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**PROTECTING FRESHWATER RESOURCES IN THE ERA
OF GLOBAL WATER MARKETS: LESSONS LEARNED
FROM BOTTLED WATER**

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INTRODUCTION

Global water markets are now a reality. Whether water should be bought and sold, imported and exported, is a difficult and important question that raises issues ranging from human rights obligations and environmental ethics to economic liberalism and the role of corporations. It is also, for purposes of this article, totally moot. At some point in time in the recent past, most likely during my lifetime but before the turn of the twenty-first century, water went global. We do not yet know how great or terrible the implications of global water markets will be for freshwater resources and the people, communities, and environment they sustain. That is still in our hands and depends largely on how domestic laws manage and protect our freshwater resources in the era of global water markets.

The pressures on freshwater resources presented by global water markets are by no means distant or theoretical. Disputes have already arisen and are quickly growing in number, and because these disputes involve competing rights to the use of water, lawyers and lawmakers are at the frontlines. Water law is contentious and often implicates larger issues of social and economic change, such as industrialization,¹ urbanization,² and racial injustice.³ Thus, a dispute between property owners on a small stream and a bottled water company seeking to pump groundwater connected to that stream is just as much about

1. See, e.g., THEODORE STEINBERG, *NATURE INCORPORATED: INDUSTRIALIZATION AND THE WATERS OF NEW ENGLAND* (Cambridge Univ. Press 1991) (providing a historical analysis of the role of changing water management laws in early New England industrialization).

2. See, e.g., CYNTHIA BARNETT, *MIRAGE: FLORIDA AND THE VANISHING WATER OF THE EASTERN U.S.* 106-11 (The Univ. of Mich. Press 2007) (detailing legal fights over water rights in the Tampa Bay water wars in the context of urbanization in Florida).

3. See, e.g., HOLLY DOREMUS AND A. DAN TARLOCK, *WATER WAR IN THE KLAMATH BASIN* 59-61 (Island Press 2008) (discussing the recognition of reserved water rights for Native American tribes in the context of historical struggles for Native American justice).

commoditization and export of water as it is about stream flows and trout habitat.⁴

This article examines the challenges that global water markets present to the protection of freshwater resources under domestic law by looking at recent disputes over bottled water. Bottled water provides an ideal case study for several reasons. For Americans, bottled water is the most tangible and visible representation of water globalization. Your local grocery store may have for sale bottled water from every continent except Antarctica: Africa (for example, Karoo brand water from South Africa⁵), Asia (Himalayan Natural Spring brand water from Nepal⁶), the South Pacific (Antipodes brand water from New Zealand⁷), Europe (San Pellegrino brand water from Italy⁸), North America (Ice Age brand water from Canada⁹), and South America (Peteroa 9500 brand water from Chile¹⁰).

Thus, while scholars and commentators debate at what point water becomes a “good” subject to international trade laws, bottled water clearly crosses the line.¹¹ It is generally agreed that water in its natural state is not considered a good, but at some point in its extraction, use, and incorporation into a product, it becomes a good for purposes of trade law.¹² It is beyond the scope of this article to determine when exactly water becomes a good for purposes of international trade law, and such a discussion is not necessary here because bottled water lies at the far end of the spectrum. Water in its natural state may be a public resource, but water packed for sale in a bottle and sitting on the store shelf is obviously a good (taking such bottle out of your local grocery

4. See Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc., 709 N.W.2d 174 (Mich. Ct. App. 2005), *portions rev'd on other grounds*, 737 N.W.2d 447 (Mich. 2007) (resolving dispute over competing water rights between Dead Stream riparians and bottled water company seeking to pump groundwater connected to the Dead Stream); DAVE DEMPSEY, GREAT LAKES FOR SALE 29-36 (The Univ. of Mich. Press 2008) (Water Conservation v. Nestlé Waters N. Am. Inc., as a battle against corporate control and export of local water resources).

5. Fine Waters: Bottled Water of the World: South Africa, *available at* http://www.finewaters.com/Bottled_Water/South_Africa/Index.asp (last visited Dec. 1, 2009).

6. Fine Waters: Bottled Water of the World: Nepal, *available at* http://www.finewaters.com/Bottled_Water/Nepal/Index.asp (last visited Dec. 1, 2009).

7. Fine Waters: Bottled Water of the World: New Zealand, *available at* http://www.finewaters.com/Bottled_Water/New_Zealand/Index.asp (last visited Dec. 1, 2009).

8. Fine Waters: Bottled Water of the World: Italy, *available at* http://www.finewaters.com/Bottled_Water/Italy/Index.asp (last visited Dec. 1, 2009).

9. Fine Waters: Bottled Water of the World: Canada, *available at* http://www.finewaters.com/Bottled_Water/Canada/Index.asp (last visited Dec. 1, 2009).

10. Fine Waters: Bottled Water of the World: Chile, *available at* http://www.finewaters.com/Bottled_Water/Chile/Index.asp (last visited Dec. 1, 2009).

11. See Scott S. Slater, *State Water Resource Administration in the Free Trade Agreement Era: As Strong As Ever*, 53 WAYNE L. REV. 649, 650-52 (2007).

12. See Marcia Valiante, *Harmonization of Great Lakes Water Management in the Shadow of NAFTA*, 81 U. DET. MERCY L. REV. 525, 534 (2004).

store without paying for it is a clear illustration of this point).

Despite the many choices of imported waters, most of the shelf space for bottled water is occupied by domestic brands.¹³ There is production of bottled water throughout the United States, and some production sites have become the setting for high profile legal battles. From California to Maine, the pumping and bottling of water has led to litigation and new legislation. These legal disputes provide useful case studies of how domestic water laws respond to the new pressures of water bottling. When viewed systematically, the case studies of bottled water disputes provide valuable insights on the evolution of water law in the era of global water markets.

Opposition to bottled water pumping is almost always based on two general sets of concerns. The first concern relates to the impact of water extraction to fill the billions of bottles Americans purchase every year. Opponents are concerned that the high capacity water pumping, usually from groundwater that is critically important to relatively small connected springs, will reduce stream flows or otherwise harm the natural ecosystem and riparian interests. While water bottling has almost no impact on the total national freshwater supply,¹⁴ the majority of bottled water comes from groundwater which has a direct hydrologic connection to springs and other vulnerable surface waters. Thus, even relatively small water withdrawals for bottled water can produce significant impacts at the local scale on other water users and the environment.

This is essentially a traditional resource impact concern in which one user of the water resource is allegedly harming other users and the natural functioning of the resource itself. As discussed in Part III, water law is evolving to address these concerns. States have in place and will continue to develop standards to determine how much water use is acceptable given impacts on other users and the environment. With a few notable exceptions,¹⁵ the law tends to allow some water use and resulting impacts, declining to give absolute rights to use unlimited quantities of water, or total bans on all water use and harm to the environment.¹⁶ This is equally true for both litigation under the traditional common law system of water rights,¹⁷ and legislation that

13. See Beverages Marketing Corporation 2006 Statistics, available at <http://www.bottledwater.org/public/2006%20Market%20Report%20Findings%20as%20reported%20in%20April%202007.pdf> (last visited Dec. 1, 2009) [hereinafter *2006 Statistics*]. Of the 8.253 billion gallons of bottled water consumed by Americans in 2006, only 164.4 million gallons (just under 2%) were imported. *Id.*

14. See KEITH ESHLEMAN, BOTTLED WATER PRODUCTION IN THE UNITED STATES: HOW MUCH GROUNDWATER IS ACTUALLY BEING USED? 4 (Drinking Water Research Foundation) (2007). Groundwater withdrawals for bottled water production represent well less than one-tenth of one percent (less than 0.02%) of the total groundwater withdrawals in the United States (not including the water required to make the plastic bottles). *Id.*

15. See *infra* Part III.A.3 and note 283.

16. See, e.g., Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc., 709 N.W.2d 174, 206 (Mich. Ct. App. 2005).

17. See *infra* Part III.A.1 and note 159.

brings modern proactive regulation to water use permitting.¹⁸ As a result, both water bottlers and the parties concerned about the impacts of the water withdrawal can often find some satisfaction in the law.

The second concern that underlies bottled water disputes is far less suited to legal relief. Some opponents object to the very nature of the use – that is, taking water from the ground or a river to sell it in a bottle.¹⁹ This concern is more social than environmental; it is based on a view that water is a public good and human right that should not be commoditized and sold for profit.²⁰ For opponents holding this view, reducing the quantity of the water withdrawal to some level that minimizes impacts on other water users and the environment fails to solve the fundamental problem of water commoditization. These opponents object to the extraction and sale of water for profit under any circumstances.

Not surprisingly, the legal system provides little guidance and satisfaction to parties ultimately concerned with the ideological issue of selling water for profit. Opponents that raise this concern often point to the public trust doctrine to support their claim that water cannot be sold for profit.²¹ However, no court has ever applied the public trust doctrine to bar the sale of water for profit. The public trust doctrine, discussed further in Part IV, historically protected public interests in navigation of surface waters.²² While some courts chose to expand the public trust doctrine to require consideration of the public's interest in environmental protection,²³ no court has yet held that taking water (even navigable surface water traditionally subject to the public trust doctrine²⁴) and selling it in bottles violates the doctrine itself. Opponents concerned with commoditization have not found any other legal basis to prevent the bottling and sale of water on those grounds. Thus, for the social concern regarding the pumping of water for sale and profit, the law has provided no satisfaction.²⁵ This is not intended to imply that the law must change to address this concern; rather, opponents may need to change their expectations of what water law can and cannot do to address ideological issues regarding freshwater

18. See *infra* Part III.B.1–2 and note 292.

19. See DEMPSEY, *supra* note 4, at 47–48.

20. See *id.* at 48.

21. See *id.* at 26.

22. See *infra* Part IV.A and note 395.

23. See *Nat'l Audubon Soc'y v. Sup. Ct.*, 658 P.2d 709, 712 (Cal. 1983).

24. Most bottled water withdrawals involve groundwater, which in many states is not covered by the public trust doctrine. Felicity Barringer, *Bottling Plant Pushes Groundwater to Center Stage in Vermont*, N.Y. TIMES, Aug. 20, 2008, available at <http://www.nytimes.com/2008/08/21/us/21water.html> (last visited Dec. 1, 2009).

25. See *Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc.*, 709 N.W.2d 174, 205 (Mich. Ct. App. 2005) (“The provision of [bottled] water to the general public is also an economically and socially beneficial use of the water.”); see also *In re Town of Nottingham*, 904 A.2d 582, 596 (N.H. 2006) (holding that pumping ground water to meet “a strong existing public demand for bottled drinking water in the United States” was permissible).

resources in the era of globalized trade.²⁶

In Part I, this article first provides some historical background on bottled water. Bottled water has been around a long time, both globally and in the United States, and a brief look at the history of the industry gives context to its recent growth and globalization. The article then provides an overview of the current bottled water industry. Water bottling is big business and getting bigger, growing by about 10% annually over the past five years.²⁷ The recent growth has given rise to significant opposition and controversies. In addition to the concerns relating to the impact of the water withdrawals and the commoditization of water explained briefly above, the growth of the bottled water industry has caused concerns regarding the quality of bottled water, the waste and pollution associated with manufacturing, shipping, and disposing of plastic water bottles, and the lack of investment in public water supplies.

Part II of this article examines the treatment of bottled water under international trade law and federal regulatory law. Bottled water disputes and controversies, and the resulting judicial decisions and legislative solutions, are generally the domain of state law. However, international trade law and federal food and drug regulatory law have created the ground rules for the bottled water industry.²⁸ To best understand the challenges that bottled water presents under state law and consequential legal solutions, it is important to first examine the actions international trade law and federal regulatory law have taken to shape the bottled water market.

Part III first looks at how courts have developed, reformed, and applied various common law systems of water rights in disputes involving bottled water. With apologies to Clint Eastwood,²⁹ this article categorizes the results as the good, the not-so-bad, and the ugly. Similarly, Part III also examines the state statutes and other regulatory efforts intended to address the pressure of water bottling and sale. As with the common law court decisions, these public laws are also evaluated and categorized as the good, the not-so-bad, and the (sometimes really) ugly.

Finally, in Part IV the article looks at lessons learned from bottled water disputes and the legal system's response. The case studies in Part III offer hard-learned lessons in how (and how not) to protect freshwater resources in the era of globalization and water markets. Part

26. Some commentators have expressed optimism that the law may eventually come to reflect cultural norms concerned with bottled water and water privatization. "[A]t present it seems unlikely that courts would find extracting water for the purpose of bottling as *per se* unreasonable. . . . However, if the anti-bottled water culture continues to gain force, it is both possible and plausible that at some point in the future bottled water will no longer be considered a reasonable use of a scarce resource." Christine A. Klein and Ling-Yee Huang, *Cultural Norms as a Source of Law: The Example of Bottled Water*, 30 *CARDOZO L. Rev.* 507, 539-40 (2008).

27. *2006 Statistics*, *supra* note 13.

28. See PETER H. GLEICK, *THE WORLD'S WATER, THE BIENNIAL REPORT ON FRESHWATER RESOURCES: 2004-2005* 26-27 (Island Press 2004).

29. *THE GOOD, THE BAD AND THE UGLY* (MGM 1966) (starring Clint Eastwood).

IV also includes a brief discussion of the public trust doctrine and its suitability for meeting the challenge of bottled water disputes. While bottled water opponents offer the public trust doctrine as a solution to the perceived threat of commoditization, it is not the silver bullet hoped for by opponents or feared by the bottled water industry.

Bottled water offers a compelling contemporary issue through which to examine the diversity and evolution of state water law. Bottled water is a readily available and widely purchased product. The passionate opposition it produces for a diverse range of environmental and social reasons matches its popularity with consumers.³⁰ Further, bottled water is the most mature example of a growing global water market. By looking at the recent disputes and resulting legal reforms involving bottled water, we can better anticipate future controversies and design modern water laws to meet the challenge of globalization.

I. THE BOTTLED WATER MARKET AND CONTROVERSY

People have been bottling water since they had bottles. But this old industry has had a uniquely twenty-first century rebirth, as the combination of cheap packaging, consumer demand for convenient and healthy beverages, and globalized transportation and distribution have created a market for a wide range of bottled water products. Bottled water sales in the United States have already surpassed ten billion dollars annually, and the industry continues to grow.³¹ The industry's growth and consumers' demand have given rise to significant opposition, both locally where water is bottled, and globally as an environmental and social justice issue. This part looks at the history of bottled water, the current state of the bottled water business, and the opposition to the modern bottled water industry.

A. A BRIEF HISTORY OF BOTTLED WATER

While it seems simple enough to credit (or blame) bottled water's recent popularity on "clever marketing," the industry also has a foundation in a history of "deeply ingrained, cultural reverence for pure water."³² Bottled water has been around a long time, and not just as small mom-and-pop operations. Bottled water in America predates the country's independence, with records of water bottled and sold from Jackson's Spa in Boston in 1767.³³ The bottled water industry took off in the beginning of the nineteenth century when new glass technologies made the cost of a bottle affordable and practical for mass production and consumption.³⁴ By 1856, Saratoga Springs, alone, produced over 7

30. See Klein and Huang, *supra* note 26, at 507.

31. 2006 *Statistics*, *supra* note 13.

32. FRANCIS H. CHAPPELLE, *WELLSPRINGS: A NATURAL HISTORY OF BOTTLED SPRING WATERS* 17 (Rutgers University Press 2005) ("[I]t is the history of human society, and the natural history of particular waters, that explains the allure of bottled water.").

33. *Id.* at 73.

34. *Id.*

million bottles of water annually, one of the most popular early bottled water sources, and selling for up to \$1.75 per pint.³⁵

Much like today, the popularity of bottled water is largely due to health concerns.³⁶ Consumers in the mid-1800s believed that bottled spring water had health benefits that bordered on the medicinal.³⁷ But also, like today, the historical popularity of bottled water was further due to an associated image and status.³⁸ Then, as now, “[p]eople like their water to be clean and stylish, preferably both.”³⁹ Historically, consumers even perceived bottled water from springs as having mythical and spiritual significance.⁴⁰ In a preview of the modern debate over ownership of precious water resources, the owner of the land surrounding Healing Springs in South Carolina was so convinced that the water was a gift from God that he gave it back to the Almighty in his will, so that the recorded deed still lists “God Almighty” as the owner of the property.⁴¹

Bottled water went out of style and need in the early twentieth century when the advent of chlorination in municipal drinking water supplies made public water consistently healthy and safe to drink.⁴² But the allure of health and image fueled a bottled water comeback in 1977, when Perrier launched a \$5 million marketing campaign in the United States for its imported water.⁴³ Perrier’s marketing and timing were perfect as it took advantage of “concerns about pollution and poor-quality tap water, and it caught the yuppies just as they were beginning to flex their consumer muscles.”⁴⁴ In short, Perrier “was all the things the yuppies wanted in a lifestyle-defining product.”⁴⁵ After Perrier’s success, a new market arose that led directly to the current growth and bottled water industry we see today.

B. THE BUSINESS OF BOTTLED WATER

Bottled water is big business. According to the Beverage Marketing Corporation, bottled water became the second largest commercial beverage category by volume in the United States in 2003, second only to carbonated soft drinks.⁴⁶ Americans buy more bottled water than beer, milk, or juice.⁴⁷ In 2006, Americans consumed 8.25 billion gallons

35. *Id.* at 59.

36. *See* Klein and Huang, *supra* note 26, at 514.

37. *See* CHAPELLE, *supra* note 32, at 73.

38. *Id.* at 14, 73; *see also* Klein and Huang, *supra* note 26, at 517–18.

39. CHAPELLE, *supra* note 32, at 18.

40. *See id.* at 21, 23–25.

