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Water Scarcity and Bottled Water: A Recommendation for Florida's Water Policy

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I. Introduction

104. Water is the foundation of life on our planet. It “is essential to virtually every human endeavor.”² When looking at images of the Earth from space, the abundant nature of water is visible, with seventy-one percent of the planet being covered by mighty blue oceans.³ However, the survival of life depends not on the vast expanse of salt water, but on a sustainable source of clean fresh water that can be used to maintain all life. The future of water has become increasingly insecure. The United Nations estimates that nearly two-thirds of the world’s population will live under water-stressed conditions by 2025.⁴ If conservation methods are not employed and consumption is not significantly reduced, by 2040 the demand for water around the globe will reach a level of consumption that is “40 percent above current sustainable water supplies.”⁵ Under conservative estimates, the world could need an additional

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2 Sandra Postel, *Water: Adapting to a New Normal*, [POST CARBON INSTITUTE](#) (June 22, 2010).

3 *How Much of the Ocean Have We Explored?*, [NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION \(NOAA\)](#).

4 *Water Scarcity*, [UNITED NATIONS DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS \(UNDESA\)](#).

5 Brett Walton, *National Security Assessment: Water Scarcity Disrupting U.S. and Three Continents*, [CIRCLE OF BLUE](#) (April 3, 2012).

amount of water to meet the world's dietary needs equivalent to the annual flow of seventy-three Colorado Rivers.⁶

105. While access to fresh drinking water is a cause for concern in the twenty-first century, transnational companies have seemingly tapped into the bottled water market where fresh water is extracted, bottled, and transported to stores around the world. In 2010, the global market volume for bottled water was \$59 billion dollars.⁷ Since then, the bottled water industry has seen tremendous growth and was valued at over \$157 billion in 2013 and is expected to reach over \$279 billion by 2020.⁸ A Natural Resources Defense Council report found that most of a company's costs to bottle water go towards "bottling, packaging, shipping, marketing, retailing, and other expenses," and that ninety percent of the cost paid by the consumer goes to things other than the water itself.⁹ Furthermore, there are external economic, social, and environmental costs that society must bear, such as loss of groundwater, toxic emissions from plastic production and destruction, air pollution from transporting the products, and the disposal of empty bottles.¹⁰

106. The State of Florida has an abundance of water including several bountiful aquifers, fifty thousand miles of rivers and streams, seventy-eight hundred lakes, eleven million acres of wetlands, and seven hundred springs.¹¹ Hydrologists believe that the Florida aquifers contain "more than a quadrillion gallons of fresh groundwater."¹² This equates to about one-fifth of the total volume of all five Great Lakes, one hundred times the amount of water in Lake Mead or the Colorado River, and thirty thousand times the daily flow to the sea of Florida's thirteen major coastal rivers.¹³ With such ample sources of fresh water, one would be hard pressed to view Florida as a state dealing with water stress.

107. Although Florida is not likely to face an impending water scarcity issue, it is important for Florida's water resources to be properly managed for the benefit of all people and the natural environment. In Florida, companies can apply for and acquire consumptive use permits (CUPs) that allow them to extract water from

6 Sandra Postel, *Water: Adapting to a New Normal*, [POST CARBON INSTITUTE](#) 9 (June 22, 2010).

7 *Managing Water Under Uncertainty and Risk*, [4 THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT 52](#) (2012).

8 *Global Bottled Water Market to Reach \$279 Billion in 2020*, [WATER QUALITY PRODUCTS](#) (January 19, 2015).

9 Andrew Postman, *Truth About Tap*, [NATIONAL RESOURCES DEFENSE COUNCIL](#) (January 5, 2016).

10 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH](#) (June 2013).

11 *Water Use in Florida, 2005 and Trends 1950–2005*, [U.S. GEOLOGICAL SURVEY](#) (September 2008).

