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A TROUBLED AGREEMENT FOR TROUBLED WATERS: HOW AN AMENDED BOUNDARY WATERS TREATY CAN SOLVE THE GREAT LAKES AGREEMENT'S FATAL FLAWS

PAUL SHUGAR[†]

ABSTRACT

Great Lakes water fuels \$4.2 trillion of gross-domestic product (“GDP”), making the Great Lakes Region the largest bi-national regional economy in the world. But what are the United States and Canada doing to protect the world’s largest readily available freshwater resource?

The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement’s failures show that Canada and the United State must amend the outdated Boundary Waters Treaty of 1909. This amended treaty would provide a uniform approach to regulating the Great Lakes so the states and provinces on both sides of the border must play by the same rules regarding water withdrawals and diversions. Additionally, the amended treaty can provide uniform regulations regarding the growing bottled-water industry. Through specific examples, this Note will examine how the Great Lakes Agreement and the implementing legislation it spawned in both countries led to competition instead of cooperation regarding the resource. Next, the note will discuss how the Chicago River diversion and the Waukesha, Wisconsin, diversion request puts the United States and Canada on unequal footing regarding the consumption of Great Lakes water. Finally, this Note will discuss how the bottled-water industry might not be a threat to the Great Lakes yet, but the current regulations could allow the states and provinces to lose control of the resource under the General Agreement on Tariffs and Trade (“GATT”) and the North America Free Trade Agreement (“NAFTA”).

This Note uses Garrett Hardin’s 1968 essay “The Tragedy of the Commons” to show that the United States and Canada share a commons in the Great Lakes. And like Hardin’s herdsmen tried to increase their number of cattle on the open pasture to maximize their personal returns from the resource, each state and province will attempt to increase their access to the Great Lakes to maximize that state’s or province’s economic benefits. Like the herdsmen’s unfettered freedom exhausted their open pasture, the bordering states and provinces could do the same with too much freedom to tap the Great Lakes. With the world already watching the decimation of freshwater resources such as Asia’s Aral Sea, Africa’s Lake Chad, and the United States’ Lake Mead, the Great Lakes could be next. One World Bank Study predicts that the global demand for freshwater will exceed supply by 40% as soon as 2030, and other scientists predict the Great Lakes could be bone dry in eighty years if freshwater extraction continues at the current global rate. With freshwater already becoming more valuable than oil, this Note provides a framework to ensure the Great Lakes, and the powerful regional economy it sustains, will be protected.

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“Water is the oil of the 21st Century.” Andrew Liveris, chief executive officer of Dow Chemical Company.¹

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I. INTRODUCTION

The U.S. states and Canadian provinces share more than 6-quadrillion gallons of freshwater² that continental glacier ice sheets deposited 20,000 years ago in the

¹ *Running Dry: Everyone knows industry needs oil. Now people are worrying about water, too*, THE ECONOMIST, <http://www.economist.com/node/11966993> (last visited Jan. 12, 2012) [hereinafter *Running Dry*].

² *Officials Warn of Great Lakes Water Shortage*, CBS CHICAGO, Feb. 9, 2011, <http://chicago.cbslocal.com/2011/02/09/officials-warn-of-great-lakes-water-shortage>.

Great Lakes.³ Together, Lake Superior, Lake Huron, Lake Michigan, Lake Erie, and Lake Ontario represent the world's largest readily available freshwater resource⁴ and 20% of the world's freshwater supply.⁵ Since the St. Lawrence Seaway opened to international shipping in 1959, more than \$375 billion of goods have moved through the Great Lakes Region.⁶ Yet the natural resource's overwhelming quantity and its international-shipping value represent only small parts of how the Great Lakes fuel a \$4.6-trillion gross-domestic product—the world's largest bi-national regional economy.⁷

The freshwater that comprises the Great Lakes is linked symbiotically to the Region's economy, but this seemingly limitless resource is showing signs of strain. Lake Superior, the world's largest freshwater lake and a key barometer of the Great Lakes system's health, dropped to its lowest level in eighty years in 2007.⁸ Superior's water receded almost fifty feet from the shoreline in some places.⁹ Less water means ships must carry less cargo to avoid running aground, and every one-inch drop in water level represents a loss of 500-billion gallons of water from the Great Lakes themselves.¹⁰ In the 1980s, every inch lost on the Great Lakes cost commercial shippers as much as \$50 million in lost cargo capacity.¹¹ In 2010, with adjustments for inflation, each one-inch drop costs roughly \$130 million.¹²

With so much at stake economically in the Great Lakes, Canada and the U.S. share a potential "tragedy of the commons" that Garrett Hardin wrote about in his 1968 essay of the same name.¹³ In "The Tragedy of the Commons," Hardin described a pasture free for all to use.¹⁴ Because of this unfettered freedom, the herdsmen attempted to keep as many cattle as possible on this commons to increase

³ Maude Barlow, *Our Great Lakes Commons: A People's Plan to Protect the Great Lakes Forever*, BLUE PLANET PROJECT 1, 9 (Mar. 2011), <http://www.blueplanetproject.net/resources/reports/GreatLakes-0311.pdf> [hereinafter *Our Great Lakes Commons*].

⁴ *Id.* at 21.

⁵ *Id.* at 15.

⁶ *The Seaway*, GREAT LAKES ST. LAWRENCE SEAWAY SYSTEM, <http://www.seaway.ca/en/seaway/vital/index.html> (last visited Feb. 26, 2012).

⁷ *Id.*

⁸ MAUDE BARLOW, BLUE COVENANT: THE GLOBAL WATER CRISIS AND THE COMING BATTLE FOR THE RIGHT TO WATER 4 (2007) [hereinafter BLUE COVENANT].

⁹ *Id.*

¹⁰ ROBERT GLENNON, UNQUENCHABLE: AMERICA'S WATER CRISIS AND WHAT TO DO ABOUT IT 98 (2009).

¹¹ DAVE DEMPSEY, GREAT LAKES FOR SALE: FROM WHITECAPS TO BOTTLECAPS 6 (2009).

¹² Figure calculated using Consumer Price Index from 1980 compared to the Consumer Price Index of 2010. THE INFLATION CALCULATOR, <http://www.westegg.com/inflation/> (last visited March 3, 2012).

¹³ Garrett Hardin, *The Tragedy of the Commons*, THE GARRETT HARDIN SOCIETY (March 13, 2005), http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.html.

¹⁴ *Id.*

their own personal benefits.¹⁵ Such a system creates the tragedy in that every herdsman finds himself locked into a system that compels him to increase his herd without limit in a world that is limited.¹⁶ In the end, this freedom to use the commons leads to the decimation of the commons through overuse, and all the herdsmen are ruined because they no longer can access the resource.¹⁷

Instead of an open pasture, the U.S. and Canada share a commons in the Great Lakes, a vast freshwater resource that each bordering American state and Canadian province uses to benefit their own economic gains.¹⁸ Like Hardin's herdsmen tried to increase their number of cattle on the open pasture to maximize their personal returns from the resource, each state and province will attempt to increase their access to the Great Lakes to maximize that state's or province's economic benefits.¹⁹ Like the herdsmen's unfettered freedom exhausted their open pasture, the bordering states and provinces could do the same with too much freedom to tap the Great Lakes.²⁰ Already the Great Lakes are showing signs that their resources are not infinite,²¹ and a potential tragedy of the commons could occur.²² Therefore, the provinces and states that border the Great Lakes must take steps to limit their own freedom to use the Great Lakes to ensure the resource is not diminished or exhausted, bringing economic ruin to both sides of the border.²³

The Great Lakes states and provinces already took steps to prevent a potential tragedy of the commons from occurring when they collectively removed some of the unfettered freedom to use the resource by signing the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement²⁴ ("Great Lakes Agreement" or "Agreement") in 2005.²⁵ The international, good-faith Agreement tied the Region's economic development to sustaining the area's freshwater resources.²⁶ On its face,

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ *Id.*

²⁴ *Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement*, COUNCIL OF GREAT LAKES GOVERNORS 1 (Dec. 13, 2005), http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Sustainable_Water_Resources_Agreement.pdf [hereinafter *Great Lakes Agreement*].

²⁵ *Great Lakes-St. Lawrence River Basin Water Resources Compact Project Background, Organization and Road to Development*, COUNCIL OF GREAT LAKES GOVERNORS, http://www.cglg.org/projects/water/CompactEducation/Project_Background_Organization_and_Road_to_Development.pdf (last visited Oct. 16, 2011).

²⁶ *Id.*

the Agreement appears to limit water diversions²⁷ and withdrawals²⁸ to ensure freshwater does not leave the watershed, and it encourages the states and provinces to cooperate to protect the shared natural resource.²⁹

Unfortunately, the Agreement lacks the legislative enforcement power required to accomplish its goal of protecting the Great Lakes Basin (“Basin”)³⁰ and

²⁷ “Diversion means a transfer of Water from the Basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer, including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a water course, a tanker ship, tanker truck or rail tanker but does not apply to Water that is used in the Basin or a Great Lake watershed to manufacture or produce a Product that is then transferred out of the Basin or watershed. Divert has a corresponding meaning.” *Great Lakes Agreement, supra* note 24, at 5.

²⁸ “Withdrawal means the taking of water from surface water or groundwater. Withdraw has a corresponding meaning.” *Id.* at 7.

²⁹ *Id.* at 1-2.

³⁰



preventing a potential tragedy of the commons.³¹ So in an attempt to meet the Agreement's main goals, the border states and provinces created their own implementing legislation. The United States passed the Great Lakes-St. Lawrence River Basin Water Resource Compact³² ("Great Lakes Compact" or "Compact")—an interstate Compact that the Great Lakes border states of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York all ratified—when President George W. Bush signed the federal consent legislation in 2008.³³ In 2007 the Canadian province of Ontario adopted the Safeguarding and Sustaining Ontario's Water Act ("SSOWA"),³⁴ and the Canadian province of Quebec followed in 2009 with the Act to Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection ("Act to Affirm").³⁵ Together, the Compact, the SSOWA, and the Act to Affirm create a mixture of conflicting legislation that undermines the transnational Agreement's main goal of sustaining the Great Lakes through the member states' and provinces' cooperation.³⁶

To ensure the Agreement's main goal is met, Canada and the United States must amend the outdated Boundary Waters Treaty of 1909 ("Treaty"). Such an act would provide a uniform approach to regulating the Great Lakes, solving the problems the Agreement's conflicting implementing legislation create. The Agreement's first problem is that it permits the U.S. states bordering the Great Lakes to have more freedom to use the resource via diversions than their Canadian counterparts. Next, the Agreement allows each border state and province to regulate withdrawals individually instead of setting uniform standards that all member states and provinces must meet. Finally, the Agreement provides the member states and provinces with the freedom to set their own withdrawal guidelines regarding the bottled-water industry. Until these problems are addressed, the danger of a tragedy of the commons³⁷ remains. Thus, the United States and Canada must amend the

The above map represents the Great Lakes Basin. All shaded areas are within the Great Lakes Watershed. For the purpose of this Note, any reference to the Great Lakes Watershed or Basin will refer to this shaded area. *Introduction to the Great Lakes*, GREAT LAKES INFORMATION NETWORK, http://www.great-lakes.net/teach/geog/intro/intro_2.html (last visited Nov. 12, 2011).