41. *Id.* at 21.

42. *See id.* at 3, 15–16. Chlorinating drinking water is credited with saving more human lives than any other health technology. *Id.* at 182.

43. *Id.* at 16.

44. *Id.* at 16–17.

45. *Id.* at 17.

46. *2006 Statistics*, *supra* note 13.

47. Janet Larson, *Bottled Water Boycotts: Back-to-the-Tap Movement Gains Momentum*, EARTH POLICY INSTITUTE (2007), available at http://www.earth-policy.org/index.php?/plan_b_updates/2007/update68 (last visited Dec. 1, 2009).

of bottled water, nearly 10% more than the previous year.⁴⁸ This total consumption equates to an average of 27.6 gallons of bottled water per person per year.⁴⁹ In 2007, experts expected the total consumption of bottled water to increase another 10% and exceed 9 billion gallons.⁵⁰ This is typical for the industry. Between 2001 and 2006, bottled water consumption has almost doubled, averaging nearly 10% annual growth.⁵¹

The tremendous growth in consumption correlates with similar growth in bottled water producer revenues. In 2005, bottled water sales in the United States surpassed ten billion dollars.⁵² With revenues increasing by nearly 10% annually over the past two years, experts expected the 2007 sales of bottled water to approach twelve billion dollars.⁵³ Just one example of the size and value of the bottled water industry is that Whole Foods, the nation's leading organic upscale food retailer, sells more bottled water than any other item.⁵⁴

The vast majority (over 95% between 2005 and 2007) of bottled water consumed in the United States is domestically produced non-sparkling water.⁵⁵ The largest producer of bottled water in the United States is Nestlé Waters North America, with a 2008 market share of 35% of the bottled water sales.⁵⁶ Nestlé Waters North America focuses on "spring water" (defined and discussed in Part II, *infra*), and markets its bottled water under different brand names by region. Its leading brands are "Poland Spring" (Northeast), "Arrowhead" (West), "Deer Park" (Mid-Atlantic), "Ice Mountain" (Midwest), "Ozarka" (Texas), and "Zephyrhills" (Florida), as well as the national brand, "Nestlé Pure Life."⁵⁷ The other leading bottled water companies are the Coca-Cola Company, which sells the brand name "Dasani" and distributes "Evian,"

48. 2006 Statistics, *supra* note 13.

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.* The Beverage Marketing Corporation projected 2007 sales of bottled water to be \$11.905 billion. *Id.*

54. Charles Fishman, *Message in a Bottle*, FAST COMPANY.COM, Dec. 2007, available at <http://www.fastcompany.com/magazine/117/features-message-in-a-bottle.html> (last visited Dec. 1, 2009).

55. See 2006 Statistics, *supra* note 13. In 2005, Americans consumed 7,171.4 millions of gallons of domestic, non-sparkling water and 7,539.1 millions of gallons of total bottled water (including imported products and sparkling water). In 2006, the quantities were 7,899.9 millions of gallons and 8,253.6 millions of gallons, respectively. In 2007, the projected quantities were 8,7000.0 millions of gallons and 9,075.0 millions of gallons, respectively. *Id.*

56. Nestlé Waters North America: Performance, available at <http://www.nestle-watersna.com/Menu/AboutUs/Performance.htm> (last visited Dec. 1, 2009). In 2007, Nestlé Waters North America had bottled water sales of \$4.26 billion in the U.S. *Id.*

57. Nestlé Waters North America: U.S. Brand Portfolio, available at <http://www.nestle-watersna.com/Menu/AboutUs/Heritage/U.S.+Brand+Portfolio.htm> (last visited Dec. 1, 2009).

and PepsiCo, Inc., which sells the brand name "Aquafina."⁵⁸ Both Coca-Cola's Dasani and Pepsi's Aquafina are purified municipal water from many sources around the country.⁵⁹

C. OPPOSITION TO BOTTLED WATER

As the bottled water industry has grown, so has the size and passion of its opposition. A diverse range of concerns motivates opponents of bottled water: from the wasted plastic in the packaging to the comparative quality of bottled versus tap water. Most of the litigation and legislation resulting from bottled water disputes involves the impacts of water bottlers' groundwater and spring water extraction on other water users and dependent natural resources. To understand these impacts, it is important to first explain the applicable source and scale of bottled water withdrawals.

Manufacturers obtain water from one of two major sources. Less than half (44% in 2006⁶⁰) of bottled water in the United States comes from municipal water supply (examples include Coca-Cola's Dasani brand and Pepsi's Aquafina brand).⁶¹ Bottling municipal water almost never raises environmental concerns regarding the water withdrawal, since the water bottling is often using surplus municipal withdrawal and distribution capacity. While some critics charge that Coke and Pepsi are simply selling "tap water," such criticism ignores the fact that Coke and Pepsi use extensive filtering, treatment, and mineral processes to convert tap water into a product that consumers may prefer.⁶² Further, using municipal supply insulates these water bottlers from most controversies and resulting legal actions concerning the environmental impact of groundwater and spring water extraction for water bottling.⁶³ Thus, bottled water from municipal supply rarely gives rise to legal disputes.

In contrast, legal controversies often surround the majority of bottled water that manufacturers sell under the "spring water" label.⁶⁴ This water comes from groundwater connected to springs (the leading

58. CNNhealth.com, *Aquafina Labels to Spell out Source - Tap Water*, available at <http://www.cnn.com/2007/HEALTH/07/27/pepsico.aquafina.reut/> (last visited Dec. 1, 2009); *Company News; Coke to Handle Sales of Evian Water in North America*, N.Y. TIMES, Apr. 26, 2002, at C4.

59. CNNhealth.com, *supra* note 58.

60. ELIZABETH ROYTE, *BOTTLEMANIA: HOW WATER WENT ON SALE AND WHY WE BOUGHT IT* 38 (Bloomsbury USA 2008).

61. *Id.*

62. *Id.* at 38, 157-58.

63. Municipal water regulations force municipal water producers to meet environmental standards that are more stringent than those that must be met by spring or groundwater bottlers. For example, municipal water must meet the requirements of the Safe Drinking Water Act, 42 U.S.C. § 300f (1974) (amended by Pub. L. No. 104-182, 110 Stat. 1613 (1996)), whereas ground and spring water bottlers need not, 21 U.S.C. § 349 (1996).

64. The FDA's labeling requirements for "spring water" can be found under 21 C.F.R. § 165.110(a)(2)(vi).

examples are the Nestlé regional brands noted above).⁶⁵ As discussed below, the federal Food and Drug Administration allows water bottlers to collect “spring water” from drilled boreholes that tap groundwater connected to the spring water.⁶⁶ Although this may seem deceptive to the consumer, since the spring water originates from the ground (what most people would then consider “groundwater”), there are good health and safety reasons to allow the practice. Open springs subject the water to environmental contamination (both natural and human), while groundwater is better (but not perfectly) protected from environmental contamination.⁶⁷ For this reason, some state health departments actually require water bottlers to use boreholes to collect water from underground rather than taking spring water once it reaches the surface.⁶⁸

On a macro-national scale, water bottling from springs and connected groundwater is an insignificant amount of overall water extraction. Groundwater withdrawals for bottled water production represent far less than one-tenth of one percent (less than 0.1%) of the total groundwater withdrawals in the United States.⁶⁹ As detailed above, total annual bottled water production approached ten billion gallons in 2007 (not all of which came from groundwater).⁷⁰ The United States Geological Survey estimates that total annual groundwater withdrawals in the United States in 2000 were 30.8 trillion gallons.⁷¹ Of this total, agricultural use of groundwater for irrigation comprises over 67% (20,769 billion gallons) of the total groundwater withdrawals.⁷² Of course, water bottling results in a very high consumption of the water withdrawn, with essentially no water returning to the ground. However, agricultural irrigation also consumes high amounts, with estimates ranging from 70% to 90%,⁷³ so the resulting impact on total groundwater supplies is still tremendously disproportionate.

While water bottling has essentially no impact on the total national supply of groundwater, it can have significant impacts on local groundwater supplies. Groundwater extraction may affect the quantity

65. Beverages, Bottled Water, 21 C.F.R. § 165.110(a)(2)(vi) (2003); see Nestlé Waters North America, *supra* note 57.

66. 21 C.F.R. § 165.110(a)(2)(vi) (2003).

67. See CHAPPELLE, *supra* note 32, at 125.

68. *Id.*

69. ESHELMAN, *supra* note 14, at 4.

70. 2006 *Statistics*, *supra* note 13.

71. UNITED STATES GEOLOGICAL SURVEY, ESTIMATED USE OF WATER IN THE UNITED STATES IN 2000 Table 4 (2000), available at <http://pubs.usgs.gov/circ/2004/circ1268/htdocs/table04.html> (last visited Dec. 1, 2009) [hereinafter *USGS*].

72. *Id.*

73. See GREAT LAKES COMMISSION, TOWARD A WATER RESOURCES MANAGEMENT DECISION SUPPORT SYSTEM FOR THE GREAT LAKES-ST. LAWRENCE RIVER BASIN 60 (2003), available at <http://www.glc.org/wateruse/wrmdss/finalreport/pdf/WR-Ch.3-2003.pdf> (last visited Dec. 1, 2009).

and quality of the groundwater aquifer.⁷⁴ Significant groundwater pumping can cause a temporary or permanent lowering of the water table, increased concentration of contaminants, and in some regions salt water intrusion into the aquifer.⁷⁵ This affects other groundwater users whose wells go dry or stop producing potable water.⁷⁶

Moreover, there is often a hydrologic connection between groundwater and fresh surface waters such as rivers, streams, and lakes (and groundwater that is bottled and sold as “spring water” is by definition hydrologically connected to natural springs, as discussed in Part II.B, *infra*).⁷⁷ Pumping groundwater can take water from these surface water systems. A recent report commissioned by the Michigan Legislature in the wake of the Nestlé bottled water litigation⁷⁸ succinctly described the basic hydrology system in that state:

Over time, the dominant source of water to a well, particularly a well completed in an unconfined aquifer, changes to streams. This water may either be decreased groundwater discharge to the stream or increased recharge to the groundwater system from the stream. In either case, streamflow reduction occurs and is often referred to as streamflow capture. In the long term, the cumulative streamflow capture from a groundwater system can approach the total amount of water being pumped from that system.⁷⁹

Thus, groundwater pumping can directly impact surface water users, both consumptive water users and people who use the surface water for recreation and aesthetics. Further, when there is a hydrologic connection between groundwater and surface water, a wide range of natural resources, including fisheries, wetlands, and aquatic invertebrates, often rely on the groundwater input to the surface water for their existence and health.⁸⁰ The Michigan legislature commissioned a report that determined that “about 80 percent of the annual streamflow in [Michigan’s] Lower Peninsula results from groundwater discharge.”⁸¹ Further, “[m]any lakes and wetlands do not have streams flowing into them, and groundwater, therefore, is the only inflow

74. Oswald Zachariah & Kimberly Rollins, *Optimal Economic Management of Groundwater Quantity and Quality: An Integrated Approach* 3 (1999) (unpublished manuscript, available at <http://ageconsearch.umn.edu/bitstream/21501/1/sp99za01.pdf> (last visited Dec. 1, 2009)).

75. Jack Tuholske, *Trusting the Public Trust: Application of the Public Trust Doctrine to Groundwater Resources*, 9 Vt. J. ENVTL. L. 189, 201–02 (2007).

76. See generally ROBERT GLENNON, *WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS* 32 (Island Press 2002).

77. See *infra* Part II.B. See also Tuholske, *supra* note 75 at 202.

78. See discussion of Nestlé litigation *infra* Part III.A.1.

79. GROUNDWATER CONSERVATION ADVISORY COUNCIL, FINAL REPORT TO THE MICHIGAN LEGISLATURE IN RESPONSE TO PUBLIC ACT 148 OF 2003 24 (2006), available at <http://www.deq.state.mi.us/documents/deq-gwcac-legislature.pdf> (last visited Dec. 1, 2009) [hereinafter *Michigan Report*].

80. See Tuholske, *supra* note 75 at 202.

81. *Michigan Report*, *supra* note 79, at 15–16.

besides precipitation on the surface of the lake or wetland.”⁸² The report concluded that “[m]ost aquatic ecosystems in Michigan are dependent upon the discharge of groundwater into surface water.”⁸³ While the report was specific to Michigan, the hydrological principles and potential impacts regarding groundwater pumping (for bottled water or any other use) are widely applicable.⁸⁴

The impact of bottled water’s groundwater pumping on other water users and dependent natural resources is the primary focus of legal disputes over bottled water and the various legislative reforms intended to respond to the growing industry. However, these concerns may not be the primary motivation of bottled water opponents, but rather the legal hook for litigation and regulatory reforms. Thus, it is important to recognize and discuss other legitimate environmental and public health concerns raised by opponents with the bottled water industry. While these concerns are almost never the focus of legal disputes or new legislation, they demonstrate the diverse and deep opposition to bottled water nationwide, and help explain the motivation for legal action against water bottlers.

The most tangible environmental impacts from the bottled water industry relate to the plastic bottles themselves. The pollution and waste resulting from the manufacturing, shipping, and disposal of plastic water bottles has received tremendous public attention and even some symbolic policy actions at the municipal level.

The environmental impact of consumers purchasing plastic bottles is significant regardless of the presence of the water. The pollution and waste resulting from the manufacturing, shipping, and disposal of plastic water bottles strikes many people as simply wasteful. Most water bottles derive from the crude-oil-based plastic, polyethylene terephthalate (“PET”).⁸⁵ The Earth Policy Institute estimates that the manufacture of water bottles for United States consumption requires more than 17 million barrels of oil annually.⁸⁶

Manufacturing is only the first step in an energy intensive process of distributing water in plastic water bottles. The Earth Policy Institute noted that “[i]n contrast to tap water, which is distributed through an energy-efficient infrastructure, transporting bottled water long distances involves burning massive quantities of fossil fuels.”⁸⁷ Then,

82. *Id.* at 16.

83. *Id.* at 17.

84. For further discussion on the impacts of bottled water withdrawals on springs, groundwater, and connected water resources in Florida, *see generally* Kelly Samek, *Unknown Quantity: The Bottled Water Industry and Florida’s Springs*, 19 J. LAND USE & ENVT. L. 569 (2004); Tara Boldt-Van Rooy, *“Bottling Up” Our Natural Resources: The Fight Over Bottled Water Extraction in the United States*, 18 J. LAND USE & ENVT. L. 267 (2003).

85. Emily Arnold & Janet Larsen, *Bottled Water: Pouring Resources Down the Drain*, EARTH POLICY INSTITUTE, (2006), available at <http://www.earth-policy.org/Updates/2006/Update51.htm> (last visited Dec. 1, 2009).

86. *Id.*

87. *Id.*

after drinking the bottled water, the drinker generally throws out the bottle. While PET plastic can be recycled (and the bottled water industry strongly encourages recycling⁸⁸), 86% of plastic water bottles used in the United States become garbage or litter.⁸⁹

As a result of the plastic bottles and long distance transport, bottled water uses up to 2,000 times as much energy to produce and distribute as tap water, according to Dr. Peter Gleick of the Pacific Institute.⁹⁰ The annual consumption of bottled water in the United States in 2007 required the equivalent of between 32 and 54 million barrels of oil.⁹¹ Most of this energy goes into producing the plastic bottles and then to shipping the water from source to consumer (sometimes thousands of miles away).⁹²

The environmental concerns regarding the manufacturing, shipping, and disposal of plastic water bottles motivated the United States Conference of Mayors to recently pass a resolution to study the environmental impact of bottled water.⁹³ The Conference of Mayors resolution noted:

[B]ottled water must travel many miles from the source, resulting in the burning of massive amounts of fossil fuels, releasing CO₂ and other pollution into the atmosphere . . . plastic water bottles are one of the fastest growing sources of municipal waste; and . . . in the U.S. the plastic bottles produced for water require 1.5 million barrels of oil per year, enough to generate electricity for 250,000 homes or fuel 100,000 cars for a year.⁹⁴

While the bottled water industry does not seem to dispute the statistics regarding the pollution and waste impacts relating to the manufacturing, shipping, and disposal of plastic water bottles, it may not be fair to compare these impacts to tap water. In a recent article on the subject, the CEO of Whole Foods Market argued that water bottles are simply substituting for other plastic beverage bottles in the marketplace: "It's unfair to say bottled water is causing extra plastic in

88. See International Bottled Water Association Recycling Resource Guide, available at http://www.bottledwater.org/public/05_IBWA_Recycle_Guide_1.pdf (last visited Dec. 1, 2009).

89. Arnold & Larson, *supra* note 85. Not all plastic water bottles become "landfilled" – some become cellular phones. Motorola released a mobile phone – the MOTO W233 Renew – with a plastic housing made entirely from recycled water bottles. See *Press Releases, Motorola Reveals World's First Mobile Phone Made From Recycled Water Bottles and New 3G Touch Tablet with Customizable Home Screen*, <http://mediacenter.motorola.com/Content/detail.aspx?NewsAreaID=2&ReleaseID=10464> (last visited Dec. 1, 2009).

90. Peter H. Gleick and Heather S. Cooley, *Energy Implications of Bottled Water*, 4 ENVTL. RESEARCH LETTERS 6 (2009), available at <http://stacks.iop.org/ERL/4/014009> (last visited Dec. 1, 2009).

91. *Id.*

92. *Id.*

93. USCM 2007 Adopted Resolutions, Importance of Municipal Water, available at http://usmayors.org/resolutions/75th_conference/environment_02.asp (last visited Dec. 1, 2009).