12 Debbie Salamone, *Florida's Water Crisis: A Drying Oasis*, [ORLANDO SENTINEL](#) (March 3, 2002).

13 Debbie Salamone, *Florida's Water Crisis: A Drying Oasis*, [ORLANDO SENTINEL](#) (March 3, 2002).

Florida's natural aquifers and springs.¹⁴ A CUP “allows water to be withdrawn from surface and groundwater supplies for reasonable and beneficial uses such as public supply (drinking water), agricultural and landscape irrigation, and industry and power generation.”¹⁵ Florida is separated into five distinct water management districts, each responsible for issuing or denying permits within their respective geographical region.¹⁶ The Florida Department of Environmental Protection (FDEP) is responsible for supervising these water management districts (WMDs).¹⁷

108. Given the impending water scarcity issues facing the world and the environmental impacts associated with plastic bottles, especially the pollution associated with the added transportation, this Article proposes that the Florida legislature remove the FDEP and WMD's authority to issue CUPs for the purpose of bottling water. Using article X, section 11 of the Florida Constitution, the legislature should extend their Public Trust obligation to protect all water resources so that its overuse does not diminish public or ecological benefits.¹⁸ Adopting such a policy would be consistent with the state's constitutional policy “to conserve and protect its natural resources and scenic beauty.”¹⁹ Florida's legislature should codify this policy by amending Title XXVIII, Chapter 373, Florida Statutes, so that the WMDs are given clear statutory guidelines.

109. Part II of this Article discusses the severity of the water scarcity issue facing the world. Part III elaborates on and simplifies the extent of the environmental impacts resulting from the bottling water industry. Part IV evaluates and analyzes the legal scheme that currently allows companies to extract Florida's water from its springs and aquifers and proposes a statutory amendment to protect Florida's water security well into the future.

II. Water Scarcity: A Real Cause For Concern

110. Due to the availability of fresh water sources in developed nations, water scarcity issues may not be readily apparent. With the turn of a knob, the faucet reveals a stream of fresh, clean, drinkable water. Despite the relative ease at which water can be accessed in the United States and other developed nations, water is a relatively finite resource and continues to be depleted as the population grows.²⁰

14 Fla. Stat. § 373.223 (2015).

15 *E-Permitting*, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.

16 Fla. Stat. § 373.069 (2015).

17 Fla. Stat. § 373.026 (2015).

18 FLA. CONST. art. X, § 11.

19 FLA. CONST. art. X, § 11; FLA. CONST. art. II, § 7.

20 Sandra Postel, *Water: Adapting to a New Normal*, POST CARBON INSTITUTE 3 (June 22, 2010).

Only two-and-a-half percent of all of the available water on Earth is available fresh water and nearly seventy percent is trapped inside glaciers and ice caps.²¹ The United States Geological Survey estimates that only one percent of all of the water on earth is available fresh drinking water.²² As the world's population rose from 2.5 billion in 1950 to 6.8 billion in 2009, "the global renewable water supply . . . declined by 63 percent."²³ Although it is replenished annually by the solar hydrological cycle at a rate of one-hundredth of one percent, water is being siphoned off quicker than it can be renewed.²⁴ The solar hydrological cycle is the "continuous, interlinked circulation of water among its various compartments in the environment."²⁵ It occurs naturally "with heating caused by solar energy and progresses through stages of evaporation (or sublimation), condensation, precipitation (snow, rain, hail, glaze), groundwater, and runoff."²⁶ The total amount of water on earth is of fixed quantity. The solar hydrological cycle is responsible for evaporating ocean water and raining it down upon the land, transferring water from one source to another.²⁷

111. The National Intelligence Council published its 2012 report on Global Water Scarcity and found that:

An estimated 99 percent of the Earth's accessible fresh water is found in aquifers, and about 2 billion people rely on groundwater as their sole source of water. Some groundwater is located in aquifers that are not renewable (fossil aquifers); in other cases, water extraction from aquifers exceeds the replenishment rate. Certain groundwater systems need multiple centuries to replenish. Total annual overdrafts from aquifers around the world are probably double the annual flow of the Nile River.²⁸

112. These overdrafts are best evident in areas of China where the water table is falling at about five feet per year, and also in India where water tables are falling at the rate of three to ten feet per year.²⁹ Furthermore, many of the world's largest rivers, "including the Colorado, Rio Grande, Yellow, Indus, Ganges, Amu Darya,

21 *The World's Water*, UNITED STATES GEOLOGICAL SURVEY (May 2, 2016).

22 *The World's Water*, UNITED STATES GEOLOGICAL SURVEY (May 2, 2016).

23 Sandra Postel, *Water: Adapting to a New Normal*, POST CARBON INSTITUTE 3–4 (June 22, 2010).

24 Sandra Postel, *Water: Adapting to a New Normal*, POST CARBON INSTITUTE 3 (June 22, 2010).

25 *Hydrologic Cycle*, ENCYCLOPEDIA.COM (2003).

