers, streams, lakes, and aquifers sustain current water needs."[194] The need for conservation and management is especially important in light of increasing water needs for economic growth and industrial development.[195] Additionally, the report noted that the demand for groundwater withdrawal is "[increasing] more rapidly surface water diversions."[196]

In Indiana, groundwater withdrawals are expected to increase as demand increases and precipitation patterns shift.[197] This reinforces the need for management and conservation tools for groundwater resources before they are abused. The report noted that conservation plans are a necessary management tool that should be included in a statewide plan.[198] In order for conservation to be effective, these efforts must also be implemented by water utilities in their daily operations.[199] The report indicated that conservation plans are "ideal for infrequent but expected dry periods that have occurred previously and will occur in the future," but not chronic shortages.[200]

The report also highlighted problems with the coordination of efforts that occurred among agencies in Indiana during the 2012 drought.[201] It noted, for example, that there are many agencies with some authority over water in Indiana and that each of them has a different guiding agency mission.[202] No single agency can effectively address water shortages independently.[203] The report noted that

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190. JACK WITTMAN, IND. CHAMBER, WATER AND ECONOMIC DEVELOPMENT IN INDIANA: MODERNIZING THE STATE'S APPROACH TO A CRITICAL RESOURCE 1 (Aug. 2014), *available at* http://www.indianachamber.com/media/WaterStudyReport2014LoRes.pdf [http://perma.cc/YUU3-YPUH].

191. *Id.*

192. *Id.* at VIII.

193. *Id.* at 1.

194. *Id.*

195. *Id.*

196. *Id.* at 2-3.

197. *Id.* at 3.

198. *Id.* at 5.

199. *Id.* 5-6.

200. *Id.* at 6 (explaining that Indiana does not have chronic shortages of water, making it an ideal candidate for a statewide plan that focuses on conservation).

201. *Id.* at 18.

202. *Id.* at 1.

203. *Id.*

many of the agencies have conflicting missions and that this has prevented them from working together to address the water shortage and propose solutions.[204]

Consistent with the report's purpose to serve as a background for a statewide water plan, it provided a list of common themes in state water planning.[205] The first theme is to allow for variation in the ways water is managed, such as how management differs in urban and rural areas.[206] The second theme for a statewide water plan is to secure funding so that efforts can be sustained long-term.[207] Third, the plan should promote cooperative management among all stakeholders.[208] Similarly, the fourth theme noted that a plan should pay attention to the "rural-urban divide" so that issues get proper attention based on locality.[209] The fifth theme addressed choosing a leader who will work among all the agencies and water interest groups to create a plan.[210] The last theme encouraged allowing regional planners to do much of the plan's work because water interests represent community values and priorities that vary by region.[211]

The Indiana Chamber of Commerce report noted that it is background to the water issue,[212] similar to the Water Resources Study Committee, but is distinguishable in a few ways. First, the report recognized the importance of conservation as a key element in a management plan.[213] Second, the report attempted to balance economic goals and growth with a conservation minded approach.[214] Third, it introduced common themes to be considered in statewide water planning efforts. [215] These themes are important when shaping Indiana's future water plan.

V. OTHER MIDWEST STATES' APPROACHES TO GROUNDWATER

Water management tools, such as the one that Avon used to conserve and protect its underground aquifer before the statute was retroactively amended, are missing in Indiana. Indiana recognizes the importance of water and the need for a statewide water management plan, yet the available tools are unsuitable for conservation efforts. This Part provides an overview of how other Midwest states provide for water management.

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204. *Id.*
205. *Id.* at 66.
206. *Id.* at 1.
207. *Id.*
208. *Id.*
209. *Id.*
210. *Id.*
211. *Id.* at 66-67.
212. *Id.* at 1.
213. *Id.*
214. *Id.*
215. *See id.* at 66-67 (The report highlights the following themes: "[a]llow for variation," "[e]nsure funding is secure," "[s]eek technical objectivity," "[m]ake sure everyone is on board," "[c]hoose a trusted and credible leader," and "[a]llow regional planners to do the work.").