94. *Id.*

landfills, and it's using energy transporting it . . . There's a substitution effect—it's substituting for juices and Coke and Pepsi."⁹⁵

The substitution argument notwithstanding, the waste associated with bottled water seems to have caught the public's attention. A recent New York Times article quoted a San Francisco citizen as saying that "fellow Bay Area residents act as if 'you just killed their puppy' if you dare throw a bottle in the garbage."⁹⁶ Yet despite the attention, people still buy bottled water. While many consumers probably do not consider the environmental impacts of energy and waste, a Seattle citizen admitted in the same New York Times article that she still buys bottled water as a "guilty pleasure."⁹⁷

Several public interest organizations have also raised concerns about the health and safety of bottled water, both in comparison to municipal tap water and in contrast to the industry's marketing image of pure water products.⁹⁸ While the public often perceives bottled water as being of higher quality than tap water, at least one prominent environmental organization has directly attacked this perception. In 1999, the Natural Resources Defense Council ("NRDC") issued a report entitled "Bottled Water: Pure Drink or Pure Hype?"⁹⁹ In the report, NRDC warned the public that "[n]o one should assume that just because he or she purchases water in a bottle that it is necessarily any better regulated, purer, or safer than most tap water."¹⁰⁰ NRDC performed "'snapshot' testing of more than 1,000 bottles of 103 brands of water by three independent labs [and] found that most bottled water tested was of good quality, but some brands' quality was spotty."¹⁰¹

Not surprisingly, the bottled water industry disputes NRDC's findings and conclusions. An analysis of the NRDC report by the Drinking Water Research Foundation concludes:

Throughout all of their analysis, NRDC found not one instance of contamination that would raise a legitimate health concern. Indeed, the survey could find only four results where federal health standards were exceeded. Closer inspection reveals that the two results charged by the NRDC Report to exceed total coliform standards, were in fact quite likely false positives because they could not be replicated in subsequent tests as required by federal standards. The other two exceedances were for a fluoride standard so narrow, and with such limited application, as to be irrelevant to public health. In fact, the levels found in the bottled water are below the EPA health-based

95. See Fishman, *supra* note 54 (quoting John Mackey, CEO of Whole Foods Market).

96. Alex Williams, *Water, Water Everywhere, but Guilt by the Bottleful*, N.Y. TIMES, Aug. 12, 2007.

97. *Id.*

98. See NATURAL RESOURCES DEFENSE COUNCIL, BOTTLE WATER: PURE DRINK OR PURE HYPE? (1999), available at <http://www.nrdc.org/water/drinking/bw/bwinx.asp> (last visited Dec. 1, 2009).

99. *Id.*

100. *Id.*, at Executive Summary, available at <http://www.nrdc.org/water/drinking/bw/exesum.asp>.

101. *Id.*

fluoride standard for public water systems.¹⁰²

It is noteworthy that NRDC subsequently determined that many municipal water supplies also have exceedances of drinking water standards.¹⁰³ For purposes of this analysis, it is fair to conclude that concerns remain regarding drinking water quality standards (from both bottles and tap),¹⁰⁴ and environmental groups such as NRDC should advocate stronger standards and more enforcement to protect public health from all drinking water sources.¹⁰⁵

All of these environmental and public health concerns – the impact of water withdrawals on other users and the ecosystem, the waste and pollution of plastic bottles, and the inconsistent quality and safety of bottled water – are fairly conventional environmental and public health regulatory problems. These concerns are similar to those of any other extractive and consumer product industry, and our public regulatory system is well equipped to address these issues. That does not mean that all parties would be satisfied by the regulatory decisions and enforcement, but there is a legal system and administrative and political process to balance the competing concerns of the industry and public. Significant portions of this article will discuss in detail how state governments and courts have sought to better regulate water withdrawals and resolve bottled water disputes, primarily focusing on the impacts of the water use rather than that of the plastic bottles or the health and safety of the product. However, a discussion of the concerns regarding bottled water would be misleadingly incomplete without acknowledging what is often the primary and fundamental basis for opposition: the perceived privatization and commoditization of water through the bottling and sale of water.

Water privatization and commoditization is a complex and contentious issue that often motivates bottled water opposition even when the legal issues litigated relate to other concerns. The Sierra Club's Water Commodification and Corporate Privatization of Municipal Water/Sewer Services Policy articulates the fundamental concern, stating that "[w]ater is a public resource, not a commodity," and a basic right for all people.¹⁰⁶ The bottling and sale of water is a clear example

102. DRINKING WATER RESEARCH FOUNDATION, ANALYSIS OF THE FEBRUARY, 1999 NATURAL RESOURCES DEFENSE COUNCIL REPORT ON BOTTLED WATER (1999), available at <http://www.thefactsaboutwater.org/research-studies-publications/water-quality> (follow link to publication) (last visited Dec. 1, 2009).

103. See generally ERIK OLSON, NATURAL RESOURCES DEFENSE COUNCIL, WHAT'S ON TAP? GRADING DRINKING WATER IN U.S. CITIES 99, 114, 198 (2003), available at <http://www.nrdc.org/water/drinking/uscities/pdf/whatsontap.pdf> (last visited Dec. 1, 2009).

104. See ROYTE, *supra* note 60, at 143-44 (noting that exceedances of drinking water standards from municipal supplies are better disclosed to the public than exceedances from bottled water supplies).

105. See NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 98, at Ch. 1.

106. SIERRA CLUB CONSERVATION POLICIES, WATER COMMODIFICATION AND CORPORATE PRIVATIZATION OF MUNICIPAL WATER/SEWER SERVICES (2003), available at <http://www.sierraclub.org/policy/conservation/commodification.asp> (last visited Dec. 1, 2009).

of water privatization and commodification, with other examples including private control of water distribution systems and schemes for the bulk export and trade of water at a global scale.¹⁰⁷ It may not be fair to characterize these concerns as “environmental,” since on a more fundamental level they emanate from issues of social justice, human rights, and public governance. Nonetheless, the concerns are often at the heart of environmental opposition.¹⁰⁸

According to author and environmental activist Dave Dempsey, allowing bottled water is a “big step” towards the “transformation of water from the public commons to private ownership.”¹⁰⁹ The result, according to Dempsey, is that allowing bottled water “essentially conced[es] that water is a commodity.”¹¹⁰ In Dempsey’s view, the growth in bottled water’s popularity is a direct result of the “notion that something public is inherently bad and something private is inherently good. For this, in the United States, we have 30 years of conservative attacks on government’s competence and legitimacy and a cult of privatization to thank.”¹¹¹ Dempsey concludes that allowing bottled water will directly result in the “commercialization” of the Great Lakes and other public water.¹¹²

Dempsey’s slippery slope arguments reflect the fears and concerns shared by many, and his arguments resonate with policy-makers.¹¹³ The argument often motivates legal opposition to bottled water withdrawals, even though the resulting cases are decided on more

107. See, e.g., Public Citizen, *Water Privatization Overview*, available at <http://www.citizen.org/cmep/Water/general/> (last visited Dec. 1, 2009).

108. Apparently not all “environmentalists” share the concerns of the Sierra Club, Natural Resources Defense Council, and other prominent organizations. Perhaps the two most prominent leaders of the modern environmental movement, former Vice-President and Nobel Peace Prize winner Al Gore and author, activist, and attorney Robert Kennedy Jr. are public consumers and supporters of bottled water. Gore requested bottled spring water (“a regional brand, ‘not Evian’”) throughout his “An Inconvenient Truth” tour. ROYTE, *supra* note 60, at 150. Kennedy founded “Keeper Springs,” a small Vermont-based bottled water company, which, in Robin Hood style, sends all after-tax profits to the nonprofit advocacy group Waterkeeper Alliance. *Id.* at 162.

109. DEMPSEY, *supra* note 4, at 48.

110. *Id.* at 46.

111. *Id.* at 53–54.

112. *Id.* at 99.

113. While author Dempsey is the leading expert for articulating these concerns in detail, the rap artist Mos Def makes the same point more succinctly and entertainingly in “New World Water”:

[T]il your crew use the H2 in wise amounts since
it’s the New World Water; and every drop counts
You can laugh and take it as a joke if you wanna
But it don’t rain for four weeks some summers
And it’s about to get real wild in the half
You be buying Evian just to take a fuckin bath.

MOS DEF, *New World Water*, on *BLACK ON BOTH SIDES* (Priority Records 1999), available at <http://www.lyricsdepot.com/mos-def/new-world-water.html> (last visited Dec. 1, 2009).

traditional water law and environmental law doctrines.¹¹⁴ This leads bottled water opponents to pursue some counterproductive and ultimately ineffective policy goals, such as expansion of the public trust doctrine (discussed in Part IV *infra*).¹¹⁵ Further, even when bottled water opponents prevail in litigation or in a legislative forum by enacting new regulations, the resulting legal reforms do not address the opponents' fundamental concerns.¹¹⁶ As discussed in more detail in the following sections, the real challenge with bottled water opposition is using the opponents' underlying concerns as motivation to create meaningful and effective freshwater laws and policies that go beyond fearful protectionism and reactionism, and towards proactive protection that incorporates current values and science. Case studies of such efforts at the state level are the focus of Part III of this article, but first it is important to provide a brief overview of the ground rules for bottled water from international and federal law.

II. THE GROUND RULES: INTERNATIONAL AND FEDERAL LAW

Bottled water withdrawals are generally subject to state water use laws, and disputes over bottled water are ordinarily resolved pursuant to state law. However, international trade law and federal food law have framed the ground rules for the global bottled water industry. The North American Free Trade Agreement¹¹⁷ ("NAFTA") and the General Agreement on Tariffs and Trade¹¹⁸ ("GATT") generally prohibit restrictions on exports of products or goods (including bottled water) to other countries, subject to limited exceptions. At the federal level, the Food and Drug Administration ("FDA") regulates bottled water for drinking water quality and labeling accuracy,¹¹⁹ with the unintended effect of creating increased market pressure for "spring water" pumped from some of the most vulnerable water resources. Taken together, international trade law and federal food law create a market in bottled water with a premium on "spring water" that both limits and challenges traditional state water law.

A. INTERNATIONAL TRADE LAW AND BOTTLED WATER

International trade law facilitates the global market in bottled water while restricting the ability of states to limit the sale and export of bottled water products. Under NAFTA and GATT, states may not enact "prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or

114. DEMPSEY, *supra* note 4, at 30-33 (referring to Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc., 709 N.W.2d 174 (Mich. Ct. App. 2005), *infra* Part III.A.1).

115. See *e.g.*, Tuholske, *supra* note 75, at 235-36.

116. See *generally* DEMPSEY, *supra* note 4, at 45-46.

117. North American Free Trade Agreement, Can.-Mex.-U.S., Dec. 17, 1992, 32 I.L.M. 289 (1993) [hereinafter *NAFTA*].

118. General Agreement on Tariffs and Trade, Oct. 30, 1947, 55 U.N.T.S. 194 [hereinafter *GATT*].

119. Boldt-Van Rooy, *supra* note 84, at 275-76.

other measures . . . on the exportation or sale for export of any product destined for the territory of any other [state].”¹²⁰ The threshold question is to what extent water is a “good” or “product” subject to NAFTA and GATT. NAFTA defines “goods” as “domestic products as these are understood in the General Agreement on Tariffs and Trade or such goods as the Parties may agree.”¹²¹ GATT does not define a “product,” leaving the question of whether the term applies to water subject to interpretation and debate.¹²² This is an important question, but for purposes of this article, it will not be addressed in further detail.

The extent to which GATT and NAFTA restrict the export and sale of *bulk* water is still hotly debated,¹²³ but it is widely agreed that they apply to *bottled* water as a good.¹²⁴ There is a clear distinction under international trade law between water in its natural state (which is not a good) and bottled water as a product (which is a good), with bulk water occupying a place somewhere in between.¹²⁵ In 1993, the federal governments of Canada, the United States and Mexico clarified this distinction in a joint statement that responded to concerns over the applicability of NAFTA to water:

Unless water, in any form, has entered into commerce and become a good or product, it is not covered by the provisions of any trade agreement, including the NAFTA . . . Water in its natural state in lakes, rivers, reservoirs, aquifers, waterbasins and the like is not a good or product, is not traded, and therefore is not and never has been subject to the terms of any trade agreement.¹²⁶

Although this statement does not bind NAFTA parties or the World Trade Organization, it provides a clear distinction between water in its natural state, which states can protect without running afoul of NAFTA (and likely GATT), and bottled water, which as a product in commerce cannot be banned or restricted unless allowed under a NAFTA or GATT exemption.

The International Convention on the Harmonized Commodity Description and Coding System (“HS Code”) adopted by GATT parties, which uses an international coding system to describe goods for tariff purposes, provides additional evidence that bottled water is a good.¹²⁷

120. GATT, *supra* note 118, art. XI; *see* NAFTA, *supra* note 117, art. 309.

121. NAFTA, *supra* note 117, art. 201.

122. DAVID JOHANSEN, WATER EXPORTS AND THE NAFTA (1999), *available at* <http://dsp-psd.pwgsc.gc.ca/Collection-R/LoPBdP/EB/prb995-e.htm> (last visited Dec. 1, 2009).

123. Marcia Valiante, *supra* note 12, at 534 (“In the continuum between resource and commodity, water at some point becomes subject to trade obligations, but there is still ambiguity as to when this occurs.”); *see also* A. Dan Tarlock, *The Strange Career of the Dormant Commerce Clause and International Trade Law in the Great Lakes Anti-diversion Regime*, 2006 MICH. ST. L. REV. 1375, 1393–94 (2006).

124. *See* Slater, *supra* note 11, at 651–52.

125. *Id.* at 659.

126. JOHANSEN, *supra* note 122.

127. ANWARUL HODA, TARIFF NEGOTIATIONS AND RENEGOTIATIONS UNDER THE GATT AND THE

The HS Code includes product descriptions for water, defined as “waters, including natural or artificial waters and aerated waters, not containing added sugar or other sweetening matter nor flavouring; ice and snow.”¹²⁸

Considering bottled water as good for purposes of international trade law does not end the debate over regulating bottled water, but it does frame and limit the approaches states can take in restricting bottled water exports. Both NAFTA and GATT allow states to implement measures “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.”¹²⁹ Such measures may not be “applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination” nor be “a disguised restriction on international trade.”¹³⁰ Thus, states may regulate and restrict bottled water to the extent necessary to conserve their water resources. This limitation is not an obstacle to sound state water policy and bottled water regulation. Rather, the limitations that international trade law imposes simply force states to focus on protecting water resources when regulating bottled water. Thinly disguised protectionism and outright discrimination against the use of water for bottled water would violate NAFTA and GATT.¹³¹ More fundamentally, such an approach would not serve a state’s interest in managing and protecting water resources. The task for states is to use the concern over bottled water exports to enact non-discriminatory water use regulations focused on the protection of natural resources.

B. FEDERAL REGULATION OF BOTTLED WATER AS A FOOD PRODUCT

Generally, the federal government does not regulate water withdrawal or water use from surface waters or groundwater for any purpose, including bottling water. Water law is primarily state-based law, as discussed in the next part. However, because the FDA considers bottled water a food product under the Federal Food, Drug and Cosmetic Act, the FDA regulates the drinking water quality and labeling accuracy of bottled water.¹³² The United States Environmental Protection Agency (EPA), pursuant to the Safe Drinking Water Act, regulates the quality of other drinking water supplies, including

WTO: PROCEDURES AND PRACTICES 270 (Cambridge University Press 2001) (explaining that the Harmonized Commodity Description and Coding System (HS) of tariff nomenclature is developed and maintained by the World Customs Organization Customs Co-operation Council).

128. JOHANSEN, *supra* note 122.

129. GATT, *supra* note 118, art. XX(g); NAFTA, *supra* note 117, art. 2101 (incorporating GATT Article XX(g) and stating that it applies to measures relating to the conservation of living and non-living exhaustible natural resources).

130. GATT, *supra* note 118, art. XX; NAFTA, *supra* note 117, art. 2101.

131. GATT, *supra* note 118, art. XX; NAFTA, *supra* note 117, art. 2101.

132. Food and Drug Admin., *FDA Regulates the Safety of Bottled Water Beverages Including Flavored Water and Nutrient Water Beverages*, available at <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm046894.htm> (last visited Dec. 1, 2009); *see also* 21 U.S.C. § 321(f) (2006).

municipal tap water.¹³³ While bottled water is not subject to the EPA's regulations under the Safe Drinking Water Act, the FDA must ensure that bottled water quality standards are "at least as stringent as those issued by the EPA for municipal tap water."¹³⁴ Further, whenever the EPA revises its drinking water standards, the FDA must set a similar level for bottled water or report why it is not doing so in the Federal Register.¹³⁵

In addition to its water quality protection regulations, the FDA regulates "identity" labeling of bottled water.¹³⁶ The identity regulations describe the different types of bottled water by source and treatment process. In addition to simply labeling a product as "bottled water" or "drinking water," producers obtaining water from certain sources or meeting specified treatment standards can use numerous other labels, including "artesian well water," "ground water," "mineral water," "purified water," "distilled water," "sparkling bottled water," "sterilized water," and "well water."¹³⁷ Further, bottled water must bear the label "from a community water system" or "from a municipal source" unless the bottled water has met certain treatment standards.¹³⁸

The labeling requirements for "spring water," the identity consumers seem to prefer, are particularly important because of their effect on the impact of water withdrawals and the severity of bottled water disputes. The FDA regulations provide:

The name of water derived from an underground formation from which water flows naturally to the surface of the earth may be "spring water." Spring water shall be collected only at the spring or through a bore hole tapping the underground formation feeding the spring. There shall be a natural force causing the water to flow to the surface through a natural orifice. The location of the spring shall be identified. Spring water collected with the use of an external force shall be from the same underground stratum as the spring, as shown by a measurable hydraulic connection using a hydrogeologically valid method between the bore hole and the natural spring, and shall have all the physical properties, before treatment, and be of the same composition and quality, as the water that flows naturally to the surface of the earth. If spring water is collected with the use of an external force, water must continue to flow naturally to the surface of the earth through the spring's natural orifice. Plants shall demonstrate, on request, to appropriate regulatory officials, using a hydrogeologically valid method, that an appropriate hydraulic connection exists between the natural orifice of the spring and the bore hole.¹³⁹

133. 42 U.S.C. § 300f *et seq.* (1974), amended by Pub. L. No. 104-182, 110 Stat. 1613 (1996).