³¹ *Great Lakes Agreement*, *supra* note 24, at 1.

³² *Great Lakes-St. Lawrence River Basin Water Resources Compact*, COUNCIL OF GREAT LAKES GOVERNORS 1, 5 (Dec. 13, 2005), http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf [hereinafter *Great Lakes Compact*].

³³ GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCE COUNCIL, <http://www.glscompactcouncil.org> (last visited Oct. 22, 2011).

³⁴ *Water Withdrawal—Quebec Tightens the Pipe With Bill 92*, MCCARTHY TETRAULT (Sept. 8, 2008), http://www.mccarth.ca/article_detail.aspx?id=4156.

³⁵ *An Act To Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection*, Quebec National Assembly (2009), <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge/php?type=5&file=2009C21A.PDF> [hereinafter *Act to Affirm*].

³⁶ *Great Lakes Agreement*, *supra* note 24, at 1.

³⁷ Hardin, *supra* note 13.

Treaty to protect the Great Lakes from decimation, ensuring the Great Lakes remain sustainable to fuel the largest bi-national Regional economy in the world.³⁸

While this note will not address the treaty amendment process or the political viability of proposed amendments, it will show how an amended Treaty could solve the problems that exist under the Agreement. First, an amended Treaty would possess uniform guidelines, ending the competition among the Great Lakes states and provinces to possess the most lax water-withdrawal standards in order to satisfy their own personal economic gains. Second, the problems current diversions create can be addressed along with the vast disparity in legislative regulations that exist between Canada and the U.S. governing future Great Lakes diversions. Finally, an amended Treaty could eliminate the Agreement's failure to regulate the bottled-water industry, which could leave the Great Lakes subject to devastating problems under the General Agreement on Tariffs and Trade ("GATT")³⁹ and the North America Free Trade Agreement ("NAFTA").⁴⁰

Part II of this Note discusses the Great Lakes' economic influence along with the Great Lakes' importance as a natural resource. Section A of Part II explains how the Great Lakes represent one of the most important freshwater resources in the world, fueling the world's largest bi-national Regional economy. Section B of Part II examines the numerous strains facing the world's freshwater resources, and how these dangers also threaten the Great Lakes. Part III looks at the evolution of the international treaties and agreements governing the Great Lakes as a resource along with the concerns that necessitated them. Section A of Part III examines past international agreements governing the Lakes along with their strengths and weaknesses. Section B of Part III will look at the Great Lakes Agreement itself, and what the Agreement intends to accomplish. Section C of Part III examines the implementing legislation—the Compact, the SSOWA, and the Act to Affirm—that the Agreement spawned.

Part IV details the problems the Agreement faces through specific examples. Section A of Part IV shows how the varying implementing legislation creates too much autonomy for the member states and provinces to set their own regulations regarding withdrawals. Section B of Part IV examines how existing diversions and varying standards regarding future diversions could undermine the Agreement's conservation goals. Section C of Part IV shows how the Agreement's failure to regulate the bottled-water industry could leave the Great Lakes subject to international trade agreements that could undermine the ability to regulate the

³⁸ *The Seaway*, *supra* note 6.

³⁹ GATT is "[a] treaty created following the conclusion of World War II. The General Agreement on Tariffs and Trade (GATT) was implemented to further regulate world trade to aid in the economic recovery following the war. GATT's main objective was to reduce the barriers of international trade through the reduction of tariffs, quotas[,] and subsidies." *General Agreement On Tariffs And Trade—GATT*, INVESTOPEDIA, <http://www.investopedia.com/terms/g/gatt.asp#axzz1eBaxxImp> (last visited Nov. 19, 2011).

⁴⁰ The federal governments of Canada, Mexico, and the United States entered into NAFTA on January 1, 1994. "NAFTA created the world's largest free trade area, which now links 450-million people producing \$17 trillion worth of goods and services." *North American Free Trade Agreement (NAFTA)*, OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE: EXECUTIVE OFFICE OF THE PRESIDENT, <http://www.ustr.gov/trade-agreements/free-trade-agreements/north-american-free-trade-agreement-nafta> (last visited Nov. 19, 2011).

resource. Finally, Part V will show how an amended Boundary Water Treaty can address each of these problems.

II. THE GREAT LAKES

A. *Natural Resource Fueling a Major Economy*

The Great Lakes are remnants of continental glacier ice sheets that retreated 20,000 years ago.⁴¹ Combined, the Great Lakes' surface area is almost the same as that of the United Kingdom.⁴² Nearly 75,000 cubic feet of water flows out of Lake Superior every second, and all the Lakes' contents could cover North America under five feet of water.⁴³ Together, they represent the world's largest readily available freshwater resource.⁴⁴

When Europeans first came to North America, they found that the Great Lakes Region already housed many native communities and supported numerous trade and transportation routes.⁴⁵ The Region's lakes and rivers provided a natural infrastructure for the Region's settlement and commerce.⁴⁶ The introduction of canals and railway lines, coupled with access to international markets via the St. Lawrence River, further strengthened the Region's economic influence.⁴⁷ Strong connections between the U.S. and Canada led to the first bi-national trade agreement, the Reciprocity Treaty of 1854, being passed.⁴⁸ The two countries cooperated in improving the Great Lakes Region's infrastructure, opening the St. Lawrence Seaway to the Atlantic Ocean and global shipping in 1959.⁴⁹ Thanks to the 1989 U.S.-Canada Free Trade Agreement and the 1994 NAFTA, the two countries already have the world's largest bilateral trade relationship with total merchandise trade hitting \$533.7 billion in 2006.⁵⁰ The two-way trade that crosses the border between Windsor, Ontario, and Detroit, Michigan equals all U.S. exports to Japan.⁵¹

⁴¹ *Our Great Lakes Commons*, supra note 3, at 9.

⁴² WAYNE GRADY, *THE GREAT LAKES: THE NATURAL HISTORY OF A CHANGING REGION* 21 (2009).

⁴³ *Id.* at 21-22.

⁴⁴ *Id.* at 21.

⁴⁵ John Austin, *The Vital Connection: Reclaiming Great Lakes Economic Leadership in the Bi-National US-Canadian Region*, METROPOLITAN POLICY PROGRAM AT BROOKINGS (March 2008), http://www.brookings.edu/~media/Files/rc/reports/2008/0324_greatlakes_canada_austin/great_lakes_canada.pdf.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ Ian F. Fergusson, *United States-Canada Trade and Economic Relationship: Prospects and Challenges*, CONGRESSIONAL RESEARCH SERVICE 1, 3 (Jan. 29, 2008), <http://www.nationalaglawcenter.org/assets/crs/RL33087.pdf>.

⁵¹ *Id.*

Even with North American manufacturing's decline, the Great Lakes Region still generated \$4.6 trillion in economic output in 2009.⁵² By itself, the Region possesses a larger economy than Germany, the United Kingdom, or France.⁵³ More than 30% of North American corporations and 11% of the world's top 2000 firms have their headquarters in the Great Lakes Region.⁵⁴ It still produces 75% and 33% of Canadian and American manufacturing, respectively,⁵⁵ and the Region accounts for 39% of U.S.-Canadian trade with the world.⁵⁶

A study connects 1.51-million jobs to the Great Lakes in the United States.⁵⁷ Nearly a million occur in manufacturing and the rest occur in tourism, recreation, shipping, warehousing, agriculture, fishing, food production, science, engineering, utilities, and mining.⁵⁸ Minnesota has the fewest with 11,877, while Michigan, which is located entirely within the Great Lakes Basin, leads all states with 525,886 jobs connected to the Great Lakes.⁵⁹

B. Freshwater Resources Facing Sustainability Challenges

Las Vegas, Nevada, represents one of the world's best examples of what can happen when rapid economic growth occurs at the expense of an area's freshwater resources. Thirty miles from the poker tables and slot machines that draw 37-million visitors every year⁶⁰ is Lake Mead, which once could "cover all of Pennsylvania under a foot of water."⁶¹ Now, the lake barely would make half that distance, having lost 5.6-trillion gallons since 1998.⁶²

⁵² *Our Great Lakes Commons*, supra note 3, at 15.

⁵³ Matthew Mendelsohn, *The Vital Commons: A Policy Agenda for the Great Lakes Century*, MOWAT 5 (Oct. 2011) <http://mowatcentre.ca/pdfs/mowatResearch/39.pdf>.

⁵⁴ Austin, supra note 45.

⁵⁵ Mendelsohn, supra note 53, at 5.

⁵⁶ Austin, supra note 45.

⁵⁷ Lynn Vaccaro & Jennifer Read, *Vital To Our Nation's Economy: Great Lakes Jobs 2011 Report* 1, 3 (2009), <http://www.fws.gov/glri/documents/11-203-Great-Lakes-Jobs-report%5B1%5D.pdf>.

⁵⁸ According to this study, the jobs break down with 994,879 to manufacturing, 217,635 to tourism and recreation, 118,550 to shipping, 118,430 to agriculture, 38,085 to science and engineering, 10,980 to utilities, and 10,003 to mining. *Id.*

⁵⁹ Out of the 1.51 million jobs linked to the Great Lakes in the United States, Michigan has the most with 525,886, Illinois has 380,786, Ohio has 178,621, Wisconsin has 173,969, New York has 157,547, Indiana has 54,397, Pennsylvania has 25,479, and Minnesota has 11,877. *Id.*

⁶⁰ Las Vegas Convention and Visitors Authority, *2010 Las Vegas Year-To-Date Executive Summary*, ONLY VEGAS 1, <http://www.lvca.com/getfile/624/ES-YTD2010.pdf> (last visited Nov. 17, 2011).

⁶¹ Mark Strasmann, *America's Dwindling Water Supply*, CBSNEWS, Jan. 9, 2010, <http://www.cbsnews.com/stories/2010/01/08/eveningnews/main6073416.shtml?tag=contentBody;featuredPost-PE>.