26 *Hydrologic Cycle*, ENCYCLOPEDIA.COM (2003).

27 *The World's Water*, UNITED STATES GEOLOGICAL SURVEY (May 2, 2016).

28 *Global Water Security*, NATIONAL INTELLIGENCE COUNCIL (February 2, 2012).

29 *Global Trends 2015: A Dialogue About the Future with Nongovernment Experts*, NATIONAL INTELLIGENCE COUNCIL (December 2, 2000).

Murray, and Nile” are so over utilized that “they discharge little or no water to the sea for months at a time.”³⁰

113. Population growth has not been the only factor that is increasing stress on water; “economic growth and individual wealth are shifting diets from predominantly starch based [foods] to meat and dairy, which require more water [to produce].”³¹ Whereas producing one kilogram of rice requires about 875 gallons of water, the equivalent weight in beef requires approximately 3,750 gallons. Even the production of a single cup of coffee requires 35 gallons of water.³² This dietary shift based on affluence is having one of the greatest impacts on water consumption and is likely to continue into the near future.³³ The high standard of living in the United States has resulted in “[t]he average U.S. resident [using] . . . about 1,800 gallons per day — twice the global average.”³⁴ However, water scarcity will not affect every country equally and is likely to be broken down into regional concerns. Countries that share water resources, such as in the Middle East and Africa, are likely to have increased tensions as rivers run dry and water tables recede further.³⁵

114. Although water scarcity is predicted to have substantial impacts going into the future, the United States is in a well-situated position, having less than five percent of the world’s population and about eight percent of the world’s fresh water resources.³⁶ Compare those numbers with China, which has about twenty percent of the world’s population and only seven percent of the world’s fresh water.³⁷

115. The United States has a substantial amount of fresh water within its borders, yet is not immune from the hardships that many arid and dry states will face.³⁸ Problems of water scarcity in the United States have arisen mainly “because the policies and rules that motivate decisions about water have encouraged inefficiency

30 Sandra Postel, *Water: Adapting to a New Normal*, POST CARBON INSTITUTE 4 (June 22, 2010).

31 *Managing Water Under Uncertainty and Risk*, 4 THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT 48 (2012).

32 *Managing Water Under Uncertainty and Risk*, 4 THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT 48 (2012).

33 *Managing Water Under Uncertainty and Risk*, 4 THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT 48 (2012).

34 Sandra Postel, *Water: Adapting to a New Normal*, POST CARBON INSTITUTE 8 (June 22, 2010).

35 *Global Trends 2015: A Dialogue About the Future with Nongovernment Experts*, NATIONAL INTELLIGENCE COUNCIL (December 2, 2000).

36 *Global Trends 2015: A Dialogue About the Future with Nongovernment Experts*, NATIONAL INTELLIGENCE COUNCIL (December 2, 2000).

37 *Global Trends 2015: A Dialogue About the Future with Nongovernment Experts*, NATIONAL INTELLIGENCE COUNCIL (December 2, 2000).

38 *The Growing Blue Tool*, GROWING BLUE.

and misallocation rather than conservation and wise use.”³⁹ Examples of inefficiency and misallocation can be seen across the western United States where major cities, such as Phoenix and Las Vegas, were created in desert areas where access to fresh water required the construction of substantial infrastructure.⁴⁰ In Las Vegas, the Hoover Dam was constructed to provide the water needs for the local population and hydroelectric power by restricting the flow of water from the Colorado River.⁴¹ The damming of the river created a reservoir known as Lake Mead, one of the largest man-made lakes in the world.⁴² The lake is supplied by the Colorado River and is capable of storing “the entire average flow of the Colorado River for two years.”⁴³ Unfortunately, despite attempts to properly maintain Lake Mead’s water levels, it is currently the lowest it has ever been due to a prolonged drought in the region.⁴⁴

116. Another example of poor planning manifests itself in Florida due to the government’s canal project in the Everglades.