134. Boldt-Van Rooy, *supra* note 84, at 275.

135. 21 U.S.C. § 349(b)(3)(A) (2006).

136. Bottled Water, 21 C.F.R. § 165.110(a) (2009).

137. *Id.* § 165.110(a)(2).

138. *Id.* § 165.110(a)(3)(ii).

139. *Id.* § 165.110(a)(2)(vi).

Thus, in order to produce bottled water with the consumer-desired label of “spring water,” the FDA requires bottled water producers to draw water either directly from a spring or from groundwater that has a direct hydrological connection to a surface spring.¹⁴⁰ This regulation has had the unintended consequence of placing tremendous demand and pressure on springs, which are typically some of the most fragile and vulnerable water resources. As examined in detail in the next part, the new and increased pressure bottled water production creates for vulnerable springs is often the focal point of litigated disputes and new, state level regulatory and environmental protection efforts.

III. ON THE GROUND: STATE LAW

Water law is state law. The diverse approaches to the allocation and protection of freshwater resources among the states provide numerous examples of how state law should (and should not) respond to the threat of water marketing in the era of globalization. Because most controversial bottled water operations involve the withdrawal of groundwater, state groundwater law becomes the focus of many disputes and reform efforts. Sometimes the reform occurs incrementally and responsively through litigation involving common law water rights. With the growth in public law for water management, most states now also have statutes that address water withdrawals and water rights, often with detailed regulations implemented and enforced by state administrative agencies. This Part first examines case studies of litigated disputes, and then explores case studies of legislative and political responses to bottled water controversies.

A. BOTTLED WATER IN THE COURTS: THE GOOD, THE NOT SO BAD, AND THE UGLY

The diversity of state laws applicable to water resource management has given rise to a broad range of issues and outcomes in bottled water litigation. Many disputes focus on common law groundwater doctrines. State groundwater law can be characterized into five general approaches to groundwater allocation and dispute resolution:¹⁴¹ (1) the rule of capture, also referred to as “absolute dominion” over waters;¹⁴² (2) the “American” reasonable use

140. *Id.*

141. Please note that state statutes have modified and, in some cases, significantly altered the common law rules addressed herein. *See Reno Smelting v. Stevenson*, 21 P. 317, 320 (Nev. 1889).

142. Connecticut – *Roath v. Driscoll*, 20 Conn. 533, 538 (1850); Delaware – *MacArtor v. Graylyn Crest III Swim Club, Inc.*, 187 A.2d 417, 419 (Del. Ch. 1963); Indiana – *Wiggins v. Brazil Coal & Clay Corp.*, 452 N.E.2d 958, 964 (Ind. 1983); Iowa – *Hougan v. Milwaukee & St. Paul Ry. Co.*, 35 Iowa 558, 558 (1872); Kansas – *State ex rel. Peterson v. Kan. State Bd. of Agric.*, 149 P.2d 604, 606 (Kan. 1944); Kentucky – *Nourse v. Andrews*, 255 S.W. 84, 86 (Ky. 1923); Louisiana – *Adams v. Grigsby*, 152 So. 2d 619, 623 (La. App. 1963); Maine – *Maddocks v. Giles*, 728 A.2d 150, 153 (Me. 1999); Massachusetts – *Gamer v. Milton*, 195 N.E.2d 65, 67 (1964); Mississippi – *Clarke County v. Miss. Lumber Co.*, 31 So. 905, 906 (Miss. 1902); Montana – *Ryan v. Quinlan*, 124 P. 512, 516 (Mont. 1912); Texas – *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 75 (Tex. 1999); Utah – *Crescent*

doctrine;¹⁴³ (3) the correlative rights doctrine;¹⁴⁴ (4) the doctrine of prior appropriation;¹⁴⁵ and (5) the *Restatement (Second) of Torts* doctrine.¹⁴⁶ As discussed below in the case studies from Michigan and Texas, these doctrines vary considerably in how well they address the new demands and pressures on groundwater resources that result from water bottling. Further, common law water rights are not the only, or even primary, legal issue in some bottled water cases. Opponents often look to enforce state environmental and administrative law to delay or prevent bottled water operations. Recent case studies from California and New Hampshire illustrate that this approach sometimes results in more comprehensive decision-making, but fails to address the real concerns in the dispute.¹⁴⁷

1. The Good: Michigan crafts a balanced approach to competing groundwater and surface water rights

While most states have long established some version of common law correlative rights for competing groundwater uses, bottled water disputes often involve groundwater withdrawals that impact surface

Mining Co. v. Silver King Mining Co., 54 P. 244, 245–46 (Utah 1898); Vermont - Chatfield v. Wilson, 28 Vt. 49, 50 (1885); Virginia - C & W Coal Corp. v. Slayer, 104 S.E.2d 50, 54 (1958).

143. Alabama - Martin v. City of Linden, 667 So.2d 732, 737 (Ala. 1995); Arizona - Bristol v. Cheatham, 255 P.2d 173, 178–79 (Ariz. 1953); Arkansas - Lingo v. Jacksonville, 522 S.W.2d 403, 404–05 (Ark. 1975); Georgia - Stoner v. Patten, 63 S.E. 897, 898 (Ga. 1909); Illinois - Bridgman v. Sanitary Dist. of Decatur, 517 N.E.2d 309, 312 (4th Dist. 1987); Maryland - Finley v. Teeter Stone Inc., 248 A.2d 106, 113 (Md. 1968); Missouri - Higday v. Nickolaus, 469 S.W.2d 859, 867 (Mo. App. 1971); Nebraska - Prather v. Eisenmann, 261 N.W.2d 766, 769 (Neb. 1978); New Hampshire - Bassett v. Salisbury Mfg. Co., 43 N.H. 569, 569 (1862); New York - Smith v. City of Brooklyn, 18 A.D. 340, 349–50 (N.Y.1897); North Carolina - Bayer v. Nello L. Teer Co., 124 S.E.2d 552, 558 (N.C. 1963); North Carolina - Rouse v. Kinston, 123 S.E. 482, 490 (N.C. 1924); North Dakota - Volkmann v. Crosby, 120 N.W.2d 18, 23–24 (N.D. 1963); Oklahoma - Canada v. Shawnee, 64 P.2d 694, 699 (Okla. 1963). Oregon - Bull v. Siegrist, 126 P.2d 832, 834 (Ore. 1942); Pennsylvania - Rothrauff v. Sinking Spring Water Co., 14 A.2d 87, 90 (Pa. 1940); Tennessee - Nashville, C. & S. L. Ry. v. Rickert, 89 S.W.2d 889, 896 (Tenn. Ct. App. 1936); West Virginia - Pence v. Carney, 52 S.E. 702, 706 (W. Va. 1905).

144. California - Katz v. Walkinshaw, 141 Cal. 116, 121 (1903); Florida - Cason v. Florida Power Co., 76 So. 535, 535 (Fla. 1917); Hawaii - City Mill Co. v. Honolulu Sewer & Water Comm'n, 30 Haw. 912, 914 (1929); Minnesota - Erickson v. Crookston Waterworks, Power & Light Co., 111 N.W. 391, 394 (Minn. 1907); New Jersey - Meeker v. E. Orange, 74 A. 379, 385 (N.J. 1909); Washington - Patrick v. Smith, 134 P. 1076, 1079 (Wash. 1913).

145. Colorado - Bruening v. Dorr, 47 P. 290, 298 (Colo. 1896); Idaho - Bower v. Moorman, 147 P. 496, 487 (Idaho 1915); Nevada - *In re* Manse Spring & Its Tributaries, 108 P.2d 311, 314 (Nev. 1940); New Mexico - Yeo v. Tweedy, 286 P. 970, 977 (N.M. 1929); South Dakota - Deadwood C. R. Co. v. Barker, 86 N.W. 619, 621 (S.D. 1901); Wyoming - Bining v. Miller, 102 P.2d 54, 59 (Wyo. 1940).

146. See Maerz v. U.S. Steel Corp., 323 N.W.2d 524, 530 (Mich. Ct. App. 1982); Cline v. Am. Aggregates Corp., 474 N.E.2d 324, 327 (Ohio 1984); State v. Michels Pipeline Constr., Inc., 217 N.W.2d 339, 350 (Wis. 1974).

147. See Long v. Great Spring Waters of Am., Inc., No. E030817, 2002 WL 31813096, at *1 (Cal. Ct. App. Dec. 16, 2002); *In re* Town of Nottingham, 904 A.2d 582, 588 (N.H. 2006).

waters. This gives state courts the opportunity to modernize the application of their groundwater laws to incorporate the hydrologic reality that groundwater and surface water are often connected. The leading example of a state court incorporating modern hydrological evidence with the common law doctrines to resolve a bottled water dispute comes from Michigan.¹⁴⁸ In *Michigan Citizens for Water Conservation v. Nestlé Waters North America, Inc.* (“Nestlé”), the Michigan Court of Appeals applied the state’s groundwater common law doctrine to address harm to connected surface waters, and reached a decision that provided for compromise between the disputing parties.¹⁴⁹

The dispute in the case originated from Nestlé Waters North America’s (“Nestlé”) planned groundwater withdrawals in Mecosta County, Michigan. Nestlé, the defendant, sought to pump approximately 400 gallons per minute (“gpm”), 576,000 gallons per day, of groundwater from four wells located on a site called Sanctuary Springs.¹⁵⁰ Nestlé selected the Sanctuary Springs location because the groundwater would meet the Food and Drug Administration’s requirements to be marketed as “spring water” pursuant to Food and Drugs, 21 C.F.R. § 165.110(a)(2)(vi) (2006) (discussed previously).¹⁵¹ Nestlé also obtained a water quality permit from the Michigan Department of Environmental Quality.¹⁵²

Located to the north of the areas in dispute, the groundwater from Sanctuary Springs contributes to the water found in the Dead Stream, as well as the waters of man-made Osprey Lake, which the dammed waters of the Dead Stream created.¹⁵³ The Dead Stream flows southeast to feed into Lake Mecosta, as well as other nearby water bodies.¹⁵⁴ Nestlé planned to send the groundwater from Sanctuary Springs via pipeline to its “Ice Mountain” bottled water production facility located twelve miles away.¹⁵⁵ However, even before construction was complete on the bottling facility, Michigan Citizens for Water Conservation (“MCWC”) filed suit to enjoin Nestlé from extracting the groundwater.¹⁵⁶

The nonprofit corporation MCWC formed to represent the interests of the riparian property owners located in the vicinity of the proposed wells.¹⁵⁷ In challenging Nestlé’s groundwater pumping, MCWC raised three principal legal issues. First, plaintiffs alleged that Nestlé’s groundwater pumping would diminish hydrologically connected surface waters (including the Dead Stream), thereby violating plaintiffs’ riparian

148. See *Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc.*, 709 N.W.2d 174, 207 (Mich. Ct. App. 2005).

149. *Id.* at 201-02, 208-09; *portions rev’d on other grounds*, 737 N.W.2d 447 at 463 (Mich. 2007).

150. *Nestlé*, 709 N.W.2d at 184.

151. *Id.* at 184 n.4; see also *supra* Part II.B.

152. *Nestlé*, 709 N.W.2d at 184.

153. *Id.*

154. *Id.*

155. *Id.* at 185 & n.7.

156. *Id.* at 185.

157. *Id.* at 184.

rights in the recreational use and enjoyment of such surface waters.¹⁵⁸ Second, plaintiffs claimed that Nestlé's groundwater use was per se unreasonable because it was off-tract and would cause harm.¹⁵⁹ Finally, plaintiffs argued that Nestlé's bottling and selling of groundwater outside of the source watershed violated the public trust.¹⁶⁰

The trial court granted summary disposition to Nestlé for the plaintiffs' claim regarding their riparian rights, for which the plaintiffs took no appeal.¹⁶¹ The trial court also granted summary disposition for the claim regarding the public trust doctrine, ruling that Michigan law does extend public trust protections for navigable waters to groundwater, but the Dead Stream was not navigable, and on this issue, the plaintiffs did not appeal.¹⁶² At the trial itself, however, plaintiffs were largely successful. After a lengthy bench trial, the trial court found that because Nestlé was pumping the groundwater for bottling off-tract and eventual sale and distribution outside of the source watershed, Nestlé's water use was unreasonable.¹⁶³ The court enjoined Nestlé from operating its bottling facility.¹⁶⁴ Nestlé appealed.

The Michigan Court of Appeals first upheld the trial court's findings of fact, holding that the court did not abuse its discretion in making conclusions favorable to plaintiffs.¹⁶⁵ The trial court found that Nestlé's groundwater pumping would diminish the base flow of the hydrologically connected Dead Stream by 345 gpm,¹⁶⁶ meaning most of the 400 gpm of groundwater taken from Sanctuary Springs would otherwise contribute to the waters of the Dead Stream. The trial court found that the loss of water, around 24% of the total volume of the stream,¹⁶⁷ would result in the stream narrowing by more than four feet,¹⁶⁸ and the water level dropping by at least two inches.¹⁶⁹ The trial court also found that the water level in nearby wetlands would drop nearly a foot.¹⁷⁰

The Court of Appeals then focused on the common law rules for surface water and groundwater use in Michigan. In addressing riparian rights, the court noted that Michigan follows reasonable use rules that balance "competing water uses to determine whether one riparian proprietor's water use, which interferes with another's use, is

158. *Id.* at 205.

159. *Id.* at 185-86.

160. *Id.* at 185.

161. *Id.* at 185-86 & n.14.

162. *Id.*

163. *Id.* at 186.

164. *Id.*

165. *Id.* at 193.

166. *Id.* at 189-190.

167. *Id.* at 206.

168. *Id.* at 191.

169. *Id.* at 189.

170. *Id.* at 188-89.

unreasonable under the circumstances.”¹⁷¹ To balance competing uses, Michigan courts weigh factors on both sides of a dispute while acknowledging that “no list of factors is exhaustive,”¹⁷² and that reasonable use must be determined on a “case-by-case basis.”¹⁷³ In discussing Michigan’s rejection of the natural flow doctrine, the court pointed out that neither a diminution in water quantity, nor an alteration in flow, nor both, combined with injury, “will give a right of action, if in view of all the circumstances, . . . that which has been done . . . is not unreasonable.”¹⁷⁴

The rules in Michigan for groundwater use are, however, less clear. Michigan had already rejected an absolute rule of capture (discussed below) for groundwater use, but had never before considered the problem of groundwater use measurably affecting hydrologically connected surface water.¹⁷⁵ Upon surveying the development of groundwater law in Michigan, the Nestlé court concluded: “Michigan courts have consistently avoided strict rules that permit one water user to utilize water at the expense of an adjacent user.”¹⁷⁶ The Court wrote that a previous Michigan case had adopted reasonable use balancing for groundwater,¹⁷⁷ and consequently elected to apply this approach to disputes between riparian and groundwater users due to the “interconnected nature of water sources.”¹⁷⁸

The trial court applied a “hybrid rule” to adjudicate the dispute, which required that groundwater withdrawals, when used off-tract, not diminish the natural flow of the surface water.¹⁷⁹ This rule, however, essentially made groundwater rights inferior to surface water rights, and signaled a return to an abandoned riparian doctrine – natural flow. Rejecting this rule because it was inconsistent with the balancing test for groundwater-surface water disputes, the Michigan Court of Appeals articulated three principles that “that govern the process of balancing competing water uses.”¹⁸⁰ The court stated:

First, the law seeks to ensure a “fair participation” in the use of water for the greatest number of users. . . . Hence, the court should attempt to strike a proper balance between protecting the rights of the complaining party and preserving as many beneficial uses of the common resource as is feasible under the circumstances. Second, the law will only protect a use that is itself reasonable. . . . A plaintiff whose water use has little value or is excessive or harmful will be entitled to no protection. Third, the law will not redress every harm,

171. *Id.* at 196.

172. *Id.* at 194–95.

173. *Id.* at 196.

174. *Id.*

175. *Id.* at 201–02.

176. *Id.* at 201.

177. *Id.* at 200–01 (discussing *Maerz v. U.S. Steel Corp.*, 323 N.W.2d 524, 528–29 (Mich. Ct. App. 1982)).

178. *Id.* at 201–02.

179. *Id.* at 202.