A. Illinois

Under the Illinois Water Use Act ("Act"), conservation of water is a main priority.[216] It is the policy of the state, consistent with the public interest, to better manage and conserve water.[217] To meet this goal, the state can restrict groundwater withdrawals during emergencies and provide public notice for planned substantial water withdrawals.[218] The Act's purpose is to provide reviews of water conflicts before there is damage or injury.[219] Additionally, the Act provides rules for mitigating water shortage conflicts.[220] The Act resolves conflicts in three ways.[221] First, it provides that the county soil and water conservation districts should "receive notice of incoming substantial users of water."[222] Second, county soil and water conservation districts have the power to restrict groundwater withdrawals during times of emergency.[223] Third, the Act establishes that the "reasonable use" rule governs withdrawals of water.[224]

By establishing that the reasonable use rule should apply to groundwater withdrawals, the common law rule of absolute ownership of groundwater was abandoned.[225] Under the reasonable use rule, a riparian owner of water is permitted to the reasonable and beneficial use of water on his or her land so long as his or her use does not interfere with other riparian owners' use of the same water.[226]

The Act also provides that those who want to develop new high-capacity well withdrawals must notify their county soil and water conservation district before they begin construction.[227] After notification, the county soil and water conservation district will notify other users who will be affected by the new well's withdrawal and review the proposal for the withdrawal.[228] The Act also requires that those who are responsible for high-capacity wells must register the well with the state's inventory program and report water withdrawals.[229]

In addition to the Water Use Act of 1983, Illinois developed a water plan in 2010 for the northeastern portion of the state, entitled the "Northeastern Illinois

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216. 525 ILL. COMP. STAT §§ 45/1-7 (2013).

217. *Id.* § 45/2.

218. *Id.*

219. *Id.* § 45/3.

220. *Id.*

221. *Id.*

222. *Id.* § 45/3(a).

223. *Id.* § 45/3(b).

224. *Id.* § 45/3(c).

225. Bridgman v. Sanitary Dist., 517 N.E.2d 309, 314 (Ill. App. Ct. 1987).

226. J.P. Massie, *Subterranean and Percolating Waters; Springs; Wells*, 109 A.L.R. 395 (1937).

227. 525 ILL. COMP. STAT § 45/5 (2013).

228. *Id.*

229. *Id.*

Regional Water Supply/Demand Plan."[230] The plan was created to make recommendations within the existing water governance, not "make recommendations aimed at changing the existing governance."[231] The plan evolved from the recognition that water demands and the threat of drought are increasing and present "potential sources of conflict among water users," thus Illinois should be planning for and managing its water.[232] The plan highlighted adaptive management and sustainability as planning tools.[233] Adaptive management is "a natural resource management approach that formulates and implements policies as experiments."[234] Sustainable planning recognizes that "current patterns of growth and development are leading to biophysical impossibilities."[235]

In addition, the plan noted that "[t]he overarching strategy put forth in this first planning cycle is centered on water conservation; primarily, but not exclusively, water-demand management."[236] As part of the conservation goal, the plan called for efficiency programs, upgraded water systems to detect leaks, which would be monitored and repaired, upgraded metering technology, programs to limit the waste of water, establishing conservation programs, educating the public, and more.[237]

B. Ohio

In the Constitution of the State of Ohio, a property owner has "a property interest in the reasonable use of the ground water underlying the property owner's land."[238] However, this interest is "subservient to the public welfare."[239] Reasonableness is an important limit on the amount of ground water that may be withdrawn because it incorporates conservation of water.

In Ohio, the Director of Natural Resources, with authorization from the governor, is permitted to "enter into agreements for the sale of water from lands and waters under the administration or care of the department."[240] Ohio also requires permits for water withdrawals that are new or increased consumptive uses that exceed "an average of two million gallons of water per day in any thirty-

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230. *See* CHI. METRO. AGENCY FOR PLANNING, NORTHEASTERN ILLINOIS REGIONAL WATER SUPPLY/DEMAND PLAN (Mar. 2010), *available at* http://www.cmap.illinois.gov/documents/10180/14452/NE+IL+Regional+Water+Supply+Demand+Plan.pdf/26911cec-866e-4253-8d99-ef39c5653757 [http://perma.cc/ZY26-EECF].