⁶² *Id.*

Las Vegas, however, is only one example of a worldwide tragedy of the commons that is the freshwater supply. Unlimited diversions to grow cotton resulted in Asia's Aral Sea—once the world's fourth-largest lake—losing 80% of its volume.⁶³ Africa's Lake Chad was the world's sixth-largest lake, but the United Nations believes poor farming practices, industrial development, and other diversions will lead to the lake's disappearance in the next twenty years.⁶⁴ China, which possesses 25% of the world's population but only 6% of its freshwater, also faces freshwater supply issues.⁶⁵ Beijing's water table fell nearly two hundred feet during the past twenty years, putting the capital's sustainability in doubt.⁶⁶ In 1972 the Yellow River failed to reach the ocean for the first time.⁶⁷ That year the river did not reach the ocean for 15 days, and in 1997 it failed to reach the sea for 226 days.⁶⁸ Now it is one of the world's eight major rivers that regularly no longer reach the ocean.⁶⁹

To understand how much freshwater is available on Earth requires picturing all the water on the planet solidified into a cube.⁷⁰ This cube would represent approximately 330-million cubic miles, and the cube's edge would be about 695 miles long, about twice the length of Lake Superior.⁷¹ Earth's freshwater is 8.6-million cubic miles, only 2.6% of this total.⁷² Only 2.6 cubic miles of this—a minuscule .77%—is part of the hydrological cycle that circulates the Earth in clouds and falls as rain.⁷³ These 8,000 cubic miles of rain represent the only water that can be considered available for human consumption because its usage does not deplete the world's other nonrenewable water sources—such as natural groundwater reservoirs or lakes.⁷⁴ About 2-billion people—one third of the world's population—depend on groundwater supplies, withdrawing approximately 20% of global water

⁶³ *Our Great Lakes Commons*, *supra* note 3, at 15.

⁶⁴ *Id.*

⁶⁵ MAUDE BARLOW, *BLUE GOLD: THE FIGHT TO STOP CORPORATE THEFT OF THE WORLD'S WATER* 22 (2002) [hereinafter *BLUE GOLD*].

⁶⁶ *BLUE COVENANT*, *supra* note 8.

⁶⁷ *BLUE GOLD*, *supra* note 65, at 22.

⁶⁸ *Id.*

⁶⁹ The world's major rivers that regularly no longer reach the ocean include the Colorado and the Rio Grande in the U.S., the Nile in Egypt, the Indus in Pakistan, the Murray in Australia, the Jordan in the Middle East, and the Oxus in Central Asia. *BLUE COVENANT*, *supra* note 8, at 12.

⁷⁰ *BLUE GOLD*, *supra* note 65, at 5.

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

annually.⁷⁵ The U.S. relies on groundwater for 50% of its daily usage, and Europe relies on groundwater for 65% of its drinking water.⁷⁶

Freshwater supplies will face further sustainability challenges from problems such as climate change, pollution, and biofuels.⁷⁷ Investment bank Goldman Sachs estimates that global-freshwater consumption is growing at an unsustainable rate, doubling every 20 years.⁷⁸ Another World Bank study predicts that the global demand for freshwater will exceed supply by 40% as soon as 2030.⁷⁹ Close to 2-billion people worldwide now live in water-stressed regions.⁸⁰ By 2025, 66% of the world's population will face water scarcity.⁸¹ With 3-billion people expected to join the population by 2050, humans will need an 80% increase in water supplies simply for food production⁸² as irrigation and industrial farming represent 65% to 75% of human water use.⁸³ Around 10% of the world's grain harvest relies on unsustainable groundwater supplies—the equivalent of the total flow of two Nile Rivers every year.⁸⁴

Overall, industrial use of water is expected to double by 2025 if the global economy continues its current growth trends, making water an increasingly valuable commodity.⁸⁵ Between 2003 and 2006, the Bloomberg World Water Index's annual returns of 35% beat out the 29% annual returns that oil and gas stocks posted during the same period.⁸⁶ Analysts estimate that the global water market is worth anywhere from \$400 billion to \$1 trillion a year.⁸⁷ Investor T. Boone Pickens started Mesa Water, a company that purchased 200,000 acres of groundwater rights in Roberts County Texas, and he expects to make more than \$1 billion on his \$75-million investment.⁸⁸ Water scarcity led Australia, China, the U.S., and 21 other countries to allow cloud seeding—the practice of seeding clouds with silver iodide and dry ice

⁷⁵ BLUE COVENANT, *supra* note 8, at 11.

⁷⁶ *Id.* at 13.

⁷⁷ *Running Dry*, *supra* note 1.

⁷⁸ *Id.*

⁷⁹ 2030 Water Resources Group, *Charting Our Water Future: Economic Frameworks to Inform Decision-Making*, MCKINSEY & COMPANY 1, 11 (2009), http://www.mckinsey.com/App_Media/Reports/Water/Charting_Our_Water_Future_Exec%20Summary_001.pdf.

⁸⁰ BLUE COVENANT, *supra* note 8, at 3.

⁸¹ *Id.*

⁸² *Id.*

⁸³ BLUE GOLD, *supra* note 65, at 8.

⁸⁴ BLUE COVENANT, *supra* note 8, at 12.

⁸⁵ BLUE GOLD, *supra* note 65, at 7-8.

⁸⁶ Saijel Kishan, Madelene Pearson, *Water Outperforms Oil, Luring Pickens, GE's Immelt*, BLOOMBERG, June 26, 2006, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a823kgVOs5Zo&refer=canada>.

⁸⁷ BLUE COVENANT, *supra* note 8, at 90-91.

⁸⁸ *Id.* at 81.

from an airplane in order to enhance the possibility of rain.⁸⁹ China leads the world in cloud seeding, spending about \$50 million a year and employing 35,000 people.⁹⁰ Scientists estimate the practice increased rainfall by 10%, but they do not understand how such actions could affect the hydrologic cycle.⁹¹

Access to freshwater is already a key issue in many of the world's board rooms. According to a Marsh Centre for Risk Insights Survey, 40% of Fortune 1000 companies claim a water shortage's impact would be severe or catastrophic, but only 17% claimed they were prepared for such a crisis.⁹² Computer manufacturers use 396-billion gallons each year.⁹³ Roughly 3,434 gallons of freshwater are required to create a single 200mm semiconductor wafer, and chip making accounts for 25% of the Silicon Valley's water consumption.⁹⁴ To make one car requires 105,000 gallons of water, showing why America's top three automakers—Chrysler, Ford, and General Motors—all have heavy ties to the Great Lakes Region.⁹⁵ Power grids also rely on freshwater, with 40% of the water withdrawn from America's lakes and aquifers going toward cooling power plants.⁹⁶ In Canada, the creation of one liter of oil from tar sands requires up to five liters of water.⁹⁷

Parts of the U.S. are not immune from potential water-supply problems. Thirty-six states should face freshwater shortages by 2013.⁹⁸ New Mexico already uses 300-million gallons more than its renewable supplies,⁹⁹ and that state's population should increase by more than 50% by 2025.¹⁰⁰ Arizona is out of freshwater and must import its supply from other states.¹⁰¹ Florida is pumping groundwater so quickly that thousands of sinkholes have occurred in the state.¹⁰² Some estimates leave California

⁸⁹ *Id.* at 79-80.

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Running Dry*, *supra* note 1.

⁹³ BLUE GOLD, *supra* note 65, at 7-8.

⁹⁴ *Id.*

⁹⁵ *Id.* at 8.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ BLUE COVENANT, *supra* note 8, at 149-50.

⁹⁹ *Id.*

¹⁰⁰ United States General Accounting Office, *Freshwater Supply: States' Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages*, U.S. GOVERNMENT ACCOUNTABILITY OFFICE 1, 58 (July 2003), <http://www.gao.gov/new.items/d03514.pdf>.

¹⁰¹ MAUDE BARLOW, TOO CLOSE FOR COMFORT: CANADA'S FUTURE WITHIN FORTRESS NORTH AMERICA 212 (2005) [hereinafter TOO CLOSE FOR COMFORT].

¹⁰² BLUE COVENANT, *supra* note 8, at 4.

with a twenty-year supply of freshwater left.¹⁰³ Lake Powell, a key western water reservoir, has lost 60% of its volume.¹⁰⁴

The Great Lakes also face threats from overuse and climate change. They provide water for forty-million people, and the bordering communities pump 850-billion gallons from the watershed every day.¹⁰⁵ While the assumption is that rainwater replenishes what is taken out, groundwater levels in Chicago and Milwaukee have dropped at least 1,000 feet from over extraction.¹⁰⁶ These groundwater sources also feed the Lakes, and extraction has become so prevalent that communities now are pulling water directly through the bottom of Lake Michigan, reversing the Lake's natural flow.¹⁰⁷ The Union of Concerned Scientists believes climate change could cause the Lakes' water levels to drop another two feet in the next twenty years.¹⁰⁸ In the past hundred years, water levels at the Port of Montreal dropped six feet, and the Army Corps of Engineers said the Lakes' water levels have been dropping continually since the early 1990s.¹⁰⁹ Great Lakes United warns that the day might come when the St. Lawrence Seaway might no longer reach the Atlantic Ocean.¹¹⁰ Other scientists say the Great Lakes could be "bone dry" in eighty years if freshwater extraction continues at the current global rate.¹¹¹

III. REGULATING THE GREAT LAKES AS A RESOURCE

Hardin advised that the only way to avoid a tragedy of the commons is to limit or restrict freedom to use the commons.¹¹² The United States and Canada began limiting each other's freedom to use the Great Lakes when they passed the Boundary Waters Treaty in 1909. Since then, the two countries have passed good-faith international agreements such as the Great Lakes Charter and its implementing legislation and the Great Lakes Agreement and its implementing legislation. Each has taken steps toward limiting the bordering states' and provinces' freedom to use the Great Lakes.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 9.

¹⁰⁶ Howard Reeves, *Water Availability and Use Pilot: A Multiscale Assessment in the U.S. Great Lakes*, UNITED STATES GEOLOGICAL SURVEY 1 (Feb. 2011), http://pubs.usgs.gov/pp/1778/pp1778_executivesummary.pdf.

¹⁰⁷ *Our Great Lakes Commons*, *supra* note 3, at 9.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ BLUE GOLD, *supra* note 65, at 9.

¹¹¹ *Id.* at 15.

¹¹² Hardin, *supra* note 13.