180. *Id.*

no matter how small, but will only redress unreasonable harms.¹⁸¹

On top of these three underlying principles, the court announced a non-inclusive list of factors for consideration in adjudicating a water rights dispute:

These factors include (1) the purpose of the use, (2) the suitability of the use to the location, (3) the extent and amount of the harm, (4) the benefits of the use, (5) the necessity of the amount and manner of the water use, and (6) any other factor that may bear on the reasonableness of the use.¹⁸²

The court recognized the similarity that these factors bear to the *Restatement (Second) of Torts* § 850(a) and supplemented its analysis as to the applicability of the factors, with multiple references to the restatement comments.¹⁸³ The court also explained that natural uses of water (domestic use to support a household) will prevail over artificial uses (all other uses of water, including commercial, recreational, and aesthetic), and that on-tract uses benefiting the land have preference over off-tract uses of surface water and groundwater.¹⁸⁴

In applying these factors to the bottled water dispute, the court first noted that both competing uses (Nestlé's water bottling and the plaintiffs' recreational and aesthetic enjoyment of the Dead Stream) are artificial but also reasonable and beneficial, and that neither use was so preferable or necessary such that it would prevail on that basis alone.¹⁸⁵ Instead, the court looked to the amount of pumping, the suitability of the water body for Nestlé's use, and the extent of the harm.¹⁸⁶ In this case, Nestlé did not need to pump 400 gpm from this location to meet its commercial needs, and further, that rate of pumping would cause unreasonable harm to the Dead Stream.¹⁸⁷ Therefore, the court ruled that Nestlé's pumping of 400 gpm at this location was unreasonable, and enjoined future pumping at that rate.¹⁸⁸ However, the court noted that Nestlé "should be permitted to have a 'fair participation' in the common water resources of the area,"¹⁸⁹ and so remanded the case to the trial court to determine what rate of pumping would be reasonable under the circumstances of this case.¹⁹⁰

The Michigan Court of Appeals also affirmed the trial court's summary disposition in favor of Nestlé regarding the plaintiffs' public

181. *Id.*

182. *Id.* at 203.

183. *Id.* at 203-06, 203 nn. 45-46.

184. *Id.* at 204.

185. *Id.* at 205-06.

186. *Id.* at 206-07.

187. *Id.*

188. *Id.* at 207.

189. *Id.*

190. *Id.* at 209.

trust claim. Under Michigan law, the public trust doctrine only applies to navigable waters.¹⁹¹ Finding that the Dead Stream was not navigable, the court held that the public trust doctrine did not apply to this case.¹⁹² Additionally, the court declined “plaintiffs’ invitation to expand the public trust doctrine” to groundwater and non-navigable waters in Michigan.¹⁹³ Plaintiffs argued that case law, the Michigan Constitution, and several statutes supported their position.¹⁹⁴ The court determined, however, that the cited case law reaffirmed the navigability test for public trust applicability and merely dealt with fishing regulations, while the Constitution and statutes only recognized the importance of water as a natural resource.¹⁹⁵ Mentioning that Michigan had “long recognized that private persons obtain property rights in water on the basis of their ownership of land,” the Michigan Supreme Court concluded that the trial court had properly dismissed the public trust claim.¹⁹⁶ Thus, Nestlé’s groundwater pumping did not give rise to a public trust violation.

The *Nestlé* case received tremendous public attention, including coverage in national media outlets such as *USA Today*.¹⁹⁷ Much of the public attention focused on bottled water, and the controversies surrounding diversion and sale of water in Michigan.¹⁹⁸ However, the court’s opinion did not focus on the bottling and sale of water, but instead on the competing legal rights of surface and groundwater users.¹⁹⁹ The Michigan court, as is typical, did not treat the water bottler differently than other commercial water users. Nevertheless, the court crafted a legally and scientifically sound approach to resolving disputes between competing groundwater and surface water users.

2. The Not So Bad: California and New Hampshire rely on state environmental and administrative laws to resolve bottled water disputes

State environmental and administrative laws often play a prominent role in water withdrawal disputes. Recent cases from California and New Hampshire illustrate bottled water is no exception. In early 2007, a California appeals court considered a local government’s compliance with the state’s California Environmental Quality Act (“CEQA”)²⁰⁰ in a contentious bottled water dispute (again involving Nestlé Waters North

191. *Id.* at 218.

192. *Id.* at 218–19, 222.

193. *Id.* at 218.

194. *Id.* at 221.

195. *Id.*

196. *Id.* at 221–22.

197. Debbie Howlett, *Water Battle Dredges Up Acrimony*, USA TODAY, June 23, 2003, at 3A.

198. *Id.*

199. *Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc.*, 709 N.W.2d 174, 222 (Mich. Ct. App. 2005).

200. CAL. PUB. RES. CODE, § 21050 (West 2009).

America).²⁰¹ In *Concerned McCloud Citizens v. McCloud Community Services District* (“McCloud”), the court addressed bottled water opponents’ challenge to an agreement between McCloud Community Services District (“District”) and Nestlé for the sale of spring water.²⁰² Plaintiffs, Concerned McCloud Citizens, challenged the District’s approval of the agreement with Nestlé.²⁰³

McCloud is a town located in Siskiyou County, California, near Mt. Shasta.²⁰⁴ Due to growing economic concerns, the District sought extra income by selling rights to its spring waters to water bottlers.²⁰⁵ In 2003, after a public meeting to consider a proposal with Nestlé, the District entered into a tentative agreement for the sale of up to 1,600 acre feet of water per year for fifty years with a guaranteed right of renewal for an additional fifty years.²⁰⁶ The agreement required a favorable feasibility evaluation by Nestlé, an agreement between Nestlé and the District regarding several actions, and compliance with elements of CEQA.²⁰⁷ Importantly, the agreement was contingent on the completion of “proceedings under CEQA,” and neither party was to be bound “unless and until District’s compliance with CEQA [was] completed” with no possibility of a challenge “pursuant to CEQA.”²⁰⁸

CEQA requires that a public agency determine whether a project “may have a significant environmental impact . . . before it approves that project.”²⁰⁹ If the agency determines that a significant environmental impact may occur, the agency must prepare an Environmental Impact Report (“EIR”).²¹⁰ Plaintiffs argued that the District should have complied with CEQA prior to signing the agreement, and the trial court agreed.²¹¹ According to the trial court, “the approval of the agreement amounted to the creation of an entitlement for Nestlé and committed the District to a definite course of action.”²¹² Because the agreement affected the vitality of an environmentally sensitive resource, the trial court held that the District abused its discretion by failing to proceed with CEQA compliance prior to approval of the agreement.²¹³ The trial court granted the opponents’ requested “writ of mandate requiring the agreement to be vacated, set aside, and voided,” finding that the District’s approval of the agreement was a prejudicial abuse of

201. See *Concerned McCloud Citizens v. McCloud Cmty. Servs. Dist.*, 54 Cal. Rptr. 3d 1, 2-3 (Ct. App. 2007).

202. *Id.* at 2.

203. *Id.*

204. *Id.* at 3.

205. *Id.*

206. *Id.* at 3-4.

207. *Id.* at 4-5.

208. *Id.* at 5.

209. *Id.* at 7 (internal citations omitted).

210. *Id.*

211. *Id.* at 2, 5.

212. *Id.* at 5.

213. *Id.*

discretion.²¹⁴

However, the District and Nestlé prevailed on appeal. The Court of Appeals reversed the trial court's decision, finding that the District's actions did not constitute the "approval" of a "project" required for CEQA compliance.²¹⁵ Thus, the District had no duty of compliance with CEQA.²¹⁶ The court's decision turned on the fact that the agreement between Nestlé and the District was conditional on a series of "ifs," the biggest among them being the securing of all discretionary permits, "expressly defined as including CEQA documentation, review and approvals, along with the final adjudication of any legal challenges based on CEQA."²¹⁷ The court emphasized the abstract nature of the Nestlé agreement, noting its lack of specificity regarding locations and designs.²¹⁸ According to the court, compliance with CEQA would be useless at this stage given the ambiguity in the agreement: "At the current planning stage of this proposed project, preparation of an EIR would be premature. Any analysis of potential environmental impacts would be wholly speculative and essentially meaningless."²¹⁹

Thus, the court of appeals concluded that that the trial court erred in its ruling against the District, reversed the trial court's judgment, and held that "subsequent compliance with the CEQA review procedures [was] permissible."²²⁰ However, as of July 29, 2008, Nestlé has yet to commence water pumping and bottling operations in McCloud, as the agreement nonetheless was subject to environmental review.²²¹ Despite the litigation outcome, Nestlé re-opened the EIR under pressure from the California Attorney General and bottled water opponents.²²² Nestlé also agreed to limit the amount of water it will withdraw from springs and groundwater.²²³ The EIR is ongoing and the approval process may take several more years.²²⁴ Thus, the conflict, though mitigated and delayed, is not resolved.

214. *Id.* at 2-3.

215. *Id.* at 8.

216. *Id.*

217. *Id.* at 8-9. Other contingencies in the agreement referenced by the court are: (1) if Nestlé determines during the contingency period that water bottling from the springs is possible; (2) if Nestlé obtains all applicable government approvals and permits for the site and facility; (3) if the District approves a design for water testing, monitoring, collection and distribution; and (4) if the parties to the agreement are able to develop a water supply contingency plan to address potential emergencies. *Id.*

218. *Id.*

219. *Id.* at 12.

220. *Id.*

221. See Samantha Young, *Calif. AG Cracks Down on Nestlé Bottling Plant*, SAN FRANCISCO CHRON., July 29, 2008, available at

<http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2008/07/29/financial/f135206D79.DTL> (last visited Dec. 1, 2009).

222. *Id.*

223. See Samantha Young, *Bottling Plants Face Opposition as Fears Grow Over Water Supplies*, SAN FRANCISCO CHRON., Apr. 9, 2008, available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2008/04/09/national/a111630D72.DTL> (last visited Dec. 1, 2009).

224. *Id.*

New Hampshire courts have also dealt with state environmental and administrative law in the context of bottled water disputes. In 2004, the New Hampshire Department of Environmental Services (“DES”) issued a large groundwater withdrawal permit to a water bottler, USA Springs, Inc.²²⁵ USA Springs planned to withdraw up to 439,200 gallons of water per day from a spring and three wells for its bottled water operation.²²⁶ The petitioners – Town of Nottingham, Town of Barrington, and Save Our Groundwater (a landowners group) – appealed the issuance of the state permit.²²⁷

The petitioners raised several claims against the DES, including violations of New Hampshire’s Groundwater Protection Act,²²⁸ failure to consider the public trust, failure to comply with the state’s wetlands protection statute,²²⁹ and unconstitutional takings claims.²³⁰ The New Hampshire Groundwater Protection Act requires the DES to “adopt rules in relation to, among other things, ‘[a]ll new groundwater withdrawals of 57,600 gallons or more in any 24-hour period.’”²³¹ However, the petitioners argued that language in a separate chapter of the New Hampshire Code²³² directed the DES to consider the public trust in assessing an application to withdraw groundwater.²³³ The relevant statute included the finding that surface water and groundwater constitute “invaluable public resource[s],” referenced the state as the “trustee of this resource for the public benefit,” and directed government agencies having authority over this resource to “comply with this policy.”²³⁴

The court, however, agreed with the respondent in finding that the Act’s public trust language did not bar the issuance of the permit in question.²³⁵ The court held that chapter 481 of the New Hampshire Revised Statutes did not apply to DES because chapter 485 had its own statement of purpose, and chapter 481 provided no “specific additional test that DES must apply” in determining whether to issue a permit.²³⁶ The court also declined to adopt any contention that the common law public trust doctrine applied to DES.²³⁷ The court refused to “engraft common law tort principles onto the statutory and regulatory scheme governing groundwater withdrawals,” thereby concluding that the state

225. *In re Town of Nottingham*, 904 A.2d 582, 588 (N.H. 2006).

226. *Id.* at 587.

227. *Id.*

228. N.H. REV. STAT. § 485-C.

229. N.H. REV. STAT. § 482-A (protecting state wetlands from despoliation and unregulated alteration.)

230. *Nottingham*, 904 A.2d at 588.

231. *Id.* (quoting N.H. REV. STAT. § 485-C:4, XII).

232. *See generally* N.H. REV. STAT. § 481:1 (declaring policy to protect, conserve, and manage the water of New Hampshire).

233. *Nottingham*, 904 A.2d at 589.

234. *Id.* (quoting N.H. REV. STAT. § 481:1).

235. *Id.*

236. *Id.* at 589-90.

237. *Id.* at 590.

legislature had included all factors for consideration by DES in the statute.²³⁸

The petitioners also argued that DES erred in not applying the wetlands protection statute, which states that “no person shall excavate, remove, fill, dredge, or construct any structures in or on any bank, flat, marsh, or swamp in and adjacent to any waters of the state without a permit from the department.”²³⁹ Though the court found that the statute was ambiguous, it held that no interpretation supported the petitioner’s argument, as the statute failed to regulate the removal of “water” in the wetlands.²⁴⁰ The existence of regulations under the Groundwater Protection Act that take into account the effect of groundwater withdrawals on surface waters served to bolster the court’s decision.²⁴¹ Accordingly, the court concluded that that USA Springs’ proposed groundwater withdrawal was not subject to the permitting requirements of the state’s wetland protection statute.²⁴²

The petitioners also argued that USA Springs’ proposed withdrawals would amount to a taking under the state and federal Constitutions, contending that the mining of water would decrease the water level in homeowners’ wells and contaminate and damage homeowners’ pumping equipment.²⁴³ Key to their argument was the contention that “landowners have a property right in subterranean water flows.”²⁴⁴ The court, however, held that because New Hampshire applied a “doctrine of reasonable use” to groundwater,²⁴⁵ “[t]he right to use water does not carry with it ownership of the water lying under the land,” and that such a right is “not considered ‘private property’ requiring condemnation proceedings unless the property has been rendered useless for certain purposes.”²⁴⁶ Thus, the takings argument of the petitioners did not persuade the court, and the court found that there had been no showing of a protected property interest under New Hampshire law.²⁴⁷

Therefore, the New Hampshire litigation produced the same result as the California litigation – judicial approval of a government’s application of state environmental and administrative laws to a bottled water dispute. From the perspective of the bottled water companies, the litigation creates increased transaction costs and may discourage investment in the state, but does not ultimately prohibit the withdrawal of water and sale of the bottled water product. From the perspective of bottled water opponents, the litigation delays the bottled water operation and may open the door to various compromises and concessions, but fails to stop bottled water companies from using the

238. *Id.*

239. *Id.* at 590-91 (quoting N.H. REV. STAT. § 482-A:3).

240. *Id.* at 591.

241. *Id.*

242. *Id.*

243. *Id.* at 591-92.

244. *Id.* at 592.

245. *Id.*

246. *Id.*

247. *Id.* at 593.

communities' water resources. These outcomes have value, but unlike the Michigan *Nestlé* litigation, fail to resolve the primary issues of control and allocation of water resources within a community of water users.

3. The Ugly: Texas refuses to give legal protection for groundwater rights

While most states have adopted their common law doctrines to better incorporate the modern science of hydrology and to provide more equitable correlative rights for groundwater use, a notable exception is Texas.²⁴⁸ In *Sipriano v. Great Spring Waters of America, Inc.* ("*Sipriano*"), the Texas Supreme Court bucked the trend displayed by most other states and held fast to the rule of capture,²⁴⁹ which is basically no legal rule for groundwater extraction at all.

The dispute began when the defendant (another Nestlé company²⁵⁰) sought a new source for its Ozarka "spring water" brand. Ozarka initially began pumping a relatively modest 90,000 gallons of water per day from land near Sipriano's land.²⁵¹ Not long after the pumping started, Bart Sipriano experienced a decrease in his well water supply and sued the water bottler to enjoin continued pumping.²⁵² The plaintiffs' suit was an attempt to reform the common law in Texas from a rule of capture to the more modern correlative rights approach, the "rule of reasonable use."²⁵³

In short, the plaintiffs failed.²⁵⁴ The Texas Supreme Court upheld the state's common law rule of capture, which had been in place for almost a century.²⁵⁵ As the court explained, the "rule of capture essentially allows . . . a landowner to pump as much groundwater as the landowner chooses, without liability to neighbors who claim that the pumping has depleted their wells."²⁵⁶ In a separate concurrence, Texas Supreme Court Justice Hecht noted that Texas remained an unusual western state for following the outdated rule of capture,²⁵⁷ but chose to

248. See *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 81-82 (Tex. 1999) (Hecht, J., concurring).

249. *Id.* at 75, 81-82.

250. Nestlé Waters North America: Our Brands, available at <http://www.nestle-watersna.com/Menu/OurBrands.htm> (last visited Dec. 1, 2009).

251. *Sipriano*, 1 S.W.3d at 75-76.

252. *Id.* at 76.

253. *Id.* at 75.

254. *Id.*

255. *Id.*

256. *Id.*

257. *Id.* at 81-82 (Hecht, J., concurring). Texas may have been a lone star sticking with the rule of capture in the west, but it had a contemporary companion on the east coast in Maine. Around the same time of the *Sipriano* decision, Maine's Supreme Court faced a similar legal challenge, and ruled the same way as Texas. In *Maddocks v. Giles*, 728 A.2d 150, 151-53 (Me. 1999), the Maine Supreme Court opted to retain the rule of capture, rather than adopt the Restatement doctrine, as favored by the plaintiff. According to the court, the plaintiffs contended that the rule of capture was "based upon faulty science,"

leave to the state legislature the task of modernizing Texas groundwater law.²⁵⁸

This result is ugly, and not just for homeowners left with no legal remedy to protect their groundwater use from water bottlers and other large commercial water users. Texas and other states that adhere to the rule of capture leave any groundwater user without legal recourse and instead let the biggest, deepest groundwater pumpers take as much water as they can. While the immediate result of the *Sipriano* litigation appears to be a win for Nestlé, it actually leaves Nestlé as vulnerable as Bart Sipriano when a new groundwater user (such as another bottled water company) comes to town. Bottled water companies and many other commercial water users need some legal protection for their groundwater use to encourage investment in an area. The lack of legal protection and rules may also result in an unchecked run on a region's groundwater resource, since no party would have any legal or economic incentive to restrict its water use. In the end, this will leave the state with depleted groundwater resources, the bottled water companies and other water users will have failed investments, and the lack of legal protection will severely impact the environment on the way. The courts seem to recognize this, yet they have put their faith in the political process and state legislatures to solve the problem.²⁵⁹ As the next section details with several case studies, that faith is sometimes justified, but politics and bottled water do not always mix well.