231. *Id.* at IX.

232. *Id.* at 7.

233. *Id.* at 11.

234. *Id.* at 12.

235. *Id.* at 13.

236. *Id.* at 87.

237. *Id.* at 88-111.

238. OH. CONST. art. I, § 19b(C).

239. OH. CONST. art. I, § 19b(B).

240. OHIO REV. CODE § 1501.01(G) (2013).

day period."[241] Consumptive uses are "use[s] of water resources, other than a diversion, that results in a loss of that water to the basin form which is it withdrawn."[242] These permits will not be granted if the "withdrawal is inconsistent with regional or state water resources plans,"[243] the "withdrawal and consumptive uses do not reasonably promote the protection of the public health, safety, and welfare,"[244] or if "insufficient water is available for the withdrawal."[245]

C. Michigan

In Michigan, a water resources conservation advisory council was created in 2008 as part of its DNR to address water issues in the state.[246] Specifically, the council was created within the "aquifer protection" part of the chapter.[247] The council is tasked with making recommendations to the Michigan legislature,[248] conducting relevant testing and assessments,[249] "[making] recommendations on reconciling conflicts in state laws related to the use of waters of the state,"[250] "[making] recommendations on the development and implementation of the state's water conservation and efficiency program,"[251] and consulting "with academic institutions and other nonprofit organizations, [to] make recommendations regarding educational materials related to the use and availability of water resources."[252] In addition to these tasks, the council must submit a report to the Michigan legislature "that makes recommendations regarding how the water withdrawal assessment process . . . could be improved in order to more accurately assess adverse resource impacts."[253]

In 2013, Michigan passed a series of laws aimed at regulating groundwater.[254] One piece of the legislation allows owners of small wells to file complaints when their "well has failed to furnish the well's normal supply of water or the well has failed to furnish potable water" and believes that the cause is from a "high-capacity well."[255] The Michigan Director of the Department of Agriculture has been delegated the authority to "declare a groundwater dispute if an investigation of a complaint discloses" enough evidence and the director cannot resolve the

241. *Id.* § 1501.33(A).
242. *Id.* § 1501.30(A)(1).
243. *Id.* § 1501.34(A)(6).
244. *Id.* § 1501.34(A)(4).
245. *Id.* § 1501.34(A)(7).
246. MICH. COMP. LAWS § 324.32803(1) (2013).
247. *Id.* § 324.328.
248. *Id.* § 324.32803(4)(a).
249. *Id.* § 324.32803(4)(b).
250. *Id.* § 324.32803(4)(e).
251. *Id.* § 324.32803(4)(f).
252. *Id.* § 324.32803(4)(h).
253. *Id.* § 324.32803(4)(i).
254. *Id.* §§ 324.31701-324.31712.
255. *Id.* § 324.31702(1).

issue.[256] After a declaration, the director may "restrict the quantity of groundwater extracted from a high-capacity well."[257] However, before issuing a restriction, the director must "consider the impact the order will have on the viability of a business associated with the high-capacity well."[258] Another Michigan statute instructs the director to "develop conservation practices."[259] These practices are aimed at agriculture and rural development to increase assessments and management of groundwater and freshwater in terms of pollution control.[260] The director is also tasked with establishing "groundwater resource protection levels for all pesticides."[261] If "adverse impact[s] on groundwater" are confirmed, the director may "require a person to furnish any information that the person may have relating to the identification, nature, and quantity of pesticides and fertilizers that are or have been used . . . and may have impacted groundwater quality."[262] After such information is provided, the director then may "authorize persons to land-apply materials contaminated with pesticides or fertilizers at agronomic rates."[263]