A. *The 1909 Boundary Waters Treaty*

The United States and Canada formed the Boundary Waters Treaty in 1909 to resolve border-water issues.¹¹³ The Treaty only vaguely regulates diversions, stating simply that diversions should be regulated when they are large enough to influence the Great Lakes' levels or flows.¹¹⁴ Neither country, however, has ever formally alleged a violation of this Treaty aspect.¹¹⁵ The Treaty also does not apply to Lake Michigan, which is located entirely within the United States' borders.¹¹⁶ The Treaty created the International Joint Commission ("IJC"), which has six members—three the U.S. president appoints and three the Canadian prime minister appoints—who enforce the Treaty.¹¹⁷

In 2001 the Canadian federal government passed C-6: An Act to Amend the International Boundary Waters Treaty Act.¹¹⁸ This amendment prohibited the bulk removal of boundary waters from the Canadian portion of the Great Lakes Basin.¹¹⁹ In 2010, Canada proposed Bill C-26 to strengthen the prohibition against bulk-water removals.¹²⁰ The bill has not progressed from the introduction and first reading stage in Parliament.¹²¹ Regardless, the U.S. did not pass or even propose similar legislation, and both parties must agree to treaty amendments to bring these changes into effect.¹²²

B. *The Great Lakes Charter and Amending the WRDA*

The U.S. Supreme Court holding in *Sporhase v. Nebraska* led to the Great Lakes border states and provinces banding together to regulate the resource.¹²³ In 1982 the Court held that groundwater was an article of commerce subject to Congressional regulation, and state laws cannot restrict groundwater withdrawals without violating the Constitution's commerce clause as an impermissible burden on interstate commerce.¹²⁴ The decision rendered unconstitutional a Nebraska law that prohibited

¹¹³ *Boundary Waters Treaty Text*, INTERNATIONAL JOINT COMMISSION (1909), <http://www.bwt.ijc.org/index.php?page=Treaty-Text&hl=eng> (last visited Feb. 26, 2012).

¹¹⁴ *Id.*

¹¹⁵ Noah D. Hall, *The Centennial of the Boundary Waters Treaty: A Century of United States-Canadian Transboundary Water Management*, 54 WAYNE L. REV. 1417, 1441 (2010).

¹¹⁶ *Id.*

¹¹⁷ *Who We Are*, INTERNATIONAL JOINT COMMISSION, http://www.ijc.org/en/background/ijc_cmi_nature.htm (last visited Feb. 26, 2012).

¹¹⁸ TOO CLOSE FOR COMFORT, *supra* note 101, at 219.

¹¹⁹ *Legislative Summary of Bill C-26: Transboundary Waters Protection Act*, PARLIAMENT OF CANADA, http://www.parl.gc.ca/About/Parliament/LegislativeSummaries/bills_ls.asp?ls=c26&source=library_prb&Parl=40&Ses=3&Language=E.

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² TOO CLOSE FOR COMFORT, *supra* note 101, at 219.

¹²³ *See generally*, *Sporhase v. Nebraska*, ex rel. Douglas, 458 U.S. 941 (1982).

¹²⁴ *Id.*

exporting groundwater to states that refused to export their water to Nebraska.¹²⁵ Great Lakes states' lawmakers worried that the Supreme Court's decision would prevent them from passing legislation to ban diversions of Great Lakes water outside of their states' borders.¹²⁶

The Great Lakes already had faced threats to divert water from the Great Lakes Basin,¹²⁷ and some diversions already had occurred.¹²⁸ Because the Supreme Court's decision threatened the Great Lakes border states' and provinces' abilities to regulate diversions, they formed the Council of Great Lakes Governors¹²⁹ in 1982.¹³⁰ The Council declared at its first meeting that Great Lakes water could not be diverted without the member states' collective approvals along with the U.S. and Canadian federal governments' consents.¹³¹ In 1984 the organization supported this declaration

¹²⁵ *Id.* at 960.

¹²⁶ PETER ANNIN, *THE GREAT LAKES WATER WARS* 70 (2006).

¹²⁷ In the 1960s engineers proposed the Great Recycling And Northern Development (GRAND) Canal to divert Great Lakes water to western Canada, but it was never built. This followed the North American Water and Power Alliance's proposal to divert water from Alaska, British Columbia, and the Yukon Territory across North America and dump 40-million acre feet of water into Lake Superior annually. This also was never built. *Id.* at 57-63.

In 1976 farmers from South Dakota, Nebraska, Wyoming, Colorado, Kansas, Oklahoma, Texas, and New Mexico supported federal legislation that asked the U.S. Army Corps of Engineers to spend \$6 million to study the Agallala Aquifer's decline. The study examined transporting water to the region from adjacent areas, such as the Great Lakes. High costs associated with the project prevented any proposals to divert water from the Great Lakes to be proposed. *Id.* at 66-69.

In 1981 a company planned a 1,900-mile, coal-slurry pipeline from Wyoming to the Great Lakes to transport 36-million tons of coal per year to the Midwest. The Great Lakes states sharply rebuked plans to use Great Lakes water in the pipeline. *Id.* at 65-66.

¹²⁸ The International Joint Commission claims there have been at least four diversions into the Great Lakes and four diversions out. The first diversion occurred in 1825, when the Erie Canal connected Lake Erie to the Hudson River. *Id.* at 63.

Since 1943, the Ogoki and Long Lac diversions have sent water from the Hudson Bay Watershed into the Great Lakes Watershed. Together, these divert roughly 5,500 cubic feet per second and have boosted the individual Great Lakes' water levels anywhere from 2.4 inches to 4.3 inches. *Id.* at 110-15.

Other diversions occurred under Great Lakes Charter and WRDA. ANNIN *infra*, note 139.

¹²⁹ The Council's mission is to "encourage and facilitate environmentally responsible economic growth through a cooperative effort between the public and private sectors among the eight Great Lakes States and with Ontario and Quebec. Through the council, Governors work collectively to ensure that the entire Great Lakes region is both economically sound and environmentally conscious in addressing today's problems and tomorrow's challenges." *Welcome to the Council of Great Lakes Governors*, COUNCIL OF GREAT LAKES GOVERNORS, <http://www.cglg.org> (last visited Oct. 16, 2011).

¹³⁰ ANNIN, *supra* note 126, at 70.

¹³¹ *Id.* at 71-72.

with the Great Lakes Charter,¹³² which regulated any potential diversions as well as how the member states used water within the Basin.¹³³ The Charter's main purposes include conserving the Lakes' water resources and fostering cooperation among the member states.¹³⁴ Because the Charter is a non-binding agreement, however, it cannot enforce its guidelines and only can influence the states' and provinces' policy decisions regarding the resource.¹³⁵

To further strengthen the Charter, the U.S. states bordering the Great Lakes sought and received an amendment to the federal Water Resources Development Act (WRDA).¹³⁶ The amendment states that proposals to divert Great Lakes water outside the Basin require all eight Great Lakes states' approvals.¹³⁷ While powerful legislation, it did not provide standards or guidance on how to process or veto diversion requests.¹³⁸ These factors led to arbitrary approaches to four different diversion requests under the Charter and the WRDA.¹³⁹ The Great Lakes states also

¹³² *The Great Lakes Charter: Principles for the Management of Great Lakes Water Resources*, COUNCIL OF GREAT LAKES GOVERNORS 1 (Feb. 11, 1985), <http://www.cglg.org/projects/water/docs/GreatLakesCharter.pdf>.

¹³³ *Id.* at 1-2.

¹³⁴ ANNIN, *supra* note 126, at 73.

¹³⁵ *Id.* at 74-75.

¹³⁶ *Id.* at 49. WRDA (H.R. 1495) provides "for the conservation and development of water and related resources." It also authorizes "the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes." *H.R. 1495: Water Resources Development Act of 2007*, GOVTRACK.US, <http://www.govtrack.us/congress/bill.xpd?bill=h110-1495> (last visited Nov. 12, 2011).

¹³⁷ 33 U.S.C. § 2309 (2006).

¹³⁸ *Id.*

¹³⁹ Pleasant Prairie, Wisconsin, had its water supply become contaminated with radioactive radium in 1980. Since the proposed diversion of 3.2-million gpd was below the Charter's guideline of 5-million gpd, the Charter did not require consultation with Canada. The WRDA did apply for the first time because the city is outside the Basin's boundary. Wisconsin's governor sent a letter to the Council of Great Lakes Governors asking for the diversion in 1989. New York and Pennsylvania never replied, and Michigan sent a confusing letter that seemed to neither support nor veto the diversion. Even though all eight states did not approve, the city started and completed the water-diversion project. Some Great Lakes state officials believe this diversion remains illegal, but no state has challenged it in court. ANNIN, *supra* note 126, at 125-38.

Lowell, Indiana, requested a diversion from outside the Basin in 1990. The U.S. Environmental Protection Agency deemed Lowell's groundwater a health risk because it contained bug larvae and high fluoride levels. Lowell asked for 3.8-million gpd, so the Charter did not apply, but WRDA did. Lowell agreed to route its waste water back into the Basin. Michigan vetoed the application. Michigan cited protecting the resource as its main reason for the veto in order to set a strict precedent for the future. Michigan also believed the town had other viable alternative water supplies. Lowell later found an underground water source that sustains the town currently. *Id.* at 139-53.

Huron County, Michigan, asked for a consumptive-use diversion in 1992. Located inside the Basin, Huron County farmers wanted 8.6-million gpd to irrigate their land, and they would return any water not used to the Basin. This triggered the Charter, which required Michigan to

struggled to work together in regulating the resource, and the lack of defined guidelines regarding the granting of diversions led to animosity among the Great Lakes states.¹⁴⁰

C. The Great Lakes Agreement

The Great Lakes states and provinces decided to strengthen the international agreements governing the resource when Ontario's premier granted a license in 1998 that allowed a Canadian company to export 150-million gallons of Lake Superior water a year for bottling in Asia.¹⁴¹ After the premier canceled the license under public pressure, the U.S. and Canadian governments studied the issue and proposed what became the Great Lakes Agreement on December 13, 2005.¹⁴²

The Agreement's main points include the following:

- Banning new diversions from the Great Lakes Basin while allowing exceptions for bordering communities to extract water for their public-water supplies, but those exceptions would be strictly regulated.¹⁴³
- A consistent standard was established to review proposed Great Lakes water uses.¹⁴⁴
- Regional water conservation and efficiency goals will be developed and reviewed every five years, and each state and province will create and implement a water-conservation and efficiency program.¹⁴⁵
- There will be more technical data collection regarding the lakes, and the states and provinces will share the information to improve governmental decision making regarding the lakes.¹⁴⁶

notify the other Great Lakes governors about the proposal. Despite the member states voicing concerns, Michigan did not seek, or need, their approvals and diverted the water. *Id.* at 154-71.

Akron, Ohio, located at the edge of the Great Lakes Basin, gets its water from Lake Erie via the Cuyahoga River. The city proposed selling its water to neighboring suburbs and towns outside the Basin because the water would not leave the Basin, but the Great Lakes governors deemed this proposal a diversion in 1994 that required their approvals. All eight approved the diversion, but neighboring communities located upstream from Akron along the Cuyahoga River sued. They claimed Akron was going beyond the water deed originally granted to it in 1911. Ohio courts allowed Akron's diversion, but only if the city ensured the up-stream communities' water security. *Id.* at 172-90.