B. BOTTLED WATER IN LEGISLATURES AND POLITICS: THE GOOD, THE NOT SO BAD, AND THE REALLY UGLY

Nearly every state has statutory authority regarding groundwater withdrawals and management, ranging from basic reporting and registration requirements to extensive site specific permitted reviews of groundwater withdrawals.²⁶⁰ Most of these statutes predate the recent

and the court acknowledged that several other courts had used this argument when abandoning the doctrine. *Id.* at 153. Despite this recognition, the Maine Supreme Court declined to abandon the rule of capture, emphasizing *stare decisis* and the reliance of Maine groundwater users on the present property laws. *Id.* at 153-54. And like the Texas Supreme Court, the Maine Supreme Court reasoned that water policy reforms are best left to the state legislature. *Id.* at 154.

258. *Sipriano*, 1 S.W.3d at 81-83 (Hecht, J., concurring).

259. See, e.g., *Maddocks*, 728 A.2d at 154; *Sipriano*, 1 S.W.3d at 80.

260. Alabama Water Resources Act, ALA. CODE § 9-10B-1 (2009); Water Use Act, ALASKA STAT. § 46.15.010 (2009); ARIZ. REV. STAT. § 45 (2009); Arkansas Ground Water Management and Protection Act, ARK. CODE. § 15-22-901 (2009); CAL. WATER CODE § 10702(West 2009); Colorado Ground Water Management Act, COLO. REV. STAT. § 37-90-101 (2009); CONN. GEN. STAT. § 22a-351 (2009); FLA. STAT. § 373.016 (2009); Ground Water Use Act of 1972, GA. CODE ANN. § 12-5-90 (2008); State Water Code of 1987, HAW. REV. STAT. § 174C-1 (2009); Ground Water Act of 1951, IDAHO CODE § 42-101 (2009); Illinois Water Use Act of 1983, 525 ILL. COMP. STAT. 45/1 (2009); IND. CODE § 14-25-1-1 (2009); 1945 Water Appropriation Act, KAN. STAT. § 82a-702 (2009); KY. REV. STAT. § 151.110 (2009); LA. REV. STAT. § 38:3091 (2009); ME. REV. STAT. tit. 38 § 404 (2009); Natural Resources and Environmental Protection Act, MICH. COMP. LAWS § 324.32701 (2009); MINN. STAT. § 103G.291 (2008); MISS. CODE § 51-3-1 (2009); Missouri Water Well Drillers Act Mo. REV. STAT. §§ 256.600-640 (2009); MONT. CODE §§ 85-2-501 (2009); Groundwater Management and Protection Act, NEB. REV. STAT. § 46-701 (2009); NEV. REV.

controversies surrounding bottled water. But as bottled water disputes have come to the public's (and politicians') attention over the past few years, several states – including Michigan, Maine, and Vermont – have responded with new regulatory measures.²⁶¹ This has been a generally positive trend, as the resulting regulations provide increased protection for water resources while balancing water rights with hydrology and aquatic ecology concerns. However, politicians are also prone to overreact to the threat of bottled water with draconian measures that unsettle water rights and have no basis in science.

1. The Good: Michigan and the other Great Lakes states protect natural resources from bottled water withdrawals

Even before the Michigan court of appeals handed down its decision in the *Nestlé* case discussed above, the Michigan legislature made some modest reforms in groundwater law. In 2003, Michigan enacted a groundwater dispute resolution program.²⁶² The program provides a simple process for small quantity well owners to “submit a complaint alleging a potential groundwater dispute if the small quantity well has failed to furnish the well’s normal supply of water . . . and the owner has credible reason to believe the well’s problems have been caused by a high capacity well.”²⁶³ Small quantity wells are wells with less than 100,000 gallons per day of pumping capacity; high capacity wells are wells with capacity greater than 100,000 gallons per day.²⁶⁴ Essentially, the statute provides a far cheaper and simpler mechanism than private litigation to protect the groundwater use rights of individuals and small businesses harmed by larger groundwater extractions.

After the *Nestlé* decision, the Michigan legislature made far more significant reforms. Statutes enacted in 2006 required any person who develops new or increased water withdrawal capacity of over 2 million gallons per day (“gpd”) from an inland water source (including groundwater) to obtain a water withdrawal permit.²⁶⁵ For withdrawals from inland waters and groundwater, the sole standard for issuance of a

STAT. § 534.010 (2009); Groundwater Protection Act, N.H. REV. STAT § 485C (2009); N.M. STAT. § 72-12-1 (2009); N.Y. ENVTL. CONSERVATION LAW § 55 (Consol. 2009); N.C. GEN. STAT. § 143-215 (2009); N.D. CENT. CODE § 61-04-01 (2009); OHIO REV. CODE § 1521.01 (2009); Oklahoma Groundwater Law, OKLA. STAT. tit. 82 § 1020.1 (2009); OR. REV. STAT. § 537.505 (2007); R.I. GEN. LAWS § 46-13-1 (2009); Groundwater Use and Reporting Act, S.C. CODE § 49-5-10 (2008); S.D. CODIFIED LAWS § 46-6-1 (2009); Tennessee Water Resources Information Act, TENN. CODE § 69-7-301 (2009); TEX. WATER CODE § 36.001 (2009); UTAH CODE § 73-3-1 (2009); VT. STAT. tit.10, § 48 (2009); VA. CODE § 62.1-1 (2009); WASH. REV. CODE § 90.44.100 (2009); Groundwater Protection Act, W. VA. CODE § 22-12-1 (2009); WIS. STAT. § 281.34 (2009); WYO. STAT. ANN. § 41-2-101 (2009).

261. Great Lakes-St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 122 Stat. 3739 (2008); Act of June 9, 2008, No. 199, § 1390, 2008 Vt. ALS 199 (LexisNexis); Act Concerning the Sustainable Use of and Planning for Water Resources, ch. 399, 2007 Me. Laws S.P. 610—L.D. 1743 (2007).

262. MICH. COMP. LAWS § 324.31702(1) (2009).

263. *Id.*

264. *Id.* §§ 324.31701(j) and (q).

265. *Id.* § 324.32723(1).

permit was whether or not the withdrawal “will result in [] individual or cumulative adverse resource impacts.”²⁶⁶ An “adverse resource impact” was defined as decreasing either the flow of a stream or the level of a body of surface water such that the water body’s “ability to support characteristic fish populations is functionally impaired.”²⁶⁷ The statutes do not specify permit terms, but each state may revoke a permit if it “determines following a hearing, based upon clear and convincing scientific evidence, that the withdrawal is causing an adverse resource impact.”²⁶⁸ The permit process and appeals are subject to the Michigan Administrative Procedures Act.²⁶⁹ Water bottlers subject to the state Safe Drinking Water Act subscribed to essentially the same standards.²⁷⁰

Beyond the general reforms to water withdrawal law, the Michigan statute also subjects bottled water producers to many additional standards and requirements. The statute subjects water bottlers to a far lower permit threshold (new or increased withdrawal of 200,000 gpd) and required them to meet the following standards:

- The person will undertake activities, if needed, to address hydrologic impacts commensurate with the nature and extent of the withdrawal. These activities may include those related to the stream flow regime, water quality, and aquifer protection.
- Advance consultation with local government officials and interested community members.
- Advance public notice and an opportunity for public comment.²⁷¹

The statute also makes clear that water packaged in containers of 5.7 gallons or less (most bottled water products) is not a prohibited diversion under Michigan law.²⁷² Since 1985, Michigan law has prohibited diversion of water out of the Great Lakes watershed, effectively prohibiting almost any bulk diversion of water from the state.²⁷³ However, because there has been some reason for concern about the Constitutionality of this blanket prohibition, the new statute expressly provides that if the law finds the prohibition invalid, then new diversions are subject to the approval of the legislature’s public trust duties.²⁷⁴

It is worth noting that almost all of the state’s leading business, municipal, agricultural, and environmental organizations (including the bottled water industry) supported the passage of the legislation. The general consensus was that a proactive permitting system, rather than common law litigation over water rights, would better serve both water

266. *Id.* § 324.32723(6)(b).

267. *Id.* § 324.32701(1)(a).

268. *Id.* § 324.32723(11).

269. *Id.* § 324.32723(12).

270. *Id.* § 324.32723(13)(c); §§ 325.1004(3), (4).

271. *See id.* § 325.1017(3).

272. *Id.* § 324.32701(1)(k).

273. *Id.* § 324.32703.

274. *See id.* § 324.32703a.

users and environmentalists.

Michigan revisited its water withdrawal statutes in 2008 in connection with the state's approval of the Great Lakes-St. Lawrence River Basin Water Resources Compact.²⁷⁵ The Great Lakes Compact generally bans the diversion and export of Great Lakes water outside of the Great Lakes basin; all eight Great Lakes states, as well as Congress, approved this compact.²⁷⁶ The compact defines water in containers greater than 5.7 gallons as a diversion, and prohibits diversions of this size.²⁷⁷ However, the compact leaves to the individual states the decision of whether to treat water in containers of 5.7 gallons or less – meaning bottled water – as a prohibited diversion.²⁷⁸ If a state does not treat bottled water as a banned diversion, it is still subject to numerous protective standards to ensure water conservation, environmental protection, and reasonable use.²⁷⁹ None of the eight Great Lakes states, including Michigan, has elected to permanently ban the diversion and export of Great Lakes water in bottled water pursuant to the Great Lakes Compact, and will instead regulate bottled water withdrawals pursuant to the Great Lakes Compact's standards and state law.²⁸⁰

Michigan did, however, enact stronger regulatory measures for bottled water than most other water withdrawals in the 2008 legislation.²⁸¹ Michigan now regulates bottled water pursuant to the

275. See generally Great Lakes-St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 122 Stat. 3739, 3755-56 (2008).

276. Great Lakes-St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 122 Stat. 3739, 3752 (2008). For a complete analysis of the Great Lakes Compact, see Noah D. Hall, *Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region*, 77 U. COLO. L. REV. 405, 443-44 (2006) (discussing the compact's treatment of bottled water).

277. Great Lakes-St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 122 Stat. 3739, 3757, §4.12(10) (2008).

278. *Id.*

279. *Id.* at 3755-56, §4.11.

280. See Dave Dempsey, *Despite Federal Protection, Great Lakes Remain Troubled Waters*, DETROIT NEWS, Aug. 6, 2008, at 1B.

281. The major focus of Michigan's 2008 statutory reforms was a strengthening of its water withdrawal program by expanding its permit system and creating an assessment process to determine whether a proposed withdrawal may cause an adverse resource impact to river systems. See MICH. COMP. LAWS § 324.32723 (2008); MICH. COMP. LAWS § 324.32706a (2008). Permits are now required for all new or increased withdrawals over 2 million gpd from any source, and these withdrawals are only allowed if they comply with the Great Lakes Compact and do not violate public or private rights and limitations imposed by Michigan water law or other Michigan common law duties. See MICH. COMP. LAWS § 324.32723 (2008). The most significant advancement of Michigan's 2008 statute is the development of a water withdrawal assessment process that determines the impact of a specific withdrawal on river systems by calculating the effect of the stream flow reduction on fish populations. *Id.*; GROUNDWATER CONSERVATION ADVISORY COUNCIL, REPORT TO THE MICH. LEGISLATURE 9, 11-14 (2007). The assessment process helps potential users and the state ascertain whether a new or increased "large quantity withdrawal" (withdrawals of over 100,000 gpd averaged over a 30-day period) from streams, rivers, or groundwater is prohibited because it causes an adverse resource impact. See MICH. COMP. LAWS § 324.32701 (2009); MICH. COMP. LAWS § 325.1017 (2009).

Great Lakes Compact by requiring water bottlers to obtain a permit for new or increased withdrawals of more than 200,000 gallons per day (a far lower threshold than for other water users).²⁸² The state will only grant a permit for the withdrawal of water for bottled water if there are no individual or cumulative adverse resource impacts, the withdrawal is reasonable under state common law principles, and the water bottler has certified that it is in compliance with water conservation measures.²⁸³ Further, the state requires significant public notice and consultation procedures for proposed bottled water withdrawals.²⁸⁴ With these measures, the Great Lakes Compact and Michigan statutory law protect both natural resources and the public's interest from bottled water withdrawals far more strictly than any other type of water use.

2. The Not So Bad: Modest regulatory reforms in New England

Bottled water controversies also recently led to legislative reforms in New England. Vermont significantly revised its groundwater policy in 2008,²⁸⁵ requiring greater regulation and garnering national attention.²⁸⁶ Virginia Lyons, a Democratic state senator behind the reform, declared that a goal of the new legislation was to “protect [Vermont’s] groundwater for the next several generations.”²⁸⁷ Much of the push for the reform came in the form of treating groundwater similarly to surface water in Vermont.²⁸⁸ Republican State Senator Diane Snelling, also a primary sponsor of the legislation, stated that compared to surface water, “[groundwater is] the same public resource; there’s no sharp divide between surface water and groundwater.”²⁸⁹ Many media commentators echoed similar sentiments.²⁹⁰

Vermont’s 2008 legislation significantly amended the “Groundwater Protection” Chapter in Title 10 of the Vermont Statutes.²⁹¹ The legislation set a new tone for groundwater management in Vermont. The opening section of the chapter now recognizes that groundwater should be regulated “in a manner that benefits the people of the state; is compatible with long-range water resource planning, proper management, and use of the water resources of Vermont; and is consistent with Vermont’s policy of managing groundwater as a public resource for the benefit of all Vermonters.”²⁹² Most of the public

282. MICH. COMP. LAWS § 325.1017(3) (2009).

283. *Id.* § 325.1017(4).

284. *Id.* § 325.1017(5)-(6).

285. Act of June 9, 2008, No. 199, § 1390, 2008 Vt. ALS 1, 1 (LexisNexis).

286. For example, the change in groundwater policy was reported by the New York Times. *See* Barringer, *supra* note 24.

287. *See* Tom A. Peter, *Though Awash in Water, Vermont Set to Protect Springs*, CHRISTIAN SCI. MONITOR, Apr. 29, 2008, at 2.

288. *See* Joel Banner Baird, *Town Debates Water Flow*, BURLINGTON FREE PRESS, Feb. 26, 2008, at B1.

289. *Id.*

290. *See, e.g.*, Editorial, *Groundwater Rules Make Sense for State*, BURLINGTON FREE PRESS, Apr. 17, 2008, at A6.

291. Act of June 9, 2008, No. 199, 2008 Vt. ALS 1, 1-3 (LexisNexis).

292. VT. STAT. tit. 10, § 1390(2) (2009).

attention given to the legislation, however, has been its recognition that the “groundwater resources of the state are held in trust for the public.”²⁹³

The legislation details several requirements for users of large amounts of groundwater. Users withdrawing more than 20,000 gallons per day, averaged over one month, must report their withdrawals to the state’s secretary of natural resources.²⁹⁴ More restrictively, new or increased extraction of more than 57,600 gallons a day from a single well or spring requires a groundwater withdrawal permit.²⁹⁵ To receive a permit, the proposed withdrawal must meet a number of requirements including efficiency of use; consistency with water management plans; no undue adverse effects on existing water uses, the public water supply, or wetlands; and “any other consideration that the secretary determines necessary for the conservation of water or protection of groundwater quality.”²⁹⁶

The seemingly strong statute, however, contains broad exemptions in both the reporting and permitting requirements. Many of the most significant water uses, including domestic, farming, dairy, public water, and geothermal heating, are exempt from most of these requirements.²⁹⁷ Similarly, the statute undermines the recognition of groundwater as a public trust resource by limiting the application of the doctrine.²⁹⁸ The legislature accomplished this by granting a presumption of compliance to certain types of groundwater uses.²⁹⁹ Public trust presumes domestic use, public water systems, farming use, and dairy use as valid.³⁰⁰

The Vermont legislation appears to give special treatment to bottled water by specifically excluding bottled water from the list of uses presumed valid under the public trust,³⁰¹ as well as providing for additional requirements for approval of a source permit for bottled water manufacturers.³⁰² However, bottled water is singled out in the statute in order to correct a potential loophole in the legislation. Regulations under Vermont law treat bottled manufacturers as public water systems.³⁰³ So the legislature made sure that bottled water manufacturers could not also use these exemptions, as public water systems are given special exemptions by the new regulations.

Introduced with considerable fanfare, the original version of the Vermont legislation was significantly different than the final version. Importantly, the standards first proposed were significantly stricter and

293. *Id.* § 1390(5).

294. *Id.* § 1417(a).

295. *Id.* § 1418(a).

296. *Id.* § 1418(e).

297. *Id.* § 1417(b).

298. *Id.* § 1418(i).

299. *Id.*

300. *Id.*

301. *Id.* § 1418(j)(3).

302. *Id.* § 1675(g).

303. *Id.* § 1671(5)(B).

had far fewer exemptions. In the bill's final version, the legislature doubled the threshold amount of groundwater allowed to be withdrawn without registration, modestly raised the threshold amount allowed without a permit, and delayed the implementation.³⁰⁴ Additionally, the original version of the bill placed the burden of proof on the applicant to prove that a proposed withdrawal complied with all requirements.³⁰⁵ Finally, the original version of the bill did not contain the exemptions to the permitting and reporting processes that appear in the final version.³⁰⁶ The Senate Committee on Natural Resources recommended adding most of the exemptions, while the House Committee on Fish, Wildlife, and Water Resources recommended adding the dairy industry to the exemptions.³⁰⁷ The legislature likely created these exemptions in order to quiet opposition and increase the likelihood of passage.³⁰⁸

The final version of the Vermont legislation minimized language relating to the public trust as much as possible. Though the original version required that no permit would be granted if it had an "adverse affect on the public good," the final version of the bill removed all references to the "public good."³⁰⁹ The final version of the bill deleted a proposed section that granted automatic standing to any person suing under the statute's public trust cause of action.³¹⁰ Finally, the legislature added the list of presumptively valid uses under the public trust to the final version of the bill,³¹¹ further limiting the practical and legal importance of the public trust provision.