In 1948, following a major drought and heavy flooding, the Congress authorized the Central and Southern Florida Project — an extensive system of over 1,700 miles of canals and levees and 16 major pump stations — to prevent flooding, provide drainage, and supply water to South Florida residents. This re-engineering of the natural hydrologic environment reduced the Everglades to about half its original size and resulted in losses of native wildlife species and their critical habitat.⁴⁵

117. Realizing the impact past decisions have on the Everglades, the federal government has teamed with Florida to carry out a 30 year, 13.5 billion dollar Comprehensive Everglades Restoration Plan.⁴⁶ The goals of this restoration plan are to “protect natural wildlife and plants [and] provide flood control and water supply for a growing population” by improving the water flow and water quality of the Everglades ecosystem.⁴⁷

39 Sandra Postel, *Water: Adapting to a New Normal*, [POST CARBON INSTITUTE](#) 12 (June 22, 2010).

40 Sandra Postel, *Water: Adapting to a New Normal*, [POST CARBON INSTITUTE](#) 4 (June 22, 2010).

41 *Hoover Dam: No Power Without Water*, [GROWING BLUE](#) (April 1, 2011).

42 *Lake Mead*, [VEGAS.COM](#).

43 *Hoover Dam: Lake Mead FAQs*, [U.S. DEPARTMENT OF THE INTERIOR](#).

44 Elizabeth Goldbaum, *Lake Mead’s Water Sinks to Lowest Level Since 1930s*, [LIVE SCIENCE](#) (August 20, 2015).

45 Government Accountability Office, *Freshwater Supply: States’ Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages*, [GAO-03-514](#) at 8 (July 2003).

46 *Why Restore the Everglades and Lake Okeechobee*, [FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION](#).

47 *Why Restore the Everglades and Lake Okeechobee*, [FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION](#).

118. Despite such comprehensive planning, misallocations of water resources continue to happen every day because bottled water companies are permitted to remove water from Florida's springs and aquifers. Allowing CUPs for bottling water exacerbates the water scarcity issue by promoting a policy that allows private corporations to convert a public resource for private gain and commoditize it for a substantial profit.

III. Environmental Concerns associated with Bottled Water

119. Allowing companies to privatize a public resource is disconcerting when the industry's environmental impacts are examined. Unfortunately, the environmental costs facing the water bottling industry are externalities, in that they are not being fiscally recognized on a company's balance sheet.⁴⁸ Instead, society is asked to pay for their groundwater loss, the toxic emissions associated with plastic production and destruction, pollution associated with the added product transportation, and also the disposal of empty bottles.⁴⁹ "Making the plastic for all those bottles and transporting the finished product over hundreds or thousands of miles consumes energy, pollutes the environment, and contributes to global warming."⁵⁰

120. Removal of the water resource itself isn't what causes the most severe environmental impacts, it is the plastic bottle that harnesses the water within that is controversial. Ninety-six percent of all of bottled water is sold in bottles that are made of the plastic polyethylene (PET).⁵¹ PET Bottles require petroleum in the manufacturing process.⁵² In a report that discussed the environmental impacts of PET bottles, the Container Recycling Institute reported that:

Because it is presently recycled at such low rates, tens of billions of new plastic bottles must be manufactured each year from virgin materials — fossil fuels — to replace those bottles that were not recycled. The Container Recycling Institute estimates that approximately 18 million

48 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH 2](#) (June 2013).

49 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH 2](#) (June 2013).

50 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH 7](#) (June 2013).

51 Jennifer Gitlitz & Pat Franklin, *Water, Water Everywhere: The Growth of Non-carbonated Beverages in the United States*, [CONTAINER RECYCLING INSTITUTE 4](#) (February 2007).

52 Jennifer Gitlitz & Pat Franklin, *Water, Water Everywhere: The Growth of Non-carbonated Beverages in the United States*, [CONTAINER RECYCLING INSTITUTE 4](#) (February 2007).

barrels of crude oil equivalent were consumed in 2005 to replace the 2 million tons of PET bottles that were wasted instead of recycled.⁵³

121. If we could save the roughly eighteen million barrels of oil, it would amount to enough fuel to power one million vehicles on the road each year.⁵⁴ Yet, Americans continue to purchase plastic water bottles to the tune of over thirty billion bottles each year.⁵⁵ Even though recycling efforts in America have consistently increased over the years, we still find that over sixty percent of all plastic water bottles will end up in an American landfill.⁵⁶ To make matters worse, hundreds of millions of plastic bottles will end up on the sides of roads, on beaches, and even in waterways.⁵⁷ In the end, many plastic bottles will be incinerated, “releas[ing] toxic byproducts such as chlorine gas and ash laden with heavy metals.”⁵⁸