¹⁴⁰ *Id.* at 125-90.

¹⁴¹ *Our Great Lakes Commons*, supra note 3, at 17.

¹⁴² *Id.*

¹⁴³ *Great Lakes Water Management*, THE COUNCIL OF GREAT LAKES GOVERNORS (Last visited on Sept. 24, 2011), <http://www.cglg.org/projects/water/Agreement-Compact.asp>.

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

- Economic development will be balanced with sustainable water use to ensure responsible Great Lakes water management.¹⁴⁷
- The Great Lakes' water is a "shared public treasure," and there needs to be continued strong public involvement in the implementation of these agreements.¹⁴⁸

D. The Agreement's Implementing Legislation

To implement the Agreement, each member state and province passed individual legislation. The U.S. states implemented the Agreement through their individual passages of legislation that put into place varying forms of the jointly-negotiated Great Lakes Compact. Ontario implemented the Agreement through the SSOWA, and Quebec did the same through the Act to Affirm.

1. The Great Lakes Compact

The U.S. states passed the federally-ratified Great Lakes Compact in 2008 to support the U.S. side of the Agreement.¹⁴⁹ The Compact's main points include the following:

- Sustainable and responsible use of the Basin's waters will foster economic growth.¹⁵⁰
- There will be no new water diversions from the Basin unless communities meet rigorous standards.¹⁵¹
- A consistent standard will review Basin water uses. States, however, will have flexibility as to their water-management programs and how to apply this standard.¹⁵²
- The public will be involved in the Compact's implementation.¹⁵³
- The Compact includes the Great Lake Basin's tributary waters and all groundwater hydrologically connected to the Lakes.¹⁵⁴

Industrialists, the farming industry, and environmentalists shaped the Compact's formation. Industry worried the Compact would divert jobs from the Region.¹⁵⁵ Environmentalists supported more uniform regulations on all water withdrawals and wanted conservation to play a bigger role.¹⁵⁶ Politics and issues over how to regulate

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Great Lakes Compact, supra* note 32, at 1.

¹⁵⁰ *Id.*; *see, also, Great Lakes Agreements*, GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COUNCIL, <http://www.glscompactcouncil.org/Agreements.aspx> (last visited Nov. 16, 2011).

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ ANNIN, *supra* note 126, at 218.

¹⁵⁶ *Id.*

the bottled-water industry almost led to the Compact falling apart during negotiations in 2005.¹⁵⁷ Indiana elected Mitch Daniels as its Governor that year,¹⁵⁸ and his administration refused to sign any Compact that allowed other jurisdictions a role in regulating Indiana's consumptive water use.¹⁵⁹

The National Wildlife Federation ("NWF") and the Council of Great Lakes Industries ("CGLI") negotiated these issues.¹⁶⁰ First, they addressed Indiana's concerns in making individual member states' water-consumption uses not subject to review.¹⁶¹ Regarding the bottled-water industry, the final Compact refused to deem bottled water a diversion because the U.S. government considered bottled water a product.¹⁶² The final Compact also supported states having the autonomy to make their own bottled-water regulations.¹⁶³

These last-minute changes allowed member states to set their own withdrawal guidelines.¹⁶⁴ Member states had to inform each other of consumptive-use proposals of more than 5-million gpd, but they had no power to vote each other down.¹⁶⁵ No guidelines existed for how much water the bottled-water industry could withdraw as long as it packaged the water in bottles of 5.7 gallons or less.¹⁶⁶ The changes also removed the uniform standard regulating all withdrawals of 100,000 gallons per day (gpd) within the Basin. The Compact did place a 2013 deadline for all the member states to set their own withdrawal regulations, or the Compact would unilaterally impose the 100,000-gpd standard upon them.¹⁶⁷

All the Compact-member states have set their withdrawal guidelines. Illinois has the most lenient standards because a U.S. Supreme Court decree that allows it to withdraw 2.068-billion gpd from Lake Michigan.¹⁶⁸ To address the Chicago River's pollution problems in 1892, the city built a canal that connected the river to the Des Plaines River.¹⁶⁹ This canal reversed the Chicago River's flow so the city's pollution

¹⁵⁷ *Id.* at 229.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.* at 231.

¹⁶⁰ *Id.* at 233.

¹⁶¹ *Id.* at 233-34.

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Great Lakes Compact*, *supra* note 32, at 10.

¹⁶⁸ Tim Anderson, *All Great Lakes States Now Set to Implement, Comply With Water Management Compact*, KNOWLEDGE CENTER: THE COUNCIL OF STATE GOVERNMENTS (July 26, 2012, 4:15 PM), <http://knowledgecenter.csg.org/drupal/content/all-great-lakes-states-now-set-implement-comply-water-management-compact>; Sara R. Gosman, *Progress on Implementation of Great Lakes Compact and Agreement*, NATIONAL WILDLIFE FOUNDATION 1, 3, 5-7 (July 11, 2011), [http://www.nwf.org/~media/PDFs/Regional/Great-Lakes/Compact%20Progress%20Report\\$2071111.ashx](http://www.nwf.org/~media/PDFs/Regional/Great-Lakes/Compact%20Progress%20Report$2071111.ashx).

¹⁶⁹ *Id.*

would not flow back into Lake Michigan and would instead travel into the Mississippi River via the Illinois River.¹⁷⁰ At the time, this diversion lowered the Great Lakes' water levels by six inches.¹⁷¹ States bordering the Great Lakes have challenged Chicago's diversion twice because the water is not returned to the watershed.¹⁷² The U.S. Supreme Court upheld the diversion both times,¹⁷³ and the Chicago diversion is exempted from the Agreement because Lake Michigan is located completely within U.S. borders.¹⁷⁴

Minnesota is the only state to go beyond the Agreement's recommended uniform regulation of 100,000 gpd, regulating withdrawals at 10,000 gpd.¹⁷⁵ Michigan, New York, Pennsylvania, and Wisconsin all accepted the Agreement's recommended regulation of 100,000 gpd.¹⁷⁶ Ohio and Indiana, however, exceeded the standard with regulations that begin at 2.5-million and 5-million gpd, respectively.¹⁷⁷

2. Safeguarding and Sustaining Ontario's Water Act

- The SSOWA implemented the Agreement in Ontario, becoming law in June 2007.¹⁷⁸ The SSOWA's main points include the following:
- Elevates Ontario's existing ban on Great Lakes Basin transfers from regulation to part of the SSOWA. Even with this ban, the SSOWA makes exceptions for removals in containers of roughly 5.7 gallons or less or historical diversions.¹⁷⁹
- Bans new and increased water transfers from one Great Lakes watershed to another.¹⁸⁰
- Prohibits new or increased water diversions of roughly 100,000 gpd or greater.¹⁸¹

¹⁷⁰ *Id.*

¹⁷¹ *Origins of the Boundaries Water Treaty*, 1909-2009 BOUNDARY WATERS TREATY, <http://www.bwt.ijc.org/index.php?page=origins-of-the-boundaries-water-treaty&hl=eng> (last visited March 4, 2012).

¹⁷² ANNIN, *supra* note 126, at 85-101; *see generally* Wisconsin v. Illinois, 278 U.S. 367 (1929); Wisconsin v. Illinois, 388 U.S. 426 (1967).

¹⁷³ *Id.*

¹⁷⁴ *Polaris Institute: Water Privatization by Permit*, POLARIS INSTITUTE, http://www.polarisinstitute.org/polaris_institute_water_privatization_by_permit (last visited Feb. 5, 2012).

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ *Bill 198, Safeguarding and Sustaining Ontario's Water Act, 2007*, LEGISLATIVE ASSEMBLY OF ONTARIO, http://www.ontla.on.ca/web/bills/bills_details.do?locale=en&BillIID=1562 (last visited Jan. 14, 2012).

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

- Improves the Permit To Take Water Program and gives the province the authority to charge commercial and industrial interests for the water they use. Permit applicants must meet strict guidelines, which require that water be returned to the source Great Lakes Watershed after use and Regional review.¹⁸²
- Permits Quebec and the eight Great Lakes states to appeal to the province's Environmental Review Tribunal or seek judicial review of the province's water-withdrawal and transfer decisions subject to the Agreement. This part is unenforceable until the other Great Lakes jurisdictions provide Ontario with the same right.¹⁸³
- Enables the province to charge for water taken or used for industrial or commercial purposes to fund water-management activities, encourage conservation, and discourage waste. Ontario can require water users to prepare and implement water conservation plans.¹⁸⁴
- Transfers involving a consumptive use of roughly 5-million gpd or more must be returned to the Great Lakes watershed.¹⁸⁵
- Raises Ontario's ban on water transfers out of the province's three major water basins (inter-basin transfers) from regulation to legislation.¹⁸⁶

3. Quebec's Act to Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection

The Act to Affirm implemented the Agreement in Quebec, becoming law in June 2011.¹⁸⁷ The Act to Affirm's main points include the following:

- Confirms the legal status of water in the province and its entity as a common heritage of the Quebec nation.¹⁸⁸
- Implements a "user-pays" principle, and water withdrawals of more than roughly 20,000 gpd must be authorized by the minister of sustainable development, environment, and parks. Before granting such authorizations, the minister will be required to reconcile the protections needs of aquatic ecosystems and the needs of agriculture, energy protection, and other human needs such as recreation and tourism.¹⁸⁹

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *Act to Affirm, supra* note 35.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

- Minister must take into account the consequences of water withdrawals regarding 1) the water-use rights of other persons and municipalities in the short, medium, and long terms; 2) the availability and distribution of water resources to satisfy current and future needs; 3) foreseeable developments of rural areas; and 4) a region's or municipality's economic development. Any water withdrawal authorization will be valid for 10 years, if granted.¹⁹⁰
- Quebec's attorney general can institute an action against people whose fault or illegal act causes damage to water resources, including the impairment of their physical, chemical or biological properties, ecological functions, or quantitative status. Penalties include restoration of the water resources to their original state or reparation through compensatory measures.¹⁹¹
- Requires any person or municipality water withdrawer who withdraws an average of roughly 20,000 gpd or more to submit annual reports describing their water-withdrawal activities. Withdrawers who do not comply will be subject to fines.¹⁹²

IV. THE AGREEMENT'S FATAL FLAWS

As Hardin argued in "The Tragedy of the Commons," too much freedom regarding a resource will result in parties using the resource until its exhaustion.¹⁹³ Specific examples reveal how the Agreement provides the member states and provinces with too much freedom regarding the Great Lakes. These problems threaten the Great Lakes Region's economy because they could lead to the resource's potential decimation. First, the Agreement provides too much autonomy to the member states and provinces, allowing them to set water-withdrawal standards that place their own respective economic interests over the Region's economic interests as a whole. Second, the Agreement fails to address the inequality existing diversions create, and allows different standards on both sides of the border to govern the implementation of future diversions. Finally, the Agreement's failure to regulate the bottled-water industry could leave the Great Lakes states and provinces powerless to prevent Great Lakes water from being subject to international trade agreements such as NAFTA or GATT.