Despite these changes, the Vermont legislation still garnered praise upon its passage. Environmental groups in Vermont considered it a promising step towards the future.³¹² However, the bill was not without its critics. One commentator, finding that the law did not go far enough, pointed out that the regulation would still allow large withdrawals of groundwater, thereby endangering the resource.³¹³ Similarly, the

304. Compare § 1418(a) (after July 1, 2010, amount requiring reporting will be 20,000 gallons per day and the amount requiring a permit will be 57,600), with S.B. 304, 2007 Leg., Reg. Sess. (Vt. 2008) (after July 1, 2008, original amount requiring reporting was 10,000 gallons per day and the original amount requiring a permit was 50,000 gallons per day).

305. S.B. 304, 2007 Leg., Reg. Sess. (Vt. 2008).

306. *Id.*

307. *Id.*

308. See generally Barringer, *supra* note 24 (discussing the controversial nature of water law reform in Vermont).

309. Compare VT. STAT. tit. 10, § 1418 (2009) with S.B. 304, 2007 Leg., Reg. Sess. (Vt. 2008).

310. Compare VT. STAT. tit. 10, § 1418 (2009) with Act of June 9, 2008, No. 199, § 1390, 2008 Vt. ALS 1, 1 (LexisNexis).

311. VT. STAT. tit. 10, § 1418(i) (2009).

312. See, e.g., Johanna Miller, Op-Ed., *Lawmakers Took Long View in Protecting the State's Groundwater*, BRATTLEBORO REFORMER, June 7, 2008 ("The Legislature's action . . . is timely and essential."); Vermont Natural Resources Council, *VNRC Celebrates Successful Effort to Help Protect Vermont's Groundwater*, Aug. 2008, available at <http://www.vnrc.org/article/articleview/7093/1/632/> (last visited Dec. 1, 2009) ("Vermont, finally, has a law in place that will help protect our drinking water from overconsumption, depletion and privatization.").

313. See Tom A. Peter, *supra* note 287.

business community found that the bill “duplicated existing requirements” and fell short of real reform.³¹⁴ It is still too early to tell how much the new legislation will impact the water bottling industry in Vermont. Given the amount of discretion the secretary of natural resources has in granting permits, the way the secretary implements the laws will likely have a great bearing on the state’s bottled water business.

In response to bottled water controversies, Maine also recently amended its water policy.³¹⁵ In 2007, Maine passed legislation that created the Water Resources Planning Committee (“WRPC”) and created a permit system for groundwater extraction.³¹⁶ The new legislation requires the WRPC to “plan for the sustainable use of water resources” by reviewing current water use, investigating watersheds at risk, and making policy recommendations in the event that the committee finds that the “oversubscription of water use” is present.³¹⁷

The legislation also requires permits for the operation of “significant groundwater wells” (“SGWs”). Maine divides SGWs into two categories: (1) Any method or device used to obtain groundwater that is located 500 feet or less from any freshwater body or wetland and withdraws at least “75,000 gallons during any week or at least 50,000 gallons on any day” qualifies as a significant groundwater well;³¹⁸ and (2) Beyond 500 feet, any method or device used to obtain groundwater must withdraw “at least 216,000 gallons during any week or at least 144,000 gallons on any day” to qualify as a significant groundwater well.³¹⁹ For the department to grant a permit, an applicant must demonstrate that the withdrawal “will not have an undue unreasonable effect on waters of the State. . . [and] water-related natural resources and existing uses.”³²⁰ The new statute requires the department to consider “the direct effects of the proposed withdrawal and its effects in combination with existing water withdrawals.”³²¹ As with Vermont, some exceptions exist to the permit system in Maine, including public water systems (but not those used solely to bottle water), domestic uses, and agricultural uses.³²²

As was the case in Vermont, Maine’s legislation went through significant revisions before passage of the final version. The original bill proposed far more extensive revisions of Maine’s water policies than the

314. See Barringer, *supra* note 24.

315. See Associated Press, *Maine Water Extraction Bill Passes*, AFX INT’L FOCUS, June 21, 2007 (describing a recurring referendum campaign regarding groundwater that is to be disbanded upon passage of the legislation).

316. An Act Concerning the Sustainable Use of and Planning for Water Resources, ch. 399, 2007 Me. Laws 610 available at <http://janus.state.me.us/legis/ros/LOM/LOM123rd/PUBLIC399.asp>.

317. ME. REV. STAT. tit. 5 § 3331(8) (2009).

318. ME. REV. STAT. tit. 38 § 480-B (9)(A)(A).

319. *Id.*

320. *Id.* § 480-D (10).

321. *Id.*

322. *Id.* § 480-B (9-A)(B).

enacted version. The original bill called for the creation of the Freshwater Resource Board (“FRB”) with far greater powers than those of the WRPC.³²³ The original bill required the FRB to “take all reasonable measures to ensure an adequate supply of usable groundwater.”³²⁴ The original bill did not set forth any of the groundwater withdrawal standards found in the final version, presumably because the FRB would have done so through administrative regulations.³²⁵ In addition to these changes, the final version of the legislation completely removed three substantive and contentious issues: a prohibition on bulk water transport for commercial purposes, the adoption of the Restatement reasonable use doctrine for groundwater, and the examination of the public trust doctrine and its applicability to groundwater to be carried out by the FRB.³²⁶ The original bill’s true motivation and focus is in its summary, which specifically mentions bottled water.³²⁷ Almost as though expecting opposition to the legislation, the summary explains that “[t]he bill provides for the continuation of water removal by water bottling interests when the removal of water does not threaten [the goals of protecting Maine’s people, surface water, and wildlife].”³²⁸

The passage of the water reform legislation in 2007 was neither the beginning nor the end of the groundwater debate in Maine. In previous sessions, failed proposals included an attempt to adopt a reasonable use doctrine for groundwater,³²⁹ and a bill that would have made groundwater a public resource in Maine.³³⁰ As of early 2009, another proposal is gaining traction that would place a tax on bottled water.³³¹

Clearly, some good has come from the bottled water controversies in New England, as the legislatures (and presumably the public) in Vermont and Maine became aware of the need to better manage groundwater resources. However, in both states the resulting legislation fell short of the initial promise. In Vermont, bottled water opponents “won” legislative recognition of the public trust doctrine in groundwater, but with so many concessions that the recognition may have no real impact on major water users. In Maine, what began as an effort to provide more comprehensive water protection ended as a modest permitting statute, with very limited coverage and applicability. As these laws were recently passed, time will tell if they are effective in

323. ME. REV. STAT. tit. 5 § 3331(8) (2009); S. 610, 123d Leg., 2d Reg. Sess., § 410-R(1-2) (Me. 2007).

324. S. 610, 123d Leg., 2d Reg. Sess., § 410-R(2) (Me. 2007).

325. ME. REV. STAT. tit. 5 § 3331(8) (2009); S. 610, 123d Leg., 2d Reg. Sess., § 410-R(1-2) (Me. 2007).

326. ME. REV. STAT. tit. 5 § 3331(8) (2009); S. 610, 123d Leg., 2d Reg. Sess., §§ 410-T, 410-U, 410-V, 2007 (Me. 2007).

327. S. 610, 123d Leg., 2d Reg. Sess., §§ 410-T, 410-U, 410-V, 2007 (Me. 2007).

328. *Id.*

329. S. 725, 122d Leg., 2d Reg. Sess. (Me. 2006).

330. H. 1046, 122d Leg., 1st Reg. Sess. (Me. 2005).

331. See Noel K. Gallagher, *Challenges Piling up for Poland Spring*, PORTLAND PRESS HERALD (Me.), Feb. 6, 2009, at A1, available at <http://pressherald.maintoday.com/story.php?id=237364&ac=> (last visited Dec. 1, 2009).

resolving bottled water controversies or simply create another bureaucratic hurdle along the way.

3. The Really Ugly: Michigan's Bottled Water Moratorium Executive Order

Before Michigan took a big step forward with its water policy in response to bottled water disputes, it faced many challenges first fell a step back. In 2005, Michigan Governor Jennifer Granholm issued a moratorium on bottled water permits for companies intending to export water outside the Great Lakes Basin.³³² The Executive Directive was signed in late May of 2005, and was specifically aimed at the agreement for water supply made between the City of Evart and Nestlé Waters North America.³³³ Governor Granholm described her reasons for the order in the directive itself.³³⁴ Referencing Michigan's vast water resources, the governor pointed out that "abundance is not a license to be reckless, foolish, or wasteful."³³⁵ The governor further noted the lack of clarity in Michigan law "regarding the regulation of water withdrawals and water bottling."³³⁶ Finally, the governor cited the legislature's failure to "seriously debate and act on this issue."³³⁷

For these reasons, the governor effectively halted new bottled water export outside of the Great Lakes Basin.³³⁸ The Executive Directive ordered all state departments and agencies to halt issuing permits or approvals for bottled water processors unless the applicant certified "that the delivery or sale of all bottled water production [would] be limited to the Great Lakes Basin."³³⁹ The directive concluded with a request that Michigan be equipped with policies and legal tools to make "principled determinations concerning the impact and consequences future water bottling proposals."³⁴⁰

In the same year that the Executive Directive went into effect, the Michigan Department of Environmental Quality ("MDEQ") issued several permits to Nestlé regarding its water extraction from a well owned by the City of Evart.³⁴¹ The department attached several special conditions to each of the permits.³⁴² The first of these special conditions required Nestlé to certify that the water purchased from the City of Evart be "distributed solely within the Great Lakes Basin."³⁴³

332. Exec. Directive No. 2005-5 (May 26, 2005).

333. *Id.*

334. *Id.*

335. *Id.*

336. *Id.*

337. *Id.*

338. *Id.*

339. *Id.*

340. *Id.*

341. First Amended Complaint for Declaratory and Injunctive Relief at 6-7, Nestlé Waters N. Am., Inc. v. Chester, No. 1:05-cv-00421 (W.D. Mich. Oct. 5, 2005).

342. *Id.*

343. *Id.*

Presumably, MDEQ placed this requirement on the permit to comply with the governor's Executive Directive. Challenging its legality, though, Nestlé initiated legal proceedings against the director of MDEQ, as well as Governor Granholm, both in their official capacities.³⁴⁴

In its complaint, Nestlé challenged the special condition on the permit and the Executive Directive as violations of the "dormant" Commerce Clause of the United States Constitution.³⁴⁵ Nestlé also challenged the Water Resources Development Act of 1986 ("WRDA"), a federal law requiring every governor of the "Great Lakes States" to approve any diversion from the Great Lakes Basin,³⁴⁶ as not being applicable to their water extraction as well as violating the United States Constitution.³⁴⁷ In lieu of filing an answer to the complaint, the defendants filed a motion to dismiss, arguing that the court should apply the federal abstention doctrine because of unresolved, complex state law issues that were to be decided by Michigan courts.³⁴⁸ Opposing the motion, Nestlé argued that the federal interests under the dormant commerce clause were too important for a federal court to abstain from the proceedings.³⁴⁹ Nestlé also argued that the related state court case on which plaintiffs relied was distinct, in that it only challenged the permits under state law, whereas the federal proceedings challenged the permits under the federal Constitution.³⁵⁰

Less than a year after the case began and even before the parties argued the motion to dismiss, Nestlé dropped the suit and Governor Granholm lifted the moratorium on out-of-state bottled water permits.³⁵¹ Essentially, a settlement came in the form of passage of long-awaited comprehensive water management laws by the Michigan Legislature (described above).³⁵² Since the legislation exempted water in containers of 5.7 gallons or less from the prohibition on out-of-basin diversions,³⁵³ Nestlé had no reason to continue its suit, as it could now obtain a permit to sell bottled water out of the state of Michigan, and outside of the Great Lakes Basin.

This controversy demonstrates the pitfalls of knee-jerk political reactions to bottled water disputes. While the court never considered Nestlé's challenge because of the settlement of the suit, Michigan's initial

344. *Id.* at 2-3.

345. *Id.* at 8-10.

346. 42 U.S.C. § 1962d-20(d) (2006).

347. First Amended Complaint for Declaratory and Injunctive Relief at 11-21, Nestlé Waters N. Am., Inc. v. Chester, No. 1:05-cv-00421 (W.D. Mich. Oct. 5, 2005).

348. See Defendants Steven E. Chester's and Jennifer M. Granholm's Reply Brief in Support of Motion to Dismiss or, in the Alternative, to Stay the Proceedings, at 1, Nestlé Waters N. Am., Inc. v. Chester, No. 1:05-cv-00421 (W.D. Mich. Feb. 7, 2006).

349. See Plaintiff's Brief in Opposition to Defendants' Motion to Dismiss or, in the Alternative, to Stay the Proceedings, at 1, Nestlé Waters N. Am., Inc. v. Chester, No. 1:05-cv-00421 (W.D. Mich. Jan. 24, 2006).

350. *Id.*

351. See John Flesher, *Company Drops Bottled Water Lawsuits*, MUSKEGON CHRONICLE (Mich.), Mar. 15, 2006, at B2, available at <http://www.mlive.com/chronicle/archives/> (last visited Dec. 1, 2009).

352. *Id.*

353. MICH. COMP. LAWS § 324.32701(1)(p) (2009).

approach to bottled water controversies certainly raised legitimate legal and policy concerns. Further, Michigan's moratorium on bottled water and limitation on the distribution of bottled water within the Great Lakes basin would do nothing to protect the overall health of water resources or other water users from water withdrawals. Fortunately, reason and good policy prevailed, and after the moratorium Michigan ultimately enacted the sound water withdrawal policy discussed above that protects the Great Lakes and other water resources from all water withdrawals, including bottled water.

IV. NEW STRATEGIES: WATER IS NOT FOR SALE (UNLESS THE STATE GETS PAID)

As the case studies illustrate, even the best state efforts for managing water resources in response to bottled water disputes leave bottled water opponents unsatisfied. To some extent, this is typical of the legal system and water law in particular, which tends to favor optimal utilization of water resources balancing multiple competing interests. State laws and judicial opinions that address the conditions for a water bottler's withdrawal, but leave unanswered fundamental questions of ownership, control, and the right to profit from water will also frustrate bottled water opponents. With this collective experience, bottled water opponents have turned to two other approaches that go beyond improved regulation: the public trust doctrine and taxing bottled water. So far, neither has proven legally or politically fruitful, but that has not done anything to diminish the hope that opponents have for both strategies.

A. THE FALSE HOPE OF THE PUBLIC TRUST DOCTRINE

Disappointed by judicial and regulatory outcomes, bottled water opponents have turned their attention to the public trust doctrine as a tool for addressing their concerns. Maude Barlow, one of the leading opponents of bottled water and water commoditization,³⁵⁴ told *The New York Times* that reliance on the public trust doctrine to protect groundwater is critical in the fight against bottled water and prepares states for "the day when demand for groundwater outstrips supply."³⁵⁵ Similarly, author David Dempsey claims that the public trust doctrine provides the strongest argument that states "can 'just say no' to water exports and diversions" including bottled water.³⁵⁶

Hundreds of law review articles have extensively analyzed, discussed, and written about the public trust doctrine since Professor

354. Press Conference, UN General Assembly, Press Conference by General Assembly President on Water-Related Human Rights (Dec. 9, 2008), *available at* http://www.un.org/News/briefings/docs/2008/081209_Water.doc.htm (last visited Dec. 1, 2009) (showing Ms. Barlow is the Senior Advisor on Water to the President of the United Nations General Assembly).

355. Barringer, *supra* note 24.

356. DEMPSEY, *supra* note 4, at 4.

Joe Sax reintroduced the concept into environmental law in 1970³⁵⁷ and needs only a brief introduction here. At its core, the public trust doctrine protects public rights in navigable waters by ensuring public access to navigable waters and limiting the state's ability to divest itself of navigable waters for private gain.³⁵⁸

However, there are two significant problems with relying on the public trust doctrine to oppose bottled water withdrawals. First, almost all contentious bottled water disputes involve small springs and groundwater, and very few states have extended the public trust doctrine to non-navigable springs and groundwater.³⁵⁹ Second, even if the public trust doctrine did apply to the small springs and groundwater used by many water bottlers, there is no legal authority to suggest that bottling and selling water infringes on public rights to the water and thus violates the public trust doctrine's principles.

A survey of the public trust doctrine's application indicates that only a handful of states – notably California,³⁶⁰ Hawaii,³⁶¹ and most recently Vermont³⁶² – have explicitly extended the public trust doctrine to groundwater. Numerous states have expressly rejected attempts to expand the public trust doctrine beyond its historic navigable waters roots.³⁶³ Legal scholars, armed with scientific arguments demonstrating the clear hydrologic connection between groundwater and surface waters and the slow pace of groundwater regulation reforms, have urged legislatures and courts to expand the public trust doctrine to groundwater.³⁶⁴ While modern scientific knowledge of groundwater-surface water hydrology certainly gives some merit to this argument, the law of the public trust doctrine itself makes it an odd fit for groundwater resources.

The public trust doctrine serves four primary purposes: (1) it limits to some extent a state's ability to divest itself of, or otherwise transfer title to, public trust assets to private parties; (2) it provides public access for the exercise of traditionally protected public rights such as fishing and navigation; (3) it provides a basis for government regulation to protect natural resources; and (4) it may provide a legal cause of action for citizens seeking to prevent environmental harm to a

357. See Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 473 (1970).

358. *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 436 (1892).