D. Wisconsin

The Wisconsin legislature created a groundwater coordinating council in response to groundwater regulation lacking numerical standards and to minimize pollutants in groundwater.[264] The council's function is to "serve as a means of increasing the efficiency and facilitating the effective function of state agencies in activities related to groundwater management."[265] Within the chapter regarding groundwater protection standards, regulatory agencies in Wisconsin are required to "submit to the department a list of those substances which are related to facilities, activities, and practices within its authority to regulate and which are detected in or have a reasonable probability of entering the groundwater resources of the state."[266] Based on the list, agencies are then supposed to "conduct a literature search," "request . . . relevant data, information on the environmental fate of the substance and recommendations on measure which may be implemented to minimize the concentration of the substance in the groundwater."[267] In addition to these requirements, the Wisconsin DNR "shall

256. *Id.* § 324.31703(1).
257. *Id.* § 324.31705(2).
258. *Id.* § 324.31705(3).
259. *Id.* § 324.8707(1).
260. *See id.* § 324.8707.
261. MICH. COMP. LAWS § 324.8711(2) (1994).
262. MICH. COMP. LAWS § 324.8714(1) (2011).
263. *Id.* § 324.8714(2).
264. WIS. STAT. § 160.001 (2013).
265. *Id.* § 160.50.
266. *Id.* § 160.05(1).
267. *Id.* § 160.17.

develop and operate a system for monitoring and sampling groundwater."[268] The Wisconsin Department of Administration has been delegated authority to ensure that "funds for programs of groundwater survey and analysis" are allocated to the Wisconsin DNR.[269]

This review shows that Midwestern states are incorporating conservation within their management of groundwater resources.[270] Midwestern states are also using reasonableness to evaluate withdrawals of water.[271] Illinois, in particular, is managing its water with flexible approaches that can adapt with changes in demand and precipitation.[272] Midwestern states are recognizing the importance of maintaining the quantity and quality of groundwater.[273] They are limiting withdraws to reasonable amounts, which takes into account many factors and can be tailored to local concerns, and are also considering contamination and pollution that can occur to groundwater.[274]

VI. SUGGESTIONS FOR THE FUTURE OF INDIANA GROUNDWATER

There is a need for groundwater conservation tools in Indiana. Indiana Code section 36-9-1-10 provided such a tool, but after the *Avon* decision, the Indiana legislature took away an important tool for local governments to regulate their water supplies.[275]

The first suggestion for the future of Indiana groundwater is to amend the definition of a watercourse in Indiana Code section 36-9-1-10 to include groundwater. As Avon and the Indiana Supreme Court recognized, underground aquifers meet the definition of a watercourse.[276] This statute gave local governments the ability to regulate local water supplies for conservation purposes.

Second, the Indiana legislature should consider adopting principles from section 858 of the Restatement (Second) of Torts ("Restatement"), as Justice Hunter argues in the dissenting opinion of *Wiggins*.[277] Section 858 of the Restatement provides:

> (1) A proprietor of land or his grantee who withdraws ground water from the land and uses it for a beneficial purpose is not subject to liability for interference with the use of water by another, unless
> (a) the withdrawal of ground water unreasonably causes harm to a

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268. WIS. STAT. § 160.27 (2014).
269. WIS. STAT. § 16.968 (2013).
270. *See infra* Part V.A-D.
271. *See infra* Part V.A.
272. *See infra* Part V.A-D.
273. *Id*.
274. *Id*.
275. *See* IND. CODE § 36-9-1-10 (2011) (amended 2012).
276. *See* Avon v. W. Cent. Conservancy Dist., 957 N.E.2d 598, 607 (Ind. 2011).
277. Wiggins v. Brazil Coal & Clay Corp., 452 N.E.2d 958, 967-68 (Ind. 1983) (Hunter, J., dissenting).