122. The production of plastic bottles is only one part of the chain of environmental problems caused by the bottled water industry. After the bottle is produced and filled with water, it then needs to be transported to the consumer who may be anywhere from a few miles away, to a few thousand miles away. The amount of energy it takes to move water can be extensive because water weighs one metric ton per cubic meter.⁵⁹ However, the energy needed for transportation varies depending upon the mode of transportation. “Air cargo is by far the most energy intensive mode of transportation [and] truck transportation is more energy intensive than transportation by rail or bulk ocean shipping.”⁶⁰

123. A water bottle’s environmental impact also depends on the type of water being bottled, as not all bottled water is equal. For example, purified water is often municipal water that is treated, packaged, and sold to consumers “near major ur-

53 Jennifer Gitlitz & Pat Franklin, *Water; Water Everywhere: The Growth of Non-carbonated Beverages in the United States*, [CONTAINER RECYCLING INSTITUTE](#) 4 (February 2007).

54 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH](#) 7 (June 2013).

55 Norm Schriever, *Plastic Water Bottles Causing Flood of Harm to Our Environment*, [HUFFINGTON POST](#) (July 29, 2013).

56 *PET Water Bottle Recycling Rate Jumps Almost 20 Percent*, [PLASTICS NEWS](#) (February 20, 2013).

57 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH](#) 7 (June 2013).

58 *Take Back the Tap: Bottled Water Wastes Resources and Money*, [FOOD AND WATER WATCH](#) 7 (June 2013).

59 P.H. Gleick & H.S. Cooley, *Energy Implication of Bottled Water*, [4 Environmental Research Letters](#) 1, 4 (2009).

60 P.H. Gleick & H.S. Cooley, *Energy Implication of Bottled Water*, [4 Environmental Research Letters](#) 1, 4 (2009).

ban areas, with deliveries to local markets.”⁶¹ Therefore, because of the reduced distance the bottle travels to get to the market, the impact on the environment is also reduced. Spring water, on the other hand, is collected from a specific single source and is then bottled and shipped various distances. The major water bottling company, Nestlé, uses springs on the west coast of the United States to service western markets and also utilizes springs on the east coast to service eastern markets. Although Nestlé’s spring water may travel more than purified municipal bottled water, their environmental impact is dwarfed by the distance that a bottle of Fiji and Evian water must travel to reach consumers.⁶² Fiji and Evian are extreme examples of the long distances bottles of water may travel to reach consumers. To reach the U.S. market, Fiji water must travel across the Pacific Ocean, and Evian water must travel across the Atlantic.⁶³ When a one-liter Fiji bottle is removed from the aquifer, bottled and shipped across the world, it produces a half-pound of greenhouse gases just so that exotic bottle of water can be enjoyed by consumers.⁶⁴ Despite the greater environmental impacts of exotic bottled water and bottled water in general, consumers cannot seem to quench their thirst; likely because of extensive convincing and marketing campaigns put on by the bottled water companies.⁶⁵

IV. Florida’s Statutory Scheme for Water Regulation

Current Florida Legal Scheme

124. Florida has in place an extensive water management system. The Florida legislature enacted the Water Resources Act of 1972 (WRA) in order to “provide for the management of water and related land resources.”⁶⁶ The WRA established “a form of administrative water law that brought all waters of the state under regulatory control.”⁶⁷ The WRA divided Florida into five different WMDs based on local

61 P.H. Gleick & H.S. Cooley, *Energy Implication of Bottled Water*, 4 [Environmental Research Letters](#) 1, 4 (2009).

62 P.H. Gleick & H.S. Cooley, *Energy Implication of Bottled Water*, 4 [Environmental Research Letters](#) 1, 5 (2009).

63 P.H. Gleick & H.S. Cooley, *Energy Implication of Bottled Water*, 4 [Environmental Research Letters](#) 1, 5 (2009).

64 Krisy Gashler, *Thirst for Bottled Water Unleashes Flood of Environmental Concerns*, [USA TODAY](#) (June 7, 2008).

65 See Catherine Ferrier, *Bottled Water: Understanding a Social Phenomenon*, [WORLD WILDLIFE FUND](#) (2001).

66 Fla. Stat. § 373.016(3)(a) (1995).

67 Tatiana Borisova & Roy R. Carriker, *Public Policy and Water in Florida*, [UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES](#) (2008).

hydrology.⁶⁸ The WMD's are overseen by the FDEP.⁶⁹ The governing board of each water management district is appointed by the governor, confirmed by the senate, and must reside in their respective water management district.⁷⁰