359. See *infra* notes 360-363 and accompanying text.

360. *Nat'l Audubon Soc'y v. Sup. Ct.*, 658 P.2d 709, 721 (Cal. 1983) (holding that the public trust doctrine applies to non-navigable waters that are tributary to a navigable water, which could then apply to groundwater when hydrologically connected to navigable waterway).

361. See *In re Water Use Permit Applications*, 9 P.3d 409, 447 (Haw. 2000).

362. See VT. STAT. tit. 10, § 1390(5) (2009) ("groundwater resources of . . . [Vermont] are held in trust for the public").

363. See, e.g., *Bott v. Comm'n of Natural Res.*, 327 N.W.2d 838, 846 (Mich. 1982); *Evans v. City of Johnstown*, 410 N.Y.S.2d 199, 207 (1978); *Gwathmey v. Dep't of Env't, Health, and Natural Res.*, 464 S.E.2d 674, 686 (N.C. 1995); *Rettkowski v. Dep't of Ecology*, 858 P.2d 232, 239 (Wash. 1993).

364. See, e.g., Tuholske, *supra* note 75, at 213, 230-31.

resource.³⁶⁵ To consider the merits and need for extending the public trust doctrine to groundwater, it is useful to examine each purpose as it relates to groundwater.

(1) The public trust doctrine limits, to some extent, a state's ability to divest itself of, or otherwise transfer title to, public trust assets to private parties. This principle was first established by the United States Supreme Court in *Illinois Central Railroad v. Illinois*.³⁶⁶ In this famous decision, the Supreme Court held that the state of Illinois could not convey title to a critical portion of Lake Michigan shoreline to a railroad company.³⁶⁷ However, it remains unclear whether this limitation is substantive or merely procedural – that is, the public trust doctrine may only require certain procedures to guarantee public accountability when the state conveys trust property to a private party.³⁶⁸ Even if the public trust doctrine provides only a procedural check on the state's ability to transfer title to public trust resources to private parties, it is still an important and valuable protection for critical public trust resources.

However, this purpose of the public trust doctrine is not applicable to groundwater. Unlike the navigable waters and their shorelines and underlying beds, which the public trust doctrine protects, most states do not hold title to the groundwater within their borders.³⁶⁹ Thus, states would not generally be in a position to transfer title to groundwater resources to a private party. While many states have statutes which define “waters of the state” to include groundwater, this is for purposes of regulatory authority, not ownership.³⁷⁰ Ohio provides a clear example of this point. Ohio's water use statute defines “waters of the state” broadly to include “all... watercourses, waterways, wells, springs,... and other bodies or accumulations of water, surface and underground... regardless of the depth of the strata in which underground water is located, that are situated wholly or partly within or border upon this state False”³⁷¹ However, courts have made clear that the state of Ohio does not “own” the groundwater, and can even be liable for a taking when it interferes with private groundwater rights.³⁷²

365. JACK H. ARCHER ET AL., *THE PUBLIC TRUST DOCTRINE AND THE MANAGEMENT OF AMERICA'S COASTS* 3, 4, 8, 51 UNIV. MASS. PRESS (1994).

366. *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 436 (1892).

367. *Id.* at 460.

368. See Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 642-43 (1986).

369. See, e.g., *McNamara v. Rittman*, 838 N.E.2d 640, 643 (Ohio 2005).

370. See, e.g., CONN. GEN. STAT. § 22a-15 (2009); MASS. GEN. LAWS ch. 21L, § 1 (2009); NEV. REV. STAT. § 533.025 (2008); N.J. STAT. § 58:11A-2(b) (2009).

371. OHIO REV. CODE § 1501.30(A)(6) (2009).

372. *McNamara*, 838 N.E.2d at 643.

(2) The public trust doctrine protects traditional public rights such as fishing, navigation, and in some states recreational use of public trust waters.³⁷³ Public access for navigation, fishing, and recreation is the most fundamental and well-established purpose and legal implication of the public trust doctrine.³⁷⁴ For example, the Northwest Ordinance of 1787 provided that “navigable waters leading into the Mississippi and Saint Lawrence, and the carrying places between the same, shall be common highways, and forever free.”³⁷⁵ However, protecting traditional public rights such as fishing and navigation is simply not applicable to groundwater. One cannot navigate, fish, or otherwise use groundwater for recreation. While groundwater flows to a surface water may be necessary to ensure that the surface water can support protected public navigation, fishing, and recreation,³⁷⁶ the protected public interest is still in the navigable water itself.

(3) The public trust doctrine has been cited as a basis for government regulation to protect natural resources. Governments have limited regulatory power, and in some circumstances may lack the constitutional authority to regulate certain private conduct that could harm a natural resource.³⁷⁷ In these circumstances, some argue that the public trust doctrine gives governments another legal basis for regulation.³⁷⁸ However, every state already has ample authority to protect groundwater and groundwater-dependent natural resources without the groundwater itself being subject to the public trust doctrine.³⁷⁹ State constitutions, statutes, and the police power allow states to regulate water use, including groundwater withdrawal, without expanding the public trust to groundwater.³⁸⁰

(4) The public trust doctrine may provide a legal cause of action for citizens seeking to prevent environmental harm to a resource. This was the hope for the public trust doctrine when Professor Joe Sax launched the modern public trust doctrine into the environmental law field in 1970.³⁸¹ However, since 1970 the need for the public trust doctrine as a cause of action for citizen lawsuits to protect the environment has diminished.³⁸² This is due in large part to the rise of statutory environmental protections with citizen enforcement provisions since 1970.³⁸³ An ironic example comes from Professor Sax’s work in Michigan, which passed the landmark Michigan Environmental Protection Act (“MEPA”), authored in large part by Professor Sax to

373. See, e.g., *Glass v. Goeckel*, 703 N.W.2d 58, 73-74 (Mich. 2005).

374. H. Doc. No. 398, ORDINANCE OF 1787, art. IV, at 47 (1787).

375. *Id.*

376. See ROBERT GLENNON, *supra* note 76, at 41.

377. See Joseph L. Sax, *supra* note 357, at 474.

378. Richard J. Lazarus, *supra* note 368, at 655.

379. COLO. REV. STAT. § 37-90-102(1)-(2) (2009).

380. *Id.*

381. Joseph L. Sax, *supra* note 357, at 474.

382. See Richard J. Lazarus, *supra* note 347.

383. See Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, 82 NOTRE DAME L. REV. 699, 714-15 (2006).

further the public trust doctrine's goals.³⁸⁴ MEPA provides that "any person may maintain an action in . . . court . . . against any person for the protection of the air, water, and other natural resources and the public trust in these resources from pollution, impairment, or destruction."³⁸⁵ Thus, MEPA, and similar statutes in other states, give citizens a legal cause of action to prevent environmental harm to groundwater and groundwater-dependent natural resources. Even without express statutory authority, common law groundwater and riparian doctrines give citizens with protectable water rights legal relief for harm to water resources.³⁸⁶

Thus, expansion of the public trust doctrine to groundwater may not be as legally significant as proponents would hope or opponents would fear. The primary purposes of the public trust doctrine are either inapplicable to groundwater or duplicative of existing Constitutional and statutory law.³⁸⁷ It seems that expansion of the public trust doctrine to groundwater is primarily a strategy based on the ideology of water ownership rather than the legal realities of the likely outcomes.³⁸⁸

Nonetheless, there is room for a modest pragmatic proposal to apply the public trust doctrine to some groundwater withdrawals (including those for bottled water) that have the potential to impact navigable waters. Some groundwater withdrawals (individually or cumulatively) could diminish the flows of navigable surface waters that the public trust doctrine protects under applicable state law.³⁸⁹ All branches of government (legislative, judicial, and executive) should guard against this diminution consistent with the public trust doctrine. Legislatures, agencies, and courts should not allow any withdrawal of groundwater to impair or diminish the public trust in connected navigable surface waters subject to the public trust doctrine. For example, if groundwater withdrawals were to threaten navigation on a navigable river, those groundwater withdrawals should not be allowed, as they would violate the public trust doctrine. Similarly, if groundwater withdrawals lowered lake levels on a navigable inland lake such that the public could no longer access it for fishing or hunting, those groundwater withdrawals should not be allowed as they would violate the public trust doctrine.

Putting aside the potential for direct and indirect impacts on traditional public rights in navigable waters, there is simply no case law

384. *Id.* at 721.

385. MICH. COMP. LAWS § 324.1701(1) (2009).

386. A notable exception is the "rule of capture" applied by some states to groundwater disputes, which does not give groundwater users any legal relief for harm. *See supra* notes 141-146, 249 and accompanying text.

387. *See supra* notes 360-372 and accompanying text.

388. *See* Tuholske, *supra* note 75, at 236 ("Adoption of the public trust to protect water resources provides an important statement that can shift public views in favor of protecting public resources. The public trust crosses over from the law to a pure statement of societal vision." [internal quotations and citations omitted]).

389. *See* James M. Olson, *Navigating the Great Lakes Compact: Water, Public Trust, and International Trade Agreements*, 2006 MICH. ST. L. REV. 1103, 1129 (2006).

from any state suggesting that the public trust doctrine prohibits pumping groundwater for bottling and sale, regardless of whether that water is subject to the public trust doctrine or not. It is not for lack of trying; bottled water opponents often have a zealous and ideological passion for the public trust doctrine.³⁹⁰ Rather, no court has accepted the argument from bottled water opponents that the bottling and sale of water (even from a water body protected by the public trust doctrine) violates any of the doctrine's principles.³⁹¹

It is also worth noting that the public trust doctrine would not offer a defense to a NAFTA or GATT challenge to a state law limiting the export of bottled water, as some commentators have suggested.³⁹² While NAFTA and GATT allow export restrictions for "conservation of exhaustible natural resources,"³⁹³ there is no similar provision for export restrictions pursuant to the public trust doctrine. Justifying restrictions on bottled water with the public trust doctrine may satisfy some opponents' ideological concerns, but would do nothing to defend such restrictions from challenges pursuant to international trade law.

B. IF WATER IS GOING TO BE SOLD, THE STATE SHOULD SHARE IN THE PROFITS

While some bottled water opponents claim that the public trust doctrine should limit the bottling and sale of water, other opponents simply want to ensure that the state gets a share of the profits. For example, in early 2009, Governor Charlie Crist of Florida proposed a 6 cents-per-gallon water extraction tax on bottled water producers.³⁹⁴ Governor Crist noted that over twenty companies, including Nestlé Waters of North America, Coca-Cola, and Pepsi, profit ten to one hundred times off of the cost of each bottle of bottled water since the only cost to pump and extract water is a one-time, \$150 water permit.³⁹⁵

The Florida Department of Environmental Protection ("DEP"), working with Governor Crist, estimates that a 6 cents-per-gallon extraction fee on water bottlers would apply to about 5.4 million gallons a day and would generate around \$56 million in the first year.³⁹⁶ The generation of \$56 million is in stark contrast to the \$15 million deficit on which the DEP is now operating with regards to water projects.³⁹⁷ The DEP reported that if the fee were passed on to customers, the customer

390. *In re Town of Nottingham*, 904 A.2d 582, 588-89 (N.H. 2006).

391. *Id.* at 590.

392. James M. Olson, *supra* note 389, at 1130-32 (discussing the author's belief that water subject to the public trust doctrine cannot be transferred or withdrawn unless doing so would promote a public purpose).

393. GATT, *supra* note 118, art. XX(g); NAFTA, *supra* note 117, art. 2101.

394. Marc Caputo & Steve Bousquet, *Gov. Charlie Crist Sees Bright Spots with State Budget*, MIAMI HERALD, Feb. 20, 2009, available at <http://www.miamiherald.com/news/legislature/story/914452.html> (last visited Dec. 1, 2009).

395. Mary Ellen Klas, *Charlie Crist Wants to Stop Free Flow for Bottled Water*, MIAMI HERALD, Mar. 3, 2009, available at <http://www.miamiherald.com/news/legislature/v-print/story/929571.html> (last visited Dec. 1, 2009).

396. *Id.*

397. *Id.*

would see an increase in cost on a pint-sized bottle of less than a penny.³⁹⁸ The DEP would phase in the tax and use the money raised to finance alternative water supply sources, such as desalination plants.³⁹⁹

In response to Governor Crist's proposal, Kent Koptiuch, a groundwater professional and the Natural Resource manager for a Nestlé Waters North America bottling facility, counters that the water bottling companies did not "cause the overdevelopment that has led to water shortages" and that the "tax will do nothing to prevent more of [the water shortages] from happening."⁴⁰⁰ Koptiuch also argues that because water is a renewable resource, its use and withdrawal should not be taxed.⁴⁰¹ The problem Florida faces is not due to water bottling companies, Koptiuch suggests, but rather, the problem is due to Florida's mismanagement of development and the water resource itself.⁴⁰² The tax would not create an incentive for communities to save water, and it singles out water bottling companies while other bottled drinks such as carbonated beverages and sports drinks are not subject to the tax, although they use water as well.⁴⁰³ Koptiuch points out that even those companies that freeze the water they extract and sell it as ice will not be taxed under Governor Crist's proposal.⁴⁰⁴

Maine has also attempted several variations on taxing water extraction by water bottlers. In 2004, Jim Wilfong, a former Maine legislator and leader of *H₂O for ME*, pushed for a 20 cents-per-gallon tax on groundwater extractions for bottled water.⁴⁰⁵ Wilfong suggested that the revenue from such a tax could generate \$80 to \$100 million a year and could be used for a Water Dividend Trust to support small business development and to monitor the water extractions from Maine's aquifers.⁴⁰⁶ However, when Maine passed a new water management statute in 2007, it did not include an extraction tax.⁴⁰⁷

New Hampshire also considered a tax on extractions by water bottlers.⁴⁰⁸ In 2004, the New Hampshire legislature confronted a

398. *Id.*

399. *Id.*

400. Kent Koptiuch, *Crist's Tax Plan Doesn't Hold Water*, TAMPA TRIB., Mar. 18, 2009, available at <http://www2.tbo.com/content/2009/mar/18/na-crist-tax-plan-doesnt-hold-water/news-opinion-commentary/>.

401. *Id.*

402. *Id.*

403. *Id.*

404. *Id.*

405. *Group Plans Water-Extractions Tax, Asks State Support*, U.S. Water News Online, Aug. 2004, available at <http://www.uswaternews.com/archives/arcpolicy/4grouplan8.html> (last visited Dec. 1, 2009).

406. *Id.*

407. See discussion of Maine's water withdrawal statute, *supra* Part III.B.2; see also S. 610, 123d Leg., 1st Reg. Sess., § 3331 (Me. 2007) (Westlaw).

408. *New Hampshire Bill Would Tax Water Bottlers 5 Cents Per Gallon*, U.S. Water News Online, Jan. 2004, available at <http://www.uswaternews.com/archives/arcpolicy/4newshamp1.html> (last visited Dec. 1, 2009).

proposal for a 5 cents-per-gallon water tax.⁴⁰⁹ While both Republicans and Democrats agreed that a tax on commercial water bottlers' water extractions would discourage the bottled water business in the state, they differed on the fundamental question of whether the state wanted to discourage water bottling.⁴¹⁰ Representative Mark Carter, who proposed the tax, believed that it would discourage businesses from putting pressure on the state's water resources, and the tax would be a "unique approach to managing water resources."⁴¹¹ Opponents questioned whether the law would negatively impact jobs and whether the tax on the water would be worth the negative impact.⁴¹² Rene Pelletier, who ran the state's public drinking water program, said that the agency was already protecting water resources and could order businesses to pump less water if problems with withdrawals arise.⁴¹³ A representative of Monadnock Mountain Spring Water Company stated that the tax would harm the business and would eliminate jobs and the New Hampshire property taxes that the company pays.⁴¹⁴

State political leaders are always looking for a new revenue source for both their general funds and their water protection efforts. Taxing bottled water makes some political sense, as it is a profitable and not always popular industry. Charging water bottlers a modest fee for the water that they then turn around and sell for a buck a bottle makes a compelling political argument. The proposed taxes could be a valuable source of funding for cash-strapped state water protection agencies, and the agencies could even use the funding to directly protect and manage state groundwater resources. However, taxing water bottlers but not other water users could create a dangerous incentive for state water regulators to favor bottled water over other uses that would not generate revenue for their departments' budgets. This debate will likely grow as bottled water becomes more controversial and states look for new ways to share in the profits.

CONCLUSION

Along with climate change, globalization may be the most significant challenge for state water law in the twenty first century. The pressures on water resources are no longer limited to local users and property owners but now include supply for a global water market. Bottled water is the oldest and most mature water market that transcends state lines. Bottled water disputes have forced state courts and political leaders to reevaluate old doctrines and water management regulations. In most cases, bottled water disputes have led to meaningful and useful legal reforms, especially in the area of groundwater management. However, in some cases bottled water disputes have exposed

409. *Id.*

410. *Id.*

411. *Id.*

412. *Id.*

413. *Id.*

414. *Id.*

problematic flaws in state water law and protectionist knee-jerk reactions by state political leaders that would do nothing to better protect water resources. Unsatisfied by modest reforms in the courts and legislatures, bottled water opponents have turned their hopes to the public trust doctrine and taxing water bottlers, strategies with significant legal and political weaknesses. Instead, bottled water opponents and state leaders should take the challenge of bottled water as an opportunity to further reform water management law with an emphasis on resource protection, science-based decision making, and water conservation. These approaches will help protect water resources from the pressures of globalization while respecting property rights and international trade law rules.