A. Agreement Allows Each Member to Regulate Withdrawals Individually

The first problem the Agreement creates is allowing each member to regulate withdrawals individually. Instead of setting uniform standards that regulate the member states' and provinces' freedom to use the Great Lakes, the Agreement spawned three versions of implementing legislation that provide each member state and province with the autonomy to set their own regulations regarding withdrawals.¹⁹⁴ Like Hardin's herdsman increased their number of cattle on the

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ Hardin, *supra* note 13.

¹⁹⁴ *Great Lakes Agreement*, *supra* note 24.

pasture to maximize their personal returns from the resource, some states naturally increased their access to the Great Lakes to maximize these states' economic benefits.¹⁹⁵ Such an approach left the states and provinces with unequal access to the Great Lakes, which likely will undermine future attempts to honor the Agreement's goal of conserving the resource through the members' cooperation.¹⁹⁶

Excluding Illinois, which has a U.S. Supreme Court decree that allows it to withdraw 2.068-billion gpd from Lake Michigan, the other nine states and provinces begin regulating withdrawals at roughly 892,222 gpd.¹⁹⁷ Minnesota and Quebec are the only two going beyond the Agreement's recommended uniform regulation of 100,000 gpd, regulating withdrawals at 10,000 and 20,000 gpd, respectively.¹⁹⁸ Michigan, New York, Pennsylvania, Wisconsin, and Ontario all accepted the Agreement's recommended regulation of 100,000 gpd.¹⁹⁹ Ohio and Indiana, however, exceeded the standard with regulations that begin at 2.5-million and 5-million gpd, respectively.²⁰⁰ Such standards mean more than 4.9 gpd separate the Agreement member with the strictest water-withdrawal guidelines from the Agreement member with the most lenient standards.²⁰¹ Further, the U.S. Supreme Court allows Illinois to withdraw roughly 2,317 times more water than the average Agreement-member state.²⁰²

How Ohio approached the 2013 deadline to set its regulations under the Compact showed that its lawmakers understood how important having lenient standards regarding Great Lakes water withdrawals could be to the state's economy. In 2011 the state attempted to pass House Bill 231 to implement its Great Lakes regulations under the Compact.²⁰³ Not as strict as Indiana regarding streams and other resources, House Bill 231 allowed industry, farmers, and municipal water companies to withdraw 5-million gpd from the lake, 2-million gpd from groundwater, and 300,000 gpd from high-quality streams.²⁰⁴ Such guidelines would have represented the weakest water-withdrawal regulations among the Compact states.²⁰⁵

Various vectors of influence inside Ohio shaped House Bill 231. The water-bottling industry exerted plenty of influence as Ohio representative Lynn Wachtmann, who is a partner with Maumee Valley Bottling, Inc. and Culligan Water

¹⁹⁵ Hardin, *supra* note 13.

¹⁹⁶ *Great Lakes Agreement*, *supra* note 24.

¹⁹⁷ Anderson, *supra* note 168.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.*

²⁰³ Jim Provance, *Lake Erie Water Bill Vetoed by Governor: Kasich Say Measure Lacks Clear Standards*, THE BLADE, July 16, 2011, <http://www.toledoblade.com/State/2011/07/16/Lake-Erie-water-bill-vetoed-by-governor.html>.

²⁰⁴ *Id.*

²⁰⁵ *Id.*

Conditioning in Napoleon, Ohio, sponsored the bill.²⁰⁶ The Ohio Chamber of Commerce (“Chamber”) cautioned that the state should not add terms and conditions to the Compact’s standard of review before deciding to approve new or increased water-withdrawal thresholds.²⁰⁷ The Chamber also warned against strictly defining when a withdrawal has a “significant individual or cumulative adverse impact,” creating unreasonable fees and developing new environmental standards on return-flow regulations.²⁰⁸ To compete economically, the Chamber urged Ohio to meet or exceed other states’ 1-million gpd threshold limits.²⁰⁹

Strong opposition led to Ohio Governor John Kasich vetoing the bill.²¹⁰ Other Compact-member states threatened to sue Ohio, claiming the legislation would undermine the Compact’s main goals.²¹¹ Kasich said the legislation “lack[ed] clear standards for conservation and withdrawals and [did] not allow for sufficient evaluation and monitoring of withdrawals or usage.”²¹² The veto sent the Ohio General Assembly back to craft House Bill 473, which Kasich signed into law in 2012.²¹³ The new bill made significant concessions to the environmentalists and the tourism industry, allowing companies and farms to withdraw 2.5-million gpd during 90 days without a permit, 1-million gpd from rivers and streams, and 100,000 gpd from high-quality streams.²¹⁴ But without Illinois’s unique exception for the Chicago River, Ohio’s House Bill 473 represents the second-most-lenient standards behind Indiana.²¹⁵

B. Countries Possess Unequal Standards Governing Present and Future Diversions

The next problem the Agreement faces is it allows the U.S. states bordering the Great Lakes to have more freedom to use the resource via diversions than their Canadian counterparts. Disparity already exists between the countries because the U.S. has the largest diversion from the Great Lakes.²¹⁶ Additionally, the Agreement fails to set standards for future diversions that the member states and provinces must

²⁰⁶ *Member details*. Welcome to the Ohio House of Representatives of the 129th General Assembly, http://www.house.state.oh.us/index.php?option=com_display_member&task=detail&district=75.

²⁰⁷ *Coalition for Sustainable Water Management*, OHIO CHAMBER OF COMMERCE, <http://www.ohiochamber.com/Dococcc/SYSTEM-IssueCenter/Energyenv/pdf/ImplementationWhitePaper.pdf> (last visited Nov. 16, 2011).

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ Provance, *supra* note 203.

²¹¹ *Id.*

²¹² *Id.*

²¹³ Aaron Marshall, *Gov. John Kasich Signs Lake Erie Water Usage Bill Over Objections Of Critics*, CLEVELAND PLAIN DEALER, June 4, 2012, http://www.cleveland.com/open/index.ssf/2012/06/kasich_signs_lake_erie_water_u.html.

²¹⁴ *Id.*

²¹⁵ Anderson, *supra* note 168.

²¹⁶ ANNIN, *supra* note 126, at 85-101.

all abide by.²¹⁷ Instead, the Compact provides the U.S. states with better access toward using the resource for their own benefits compared to the access the Canadian provinces' legislation allow.²¹⁸ Again, the U.S. states are like Hardin's herdsmen in that these states can increase their access to the Great Lakes through diversions to maximize the states' personal returns from the resource.²¹⁹ Therefore, the Agreement's implementing legislation provide the states and provinces with unequal access to the Great Lakes, which likely will undermine future attempts to honor the Agreement's goal of conserving the resource through its members' cooperation.²²⁰

Existing animosity was evident during the Agreement's drafting stages, when Canadian environmentalists expressed concerns about how the Agreement not only allowed the Chicago diversion to continue, but also allowed the U.S. states to grant diversions to municipalities located along or outside the Basin's borders.²²¹ While the SSOA and the Act to Affirm both ban Ontario and Quebec from starting new diversions from the Great Lakes, the Compact allows communities located outside the Basin or straddling the Basin's border to pursue diversions under the Compact's vague regulations governing the process.²²² Neither Canada, the provinces, nor the International Joint Commission can veto Compact-granted diversions.²²³

Canadian concerns exist regarding the Chicago diversion because it diverts roughly 24,000 gallons of water per second from Lake Michigan, representing the largest diversion from the Basin.²²⁴ The lack of control the provinces and states have over this diversion was evident in 1988, when the U.S. considered increasing the diversion because severe drought lowered the Mississippi River's water levels and stranded barges on the river.²²⁵ Illinois asked the Army Corps of Engineers to increase the Lake Michigan diversion to triple the current amount, but the drought ended with the diversion never being increased.²²⁶

The danger of the Compact's vague guidelines regarding the approval of new diversion requests from outside the Basin is evident as Waukesha, Wisconsin,²²⁷

²¹⁷ *Great Lakes Agreement*, *supra* note 24.

²¹⁸ *Great Lakes Compact*, *supra* note 32.

²¹⁹ Hardin, *supra* note 13.

²²⁰ *Great Lakes Agreement*, *supra* note 24.

²²¹ *Polaris Institute*, *supra* note 174.

²²² TOO CLOSE FOR COMFORT, *supra* note 101, at 220.

²²³ *Id.*

²²⁴ ANNIN, *supra* note 126, at 85-101.

²²⁵ DEMPSEY, *supra* note 11, at 15-16.

²²⁶ *Id.*

²²⁷ Pronounced (WAU-ka-shaw).

Once known as the Spring City, the city's internationally-know spring water—located in an aquifer 2,200 feet under ground—drew many tourists. Waukesha even resisted Chicago's numerous attempts to build a pipeline to divert its water to Chicago. The small city of 68,000 people located less than 20 miles from Lake Michigan now struggles to provide clean drinking

prepares its diversion-request application.²²⁸ This application will present the first time the Compact's member states apply the Compact's guidelines regarding the standard for approving new diversion requests from outside the Basin.²²⁹ The Compact's member states must collectively approve the application,²³⁰ but the Compact's guidelines regarding the standard for approving new diversion requests are vague.²³¹ Waukesha must show it cannot conserve its current supply and has no *reasonable* alternative water supply, the amount sought must be *reasonable*, the water used must be returned to the watershed, and there must be no adverse impact on the resource.²³² Without any diversion-request precedents existing under the Compact, there are no definitions of reasonable for the Compact members to rely upon. Thus, whether or not the diversion is granted likely will define the term for future requests. Currently, the city wants 3-million gpd more than its average daily demand of 7.9-million gpd in 2010.²³³ The Compact also demands Waukesha must show it can return the water to the Watershed as treated wastewater.²³⁴ Waukesha proposes that it can easily return what it takes out, but the plan's feasibility remains

water to its citizens. The city's last local water bottler closed in 1997. ANNIN, *supra* note 126, at 240-41.

Over extraction decimated Waukesha's once bountiful water supply, and water levels in the city's aquifer dropped 600 feet, causing cancer-causing radium levels to rise. Because of this contamination, the city must comply with U.S. drinking-water standards by 2018. Barrett, *infra* note 230.