> proprietor of neighboring land through lowering the water table or reducing artesian pressure,
> (b) the withdrawal of ground water exceeds the proprietor's reasonable share of the annual supply or total store of groundwater, or
> (c) the withdrawal of the ground water has a direct and substantial effect upon a watercourse or lake and unreasonably causes harm to a person entitled to the use of its water.[278]

The Restatement's principles would remove the malice qualification that the court in *Gagnon* imposed as a measure of liability for the withdrawal of water.[279] Instead, the withdrawal of groundwater would become a question of reasonableness.[280] Whether a withdrawal was reasonable would consider changing weather patterns and demand for water resulting in the promotion of water conservation.

The third suggestion for the future of Indiana groundwater is to refer back to and update its 1980 water resources assessment. Most importantly the assessment called for "the creation of water rights and use management statute[s]."[281] These statutes are still necessary for Indiana water and should incorporate conservation elements. Even in 1980, the statutes were to incorporate and evaluate that "short-term water resource availability is highly variable," but with "proper planning and management" the water resources in Indiana would be adequate in the long-term.[282] Conservation is an integral part of the proper planning and management to insure water supplies in Indiana are adequate long-term.

Further, the assessment urges Indiana to adopt a public policy with regard to water.[283] The policy would highlight water as a resource, the "essential and pervasive role" water has in the "human, social, and economic water needs of the people of Indiana," and its "vital importance to the general, health, safety, and welfare of the people of Indiana."[284] These policy ideas are still important and should be embraced by Indiana. Whereas, in 2013 Governor Pence's "roadmap" for water management sought to ensure "sufficient quantity of water for business, industry, recreation, life."[285] The uses for water are the same as 1980, but needs have increased. In a water management plan, it is essential to allocate water for all these uses, but the motivation for a plan should not be business and industry first. Water is essential for more than the economic potential of the state. It is also necessary for domestic uses, which ought not be overshadowed by potential economic gain from Indiana's water resources. Before making a water management plan, the Indiana legislature should ask itself why it is doing so.

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278. RESTATEMENT (SECOND) OF TORTS § 858 (1979).
279. Gagnon v. French Lick Spring Hotel Co., 72 N.E. 849, 851 (Ind. 1904).
280. *See Wiggins*, 452 N.E.2d at 967-68 (Hunter, J., dissenting).
281. THE INDIANA WATER RESOURCE: RECOMMENDATIONS FOR THE FUTURE, *supra* note 163.
282. *Id.*
283. *Id.* at 64.
284. *Id.*
285. WATER RESOURCES STUDY COMMITTEE (Aug. 2013), *supra* note 174, at Ex. 4.

As the Chamber of Commerce indicated in its background report to Indiana water, the 2012 drought brought attention to the numerous agencies that have an interest in water in Indiana.[286] The report noted that there was "no single agency that could identify appropriate solutions to the shortage [of water.]"[287] Greater coordination among Indiana agencies is critical to implementing a successful water management plan. Further, the report indicated that part of the issue among agencies was that "each have a different mission, and those different prevent any one of the existing institutions from addressing the larger problems faced by the many disparate users."[288] There is not an easy solution to this problem. Yet, later the report noted, "[a]ll the water user groups and agencies should have a role but planning requires a leader. The state needs one entity that has the responsibility to lead the process of producing a plan."[289] Finding a leader that can work among the different users of water and help balance competing interests will be important in producing an effective water management plan.

The fourth suggestion for the future of Indiana groundwater law is to use other Midwest states as an example. Indiana stands to benefit from incorporating some of their management tools. First, Indiana should follow the lead of the Illinois Water Use Act and establish conservation as a main goal and policy of a water management plan.[290] Additionally, the Illinois act establishes reasonable use as the doctrine governing withdrawals of water.[291] Indiana should also embrace the reasonable use doctrine and eliminate any malice element, as incorporated by the court in *Gagnon* and *Wiggins*.[292] Indiana should incorporate adaptive management and sustainability as tools within their water management plan, as the Northeastern Illinois Regional Supply/Demand Plan recommends.[293] These tools would enable the plan to be flexible as water supply, use, needs, and demands fluctuate.