125. WMDs are “responsible for issuing permits for various types of water use,”⁷¹ such as wells, management and storage of surface waters, and consumptive uses of water. Each individual district “has specific criteria detailing the types of activities that require permits, the contents of permit applications, the procedures that surround submission of an application, and areas specifically exempted from permitting requirements.”⁷² While the WMDs have specific authority to regulate water use within their area, such authority is not unlimited. WMDs are mainly responsible for permitting, and in doing so are to follow the Florida Surface Water Quality Plan as prepared by the FDEP.⁷³ The plan’s “purpose is to recognize various interests competing for water-use rights and to allocate for these rights while retaining reasonable water quality and quantity control, thus promoting the goals of environmental protection, proper drainage, flood control, water storage, and ensuring a reliable water supply for Floridians in the future.”⁷⁴ Additionally, “[t]he Governor and State Cabinet, sitting as the Land and Water Adjudicatory Commission, have authority to review any order or rule of a WMD.”

126. Before someone, who is not an individual user, can withdraw water from Florida’s springs, aquifers, rivers, or wells, or other municipal sources, they are first required to obtain a CUP from their respective WMD. In harmony with the WRA of 1972, the FDEP’s water resource implementation rules state that “[n]o permit shall be granted to authorize the use of water unless the applicant establishes that the proposed use is a reasonable-beneficial use, will not interfere with presently existing legal uses of water, and is consistent with the public interest.”⁷⁵ To determine

68 Fla. Stat. § 373.069 (2015).

69 Fla. Stat. § 373.026 (2015).

70 Fla. Stat. § 373.073(1)(a) (2015).

71 Michael T. Olexa, Tatiana Borisova & Sean Crisafulli, *Handbook of Florida Water Regulation: Water Management Districts*, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES (April 2015).

72 Michael T. Olexa, Tatiana Borisova & Sean Crisafulli, *Handbook of Florida Water Regulation: Water Management Districts*, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES (April 2015).

73 Michael T. Olexa, Tatiana Borisova & Sean Crisafulli, *Handbook of Florida Water Regulation: Water Management Districts*, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES (April 2015).

74 Michael T. Olexa, Tatiana Borisova & Sean Crisafulli, *Handbook of Florida Water Regulation: Water Management Districts*, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES (April 2015).

75 Fla. Admin. Code Ann. r. 62-40.410(1) (2006).

whether such use is a reasonable-beneficial use, the WMDs are to consider several factors:

(a) The quantity of water requested for the use; (b) The demonstrated need for the use; (c) The suitability of the use to the source of water; (d) The purpose and value of the use; (e) The extent and amount of harm caused; (f) The practicality of mitigating any harm by adjusting the quantity or method of use; (g) Whether the impact of the withdrawal extends to land not owned or legally controlled by the user; (h) The method and efficiency of use; (i) Water conservation measures taken and available to be taken; (j) The feasibility of alternative sources such as reclaimed water, stormwater, aquifer storage and recovery, brackish water and salt water; (k) The present and projected demand for the source of water; (l) The long-term yield available from the source of water; (m) The extent of water quality degradation caused; (n) Whether the proposed use would cause or contribute to flood damage; (o) Whether the proposed use would significantly induce or increase saltwater intrusion; (p) The amount of water which can be withdrawn without causing harm to the resource; (q) Whether the proposed use would adversely affect public health; and (r) Whether the proposed use would significantly affect natural systems.⁷⁶

127. For a bottled water company to obtain a permit, not only must it establish the aforementioned qualities, but if it is to transport water across county boundaries, it must show that it is consistent with the public interest.⁷⁷ In making such a determination a WMD must consider the following:

(a) The proximity of the proposed water source to the area of use or application. (b) All impoundments, streams, groundwater sources, or watercourses that are geographically closer to the area of use or application than the proposed source, and that are technically and economically feasible for the proposed transport and use. (c) All economically and technically feasible alternatives to the proposed source, including, but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and stormwater, and aquifer storage and recovery. (d) The potential environmental impacts that may result from the transport and use of water from the proposed source, and the potential environmental impacts that may result from use of the other water sources identified in paragraphs (b) and (c). (e) Whether existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for existing legal uses and reasonably anticipated future

⁷⁶ Fla. Admin. Code Ann. r. 62-40.410(2)(a)–(r) (2006) (emphasis added).