To solve the problem, Waukesha applied on May 10, 2010 for a diversion that would allow it to purchase an average of 10.9-million gpd—as much as 18.5-million gpd in the summer—from Lake Michigan. Behm, *infra* note 229.

Waukesha has alternative water options in aquifers located to its west, but the city is hesitant to explore this option because diverting Lake Michigan water is \$35 million cheaper than drilling new wells. ANNIN, *supra* note 126, at 253.

²²⁸ *City of Waukesha Water Diversion Application*, WISCONSIN DEPARTMENT OF NATURAL RESOURCES (Feb. 1, 2012), <http://dnr.wi.gov/org/water/dwg/WaukeshaDiversionApp.htm>.

²²⁹ Don Behm, *Waukesha's Water Application to DNR Clears Hurdle*, MILWAUKEE JOURNAL SENTINEL, July 1, 2011, <http://www.jsonline.com/news/waukesha/124897109.html>.

²³⁰ Joe Barrett, *City's Water Problems Test Great Lakes Agreement*, THE WALL STREET JOURNAL, Nov. 9, 2009, <http://online.wsj.com/article/SB125772053509137145.html>.

²³¹ Behm, *supra* note 229.

²³² Aislinn Maestas, *Great Lakes Compact Undergoes Its First Major Test*, NATIONAL WILDLIFE FEDERATION, July 27, 2011, <http://www.nwf.org/News-and-Magazines/Media-Center/News-by-Topic/Wildlife/2011/07-27-11-Great-Lakes-Compact-Undergoes-First-Major-Test.aspx>.

²³³ Behm, *supra* note 229.

²³⁴ *Id.*

in doubt.²³⁵ The Wisconsin Department of Natural Resources still is reviewing the application.²³⁶

C. Agreement Leaves Bottled-Water Industry Unregulated

The Agreement provides the member states and provinces with the freedom to set their own withdrawal guidelines regarding the bottled-water industry. The Agreement allows its members to set any standard they want as long as the Basin's water is withdrawn in containers of 5.7 gallons or less.²³⁷ This exemption is dangerous because bottled water is considered a good under NAFTA and GATT,²³⁸ and the trade agreements could create a situation in which the Agreement's member states and provinces lose the ability to regulate the resource. In this situation, all the member states and provinces are like Hardin's herdsman in that these states and provinces can increase bottled-water companies' access to Great Lakes water within their respective jurisdictions to maximize the states' and provinces' personal returns from the resource.²³⁹ This problem could leave the Agreement members unable to protect the Regional economy the Great Lakes support.

Agreement-member states and provinces such as Michigan, Wisconsin, Ontario, and Quebec demanded a bottled-water exemption because of the numerous bottled-water companies currently residing within their borders.²⁴⁰ The SSOWA, the Act to

²³⁵ Building pipelines will be costly, and other neighboring municipalities have expressed flooding concerns regarding Waukesha's plan to pump water into a nearby stream that flows into Lake Michigan. *Id.*

²³⁶ *Id.*

When the EPA demanded the city find a safe water source, Waukesha sued the EPA and lost. The city also refused environmentalists' early suggestions to put more stringent water restrictions on its citizens in order to conserve water. Waukesha also threatened to sue if not granted a Great Lakes diversion. A threat many Great Lakes states did not like because Waukesha had some of the lowest water rates in Wisconsin and city policies that encouraged citizens to water their grass. Standards the city continues to improve. ANNIN, *supra* note 126, at 245-49.

Waukesha also faces the problem of being outside the Great Lakes surface-water divide because the rain that falls on the City runs to the Mississippi River. But the aquifer underneath the city eventually leads to Lake Michigan and is connected to the Lake's floor. Whether or not Waukesha is part of the Great Lakes Basin remains undecided. Environmentalists claim the rate of the water flowing from Lake Michigan to the aquifer is so slow that Waukesha cannot claim it already is diverting water from the Basin. Environmentalists also demand that any water diverted from the Lakes must be returned—a standard that has existed since 1986 and is a major part of the Compact. Environmentalists do not want Great Lakes water diverted to support suburbs outside the Basin who have outgrown their supplies. Instead, they want people to move back to areas where water resources are more plentiful. They see Waukesha as one of the many communities that will expect the government to save them from their own water-shortage problems. *Id.*

²³⁷ *Great Lakes Agreement*, *supra* note 24, at 1.

²³⁸ BLUE COVENANT, *supra* note 8, at 82.

²³⁹ Hardin, *supra* note 13.

²⁴⁰ PolitoFact.com, *Dennis Kucinich Warns That Loophole in the Great Lakes Compact Could Allow Exploitation of Water*, CLEVELAND PLAIN DEALER, Aug. 16, 2010,

Affirm, and the Compact all support the exemption for bottled-water withdrawals, and the Compact's legislative history shows the exemption's importance to the member states and provinces.²⁴¹ The Compact's May 2005 draft defined a water diversion as "a transfer of water from the Basin into another watershed, or from the watershed of one of the Great Lakes into another."²⁴² After negotiations between the NWF and the CGLI, a diversion was defined in October 2005 as "a transfer of water from the Basin into another watershed. Water withdrawn from the Basin that is not incorporated into a product produced or packaged in the Basin and which is transferred out of the Basin in bulk by canal, pipeline or new or modified channel, or by tanker ship, tanker truck, rail tanker or similar vessel, shall be considered a diversion."²⁴³ By the time the Compact became law, it allowed that "[e]ach Party shall have the discretion, within its jurisdiction, to determine the treatment of Proposals to Withdraw Water and to remove it from the Basin in any container of 5.7 gallons or less."²⁴⁴

The bottled-water industry posts an annual growth rate of 10% a year.²⁴⁵ In the early 1970s, roughly 264-million gallons of bottled water were sold annually worldwide.²⁴⁶ By 2006, that number was roughly 52-billion gallons. Americans lead the world consuming roughly 8-billion gallons of bottled water per year, but developing countries such as India, China, Mexico, and South Africa have their bottled-water consumption increasing around 25% each year.²⁴⁷ The entire bottled-water industry is estimated to be worth \$100 billion annually.²⁴⁸

The water-bottling industry counters concerns about the Agreement's exemption with the fact that only 5.2-billion gallons of freshwater are bottled in the entire United States every year.²⁴⁹ Chicago's diversion removes 2.1-billion gpd from the Basin to sustain the city and its surrounding suburbs, which is enough to fill 13.4-billion, 20-ounce bottles a day.²⁵⁰ Environmentalists argue, however, that there is no difference between the water leaving the watershed in a tanker and the water leaving in a ship filled with bottled water.²⁵¹ An IJC report stated that the volume of bottled

<http://www.politifact.com/ohio/statements/2010/sep/01/dennis-kucinich/dennis-kucinich-warns-loophole-great-lakes-compact/>

²⁴¹ DEMPSEY *supra* note 11, at 43.

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.*

²⁴⁵ BLUE COVENANT, *supra* note 8, at 82.

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ Jeffrey S. Dornbos, *Capping the Bottle on Uncertainty: Closing the Information Loophole in the Great Lakes-St. Lawrence River Basin Water Resources Compact*, 60 CASE W. RES. L. REV. 1211, 1216 (2010).

²⁵⁰ *Id.*

²⁵¹ *Id.*

water leaving the Great Lakes is not significant.²⁵² Yet the same report expressed concerns about the effects future consumptive uses, climate change, and other removals will have upon the Great Lakes' water levels.²⁵³

Bottled water makes NAFTA or GATT an issue because both prevent blanket bans on the export of products outside of the member states.²⁵⁴ NAFTA and GATT both deem bottled water a good.²⁵⁵ Therefore, the U.S. and Canada likely cannot ban the exportation of bottled Great Lakes water without violating either trade agreement.²⁵⁶ And, once either country has begun commercial water exports, neither can change their approaches nor restrict the flow of bottled water out of either country.²⁵⁷ Article XI of the GATT specifically forbids the use of export controls for any purpose and eliminates quantitative restrictions on imports and exports.²⁵⁸ NAFTA forbids governments from placing bans on natural-resource exports, including water.²⁵⁹ NAFTA's Article 309 specifically states that "no party may adopt or maintain any prohibition or restriction on the exportation or sell for export of any good destined for the territory of another party."²⁶⁰ NAFTA also includes a "proportionality clause" in Article 315, which states that member countries cannot reduce or restrict the export of a resource to another member country once the export flow has been established.²⁶¹ Exports of water would have to continue at the level established during the preceding thirty-six months.²⁶²

GATT does have exceptions that might prevent it from governing Great Lakes water.²⁶³ GATT's health exception permits trade restrictions on products that are "necessary to protect human, animal or plant life."²⁶⁴ GATT's conservation exception allows restrictions on export products that "relat[e] to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."²⁶⁵ NAFTA, however, does not allow restrictions that disrupt the supply of the good or reduce exports to another GATT nation that result in higher prices for the export products than what are charged domestically.²⁶⁶ Whether either trade agreement would apply to the Great

²⁵² *Id.* at 1219.

²⁵³ *Id.*

²⁵⁴ *Id.* at 1227

²⁵⁵ BLUE COVENANT, *supra* note 8, at 82.

²⁵⁶ *Id.*

²⁵⁷ *Id.*

²⁵⁸ BLUE GOLD, *supra* note 65, at 174.

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ BLUE COVENANT, *supra* note 8, at 82.

²⁶⁴ *Id.*

²⁶⁵ *Id.*

²⁶⁶ *Id.*

Lakes is unclear,²⁶⁷ but water has been the subject of one NAFTA arbitration claim between a U.S. company and Canada that never was adjudicated.²⁶⁸

V. HOW AN AMENDED TREATY FIXES THE AGREEMENT'S PROBLEMS

Canada and the United States must amend the outdated Boundary Waters Treaty of 1909 ("Treaty"). Such an act would provide a uniform approach to regulating the Great Lakes, solving the problems the Agreement's conflicting implementing legislation create. Like Hardin's herdsmen, the Agreement creates a potential tragedy of the commons in that the member states and provinces are locked into a system that compels the states and provinces to increase their access to the Great Lakes when the Great Lakes are a limited resource.²⁶⁹ If these problems are not addressed, this freedom to use the Great Lakes could lead to the Great Lakes' decimation through overuse.²⁷⁰ If the Great Lakes disappeared, this would destroy the largest bi-national Regional economy in the world.²⁷¹ This Note will not address the treaty amendment process or the political viability of these amendments, but it will show how an amended Treaty could solve the Agreement's problems. First, an amended Treaty would create uniform standards regarding the regulation of water withdrawals, preventing competition and animosity among the Great Lakes states and provinces. Second, an amended Treaty could ensure that the same regulations govern potential water diversions on both sides of the border and set well-defined guidelines regarding future diversion requests. Finally, an amended Treaty could remove the bottled-water exemption to ensure this industry meets the same uniform standard in each member state and province.