A change to the Indiana Constitution to include reasonable use of groundwater for property owners would be significant, but the Ohio Constitution's inclusion of this is important for illustrating the type of protection that groundwater needs.[294] Like Michigan, Indiana would benefit from establishing a council to address water issues in the state.[295] It is important that the council takes their findings to the Indiana legislature so that the findings are in front of decision-makers who can implement those recommendations. Additionally, it is important to note that Michigan's council is tasked with

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286. WITTMAN, *supra* note 190, at 18.

287. *Id.* at 18.

288. *Id.*

289. *Id.* at 66.

290. 525 ILL. COMP. STAT §§ 45/1-7 (2013); *id.* § 45/2.

291. *Id.* § 45/3(c).

292. *See* Wiggins v. Brazil Coal and Clay Corp., 452 N.E.2d 958 (Ind. 1983); Gagnon v. French Lick Spring Hotel Co., 72 N.E. 849 (Ind. 1904).

293. CHI. METRO. AGENCY FOR PLANNING, *supra* note 230, at 11.

294. *See* OH. CONST. art. I, § 19b(C).

295. *See* MICH. COMP. LAWS § 324.32803(1) (2008).

educating the public about "the use and availability of water resources."[296] Education is an important tool that should be incorporated at all phrases of a water management plan. For residents of Indiana to care about groundwater resources, they must know about its importance. An educational program should emphasize why groundwater matters to Indiana residents and emphasize conserving it.[297]

Indiana's groundwater could also benefit from an agricultural approach, similar to the aim of Michigan. In particular, establishing levels for pesticides and having a director oversee the management of groundwater would be helpful to control pollution impacts from pesticides and fertilizers associated with farming. Lastly, using Wisconsin as an example, it is important that Indiana set up a system for monitoring and regulating groundwater.[298] It is important to protect water from a quantity perspective, but it must also be protected qualitatively from pollutants.

Overall Indiana needs to establish a strong foundation for groundwater protection through management and conservation plans focused on long-term water supply. These types of plans are essential to lessening the impact from droughts, changing precipitation patterns, and increased demands.[299] Case law and other Midwest states provide specific examples of how Indiana could provide for groundwater protection in addition to management and conservation plans.[300]

CONCLUSION

The *Avon* case is an example of a local government using an Indiana statute to regulate the groundwater within its city bounds. The retroactive amendment of that statute illustrates the Indiana legislature's misunderstanding about the importance of groundwater and having local control over those resources. In addition to local control, statewide or regional water management plans are also needed in Indiana.

Groundwater is an important natural resource that affects individuals, households, businesses, and industry.[301] However, without adequate legal

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296. *Id.* § 324.32803(4)(h).

297. The Indiana Geological Survey and the National Ground Water Association ("NGWA") encourage protecting groundwater through action. The NGWA hosts an entire week focused on groundwater awareness. The Indiana Geological Survey, in conjunction with the NGWA, promotes action on Protect Your Groundwater Day, including conservation tips. *See Protecting Groundwater Protects Public Health, the Environment*, IND. GEOLOGICAL SURV., http://igs.indiana.edu/groundwater/GroundWaterDay.cfm [http://perma.cc/Q3D3-A5UH] (last visited Mar. 10, 2015); *see also National Groundwater Awareness Week*, NAT'L GROUND WATER ASS'N, http://www.ngwa.org/events-education/awareness/pages/default.aspx [http://perma.cc/JEL5-W3RT] (last updated May 18, 2015).

298. WIS. STAT. § 160.05(1) (2013).

299. Neubert, *supra* note 15.

300. *See infra* Parts II-VI.

301. *Water Use Today*, *supra* note 27.

protection, this finite resource is threatened. The future supply of water in Indiana is affected by expected increases in population and changes in climate.[302] That is why conservation of groundwater in Indiana is important. Indiana does not suffer from a lack of water overall, but from a lack of water when it is most needed. So although Indiana may have adequate water *now*, a management plan that focuses on conservation efforts will ensure that water is available later.

302. Gurdak et al., *supra* note 18.