⁷⁷ Fla. Stat. § 373.223(3) (2015).

needs of the water supply planning region in which the proposed water source is located. (f) Consultations with local governments affected by the proposed transport and use. (g) The value of the existing capital investment in water-related infrastructure made by the applicant.⁷⁸

128. As seen in the language above, WMDs are already required to consider the environmental impacts of the added transportation; however, they are not required to consider the impact that the plastic bottles will have on the environment. Additionally, even in the South Florida Water Management District (SFWMD), where environmental problems have existed for years, CUPs are rarely denied.⁷⁹

129. It is likely that CUPs, which have been issued, go directly against the State's water conservation goal "to prevent and reduce wasteful, uneconomical, impractical, or unreasonable use of water resources."⁸⁰ There is nothing more wasteful, uneconomical, impractical, or unreasonable than allowing a corporation to tap into a spring or aquifer and privatize and commoditize that resource.

130. It is the job of governments, as custodians of the public trust in water, to protect water resources for the public's benefit.⁸¹ Allowing for bottled water companies to consume Florida's water resources, when the world faces an impending water shortage, is nothing short of a breach of the State's public trust obligations.⁸² After all, Florida's Constitution declares that the state's policy is "to conserve and protect its natural resources and scenic beauty."⁸³ It is imperative that the FDEP and WMDs become more conscious of water scarcity and environmental issues caused by bottling water, so that they can adopt a policy that is more in line with the state's conservation goals, while ensuring an abundance of the future supply of fresh water for Floridians.

Proposed Statutory Scheme

131. Although the aforementioned regulatory scheme provides language which could be used by WMDs to limit exploitation of Florida's waters by water bottling

78 Fla. Stat. § 373.223(3)(a)–(g) (2015) (emphasis added).

79 Ronald A. Christaldi, *Sharing the Cup: A Proposal for the Allocation of Florida's Water Resources*, 23 Fla. St. U. L. Rev. 1063, 1085 (1996).

80 Fla. Stat. § 373.227 (2015).

81 See Rosanne Gervasi Capeless, *History of Florida Water Law: Tracing the Ebb and Flow of Florida's Public Trust Doctrine Through the Opinions of Justice James B. Whitfield*, 9 J. Land Use & Envtl. L. 131 (1993).

82 Kelly Samek, *Unknown Quantity: The Bottled Water Industry and Florida's Springs*, 19 J. Land Use & Envtl. L. 569, 570 (2004).

83 FLA. CONST. art. X, § 11; FLA. CONST. art. II, § 7.

companies, this has not been the case. To ensure adequate protection of Florida's water resource, the legislature should amend the WRA to remove any mention of bottled water being a valid use of Florida's water. By removing such language, the WMDs would no longer have the authority to issue new CUPs. However, those permits already issued would not be affected by simple removal of authority. The legislature should take it one step further to amend the WRA, by requiring WMDs to deny all CUPs for the bottling of water and also allow for the expiration of such permits without the possibility of being renewed. Alternatively, the FDEP, in compiling the Florida Surface Water Quality Plan, can call for the elimination of CUPs for bottling water. Doing so would protect the environment, water quality, and ensure adequate supply of water for the future of Floridians.

132. As it stands today, WMDs have broad authority to regulate the issuing of CUPs for water resources. Florida's Constitution, along with other legislatively enacted statutes, provides the requisite authority needed to preclude commercial exploitation of such resources. Unfortunately, the factors that WMDs should consider have not been effective. WMDs should no longer issue CUPs and should follow the public trust doctrine strictly, ensuring the protection of Florida's water for future generations.

V. Conclusion

133. Addressing water scarcity issues and environmental concerns requires a proactive role in water management so that water is used productively and in an environmentally sustainable way. Additionally, in sustainably managing water resources, the FDEP should consider the overall environmental impacts of the bottled water industry, not just the environmental impacts that result from the added transportation of bottled water across county boundaries. Agencies should not only examine the increased air pollution from transportation, but they should also consider the impact that plastic bottles have on Florida's landfills and the pollution that is released when plastic bottles are incinerated.

134. When all of these factors are taken into account, Florida's WMDs along with the FDEP should be left with no other choice but to refuse the issuance of CUPs for the purposes of bottling water. To ensure that such a stringent policy is carried out, the Florida Legislature should amend the WRA and deny a WMDs' authority to grant CUPs for bottling water. Additionally, they should allow all current CUPs to expire without the possibility of being renewed. Only then will Florida's water resources be protected against privatization. After all, Florida's resources are held in trust for the benefit of its residents, and not for the benefit of those living outside of the state.