A. *An Amended Treaty Would Prevent Competition Regarding Withdrawals*

The Agreement and its implementing legislation created a system in which the member states and provinces have too much freedom to use the Great Lakes to maximize their own economic gains regarding withdrawals. The Compact's drafting stages made it clear that the U.S. states understand the value in controlling their access to the Great Lakes.²⁷² This is why Indiana's governor refused to sign any

²⁶⁷ *Id.*

²⁶⁸ U.S. company Sun Belt sought to ship water from British Columbia in retrofitted oil supertankers to Northern California. *Sun Belt Water, Inc. v. Her Majesty the Queen*, CORNELL UNIVERSITY 1, http://government.cce.cornell.edu/doc/pdf/Sun_Belt_Appendix.pdf [hereinafter *Sun Belt Water*].

Worried about the environmental implications, British Columbia passed a temporary ban on bulk-water exports in 1991 and refused to award any new or expanded water-export licenses. Sun Belt claimed such an action violated NAFTA's Chapter 11 and sought \$10 billion in arbitration, but the case has not proceeded to arbitration at this time. *Dispute Settlement, FOREIGN AFFAIRS AND INTERNATIONAL TRADE CANADA*, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/nafta-alena/nafta5_section06.aspx?lang=en&view=d.

²⁶⁹ See Hardin, *supra* note 16.

²⁷⁰ See *id.*, *supra* note 17.

²⁷¹ See *The Seaway*, *supra* note 7.

²⁷² See Annin, *supra* note 157.

Compact that allowed other jurisdictions to regulate Indiana's consumptive water use.²⁷³ So the states created a system in the Compact, like Hardin created for his herdsmen, which compelled the states to increase their access to the Great Lakes to increase their own personal economic benefits.²⁷⁴ Such a system will create a tragedy of the commons in that every state is locked into a system that compels each state to increase its access to a resource that is limited.²⁷⁵ Therefore, an amended Boundary Waters Treaty must remove the autonomy the Agreement provided. Because this autonomy allowed member states and provinces to set self-serving standards regarding water withdrawals.

The inequality in the regulations governing each state's and province's abilities to withdraw Great Lakes water eventually will undermine the Agreement's main goals. Cooperation among the member states and provinces to preserve the Great Lakes is not possible when Illinois is allowed to withdraw roughly 2,317 times more water than the average Agreement member.²⁷⁶ Further, more than 4.9-million gpd separate the Agreement member with the with the strictest water-withdrawal guidelines from the member with the most lenient ones.²⁷⁷ While many states and provinces either embraced the Agreement's suggestion to begin regulating withdrawals at 100,000 gpd or set even stricter guidelines,²⁷⁸ Ohio and Indiana exceeded the standard with regulations that begin at 2.5-million and 5-million gpd, respectively.²⁷⁹ With the value of freshwater continuing to increase and demand expected to pass supply as soon as 2030,²⁸⁰ securing access to the great Lakes will become more contentious.

Ohio's approach to the 2013 deadline to set its regulations under the Compact shows how the Agreement compelled the states to increase their access to the Great Lakes to increase their own personal benefits.²⁸¹ The state's Chamber warned against adding terms and conditions to the Compacts standard of review for withdrawals or strictly defining terms regarding environmental issues.²⁸² The Chamber also urged Ohio to meet or exceed other states' 1-million gpd threshold limits.²⁸³ This is exactly what Ohio attempted to do with House Bill 231 in 2011,²⁸⁴ which would have represented the weakest water-withdrawal regulations among the Compact states.²⁸⁵

²⁷³ See *id.*, at 159.

²⁷⁴ See Hardin, *supra* note 15.

²⁷⁵ See *id.*, *supra* note 16.

²⁷⁶ See Anderson, *supra* note 202.

²⁷⁷ See *id.*, *supra* note 201.

²⁷⁸ See *id.*, *supra* notes 198-99.

²⁷⁹ See *id.*, *supra* note 200.

²⁸⁰ See 2030 Water Resources Group, *supra* note 79.

²⁸¹ See Hardin, *supra* note 15.

²⁸² See *Coalition for Sustainable Water Management*, *supra* notes 207-08.

²⁸³ See *id.*, *supra* note 209.

²⁸⁴ See Provance, *supra* note 203.

²⁸⁵ See *id.*, *supra* note 205.

While public pressure from other Compact-member states prevented Ohio's governor from passing the legislation,²⁸⁶ the state still passed House Bill 473 in 2012²⁸⁷ that provided the second-most-lenient standards behind Indiana.²⁸⁸

The Great Lakes already provide measurable economic benefits to the U.S. states in the number of jobs connected to the resource. Minnesota—which begins regulating withdrawals at 10,000 gpd, the strictest under the Compact²⁸⁹—has the fewest jobs linked to the Great Lakes with only 11,877.²⁹⁰ Indiana's and Ohio's lenient standards should help these states pull jobs from states such as Michigan—which begins regulating withdrawal at 100,000 gpd²⁹¹ and leads all states with 525,886 jobs connected to the Great Lakes²⁹²—because companies will find Indiana's and Ohio's standards more profitable. The member states and provinces with stricter withdrawal standards will become progressively disadvantaged economically as the value of Great Lakes water continues to grow.²⁹³ Cooperation to sustain the Great Lakes would become impossible because the Agreement-member states and provinces receive unequal economic benefits from the unequal withdrawal regulations.

Like the system Hardin created for his herdsmen, the Agreement and its implementing legislation compelled some member states and provinces to increase their access to the Great Lakes to increase their own personal benefits.²⁹⁴ To ensure all the member states and provinces must cooperate to sustain the resource and the Regional economy, an amended Boundary Waters Treaty must remove the states' and provinces' autonomy to regulate water withdrawals. The amended Treaty must require the member states and provinces to use the Agreement's original default withdrawal rate of 100,000 gpd²⁹⁵ from all sources within the Great Lakes watershed. With the current regulatory scheme permitting Illinois to withdraw roughly 2,317 times more water than the average Agreement-member state²⁹⁶ and more than 4.9-million gpd separating the Agreement member with the strictest water-withdrawal guidelines from the member with the most lenient ones,²⁹⁷ the Agreement cannot get member states and provinces to cooperate regarding the Great Lakes' preservation.²⁹⁸ Ohio's legislative attempts²⁹⁹ to have the most lenient

²⁸⁶ See *id.*, *supra* note 210-11.

²⁸⁷ See Marshall, *supra* note 213.

²⁸⁸ See Anderson, *supra* note 215.

²⁸⁹ See Anderson, *supra* note 198.

²⁹⁰ See Vaccaro, *supra* note 59.

²⁹¹ See Anderson, *supra* note 199.

²⁹² See Vaccaro, *supra* note 59.

²⁹³ See 2030 Water Resources Group, *supra* note 79.

²⁹⁴ See Hardin, *supra* note 15.

²⁹⁵ See Anderson *supra* note 199.

²⁹⁶ See *id.*, *supra* note 202.

²⁹⁷ See *id.*, *supra* note 201.

standards under the Agreement represent nothing more than the state attempting to gain more access to the Region's \$4.6-trillion economy³⁰⁰ and the 1.51-million jobs linked to the Great Lakes in the United States.³⁰¹ Only when all the Great Lakes states and provinces are subject to the same restrictions governing their use of the resource will the freedom to use the Great Lakes be properly regulated to ensure a tragedy of the commons³⁰² does not occur.

B. An Amended Treaty Would Create Uniform Standards Regarding Diversions

The Agreement and its implementing legislation allowed the U.S. states to continue their advantages regarding access to the resource and the opportunity to expand this access in the future. First, the Agreement does not address the Chicago Diversion—the Great Lakes' largest diversion—providing the United States with a diversion of 24,000 gallons of water per second from Lake Michigan.³⁰³ Next, the Compact, part of the Agreement's implementing legislation, allows U.S. states to grant diversions to municipalities located along or outside the Basin's borders.³⁰⁴ Such existing unequal access to the Great Lakes, along with the U.S. states ability to increase that access in the future, provides the U.S. states with more freedom to use the resource than the Canadian provinces, which banned starting new water diversions in the SSOWA and the Act to Affirm.³⁰⁵ Canada also has no authority to veto any diversions granted under the Compact.³⁰⁶ Such a system will create a tragedy of the commons in that the U.S. states are locked into a system that compels them to divert water to outside the Great Lakes Basin in order to improve their access to a limited resource.³⁰⁷ Therefore, an amended Boundary Water Treaty must fix the Agreement's failure to address existing diversions and to set standards for future diversions that the member states and provinces must abide by.

Proposing a halt to Chicago's long-held diversion would be political suicide to any potential amended Treaty, but the amended Treaty must address the disadvantage Canada receives in the Agreement by allowing the U.S. to divert roughly 24,000 gallons of water per second from Lake Michigan.³⁰⁸ The Chicago diversion clearly affects the Great Lakes, dropping their water levels as much as six inches at one point.³⁰⁹ For the sake of the Region's economy as a whole, the amended Treaty must require the U.S. to guarantee that the Chicago diversion could

²⁹⁹ See Provance, *supra* note 231; Marshall, *supra* note 213.

³⁰⁰ See *The Seaway*, *supra* note 7.

³⁰¹ See Vaccaro, *supra* note 57.

³⁰² See Hardin, *supra* note 13.

³⁰³ See ANNIN, *supra* note 224.

³⁰⁴ See Polaris Institute, *supra* note 221.

³⁰⁵ See TOO CLOSE FOR COMFORT, *supra* note 222.

³⁰⁶ See *id.*, *supra* note 223.

³⁰⁷ See Hardin, *supra* note 16.

³⁰⁸ See ANNIN, *supra* note 224.

³⁰⁹ See *Origins of the Boundaries Water Treaty*, *supra* note 171.

never be increased to address concerns such as drought or other water shortages.³¹⁰ The amended Treaty also should consider providing Canada with some compensation to address the inequality of access to the Great Lakes the two countries have.³¹¹ Otherwise, this U.S. Supreme Court approved diversion³¹² will undermine any potential cooperation between the two countries regarding the Great Lakes' preservation as a resource.

An amended Treaty also must eliminate the disparity in power that exists between the Canadian provinces and the U.S. states regarding future diversions. Unlike the Canadian provinces' legislation, the Compact allows the U.S. states to grant new diversions outside of the Basin.³¹³ The danger of this is evident as Waukesha prepares its diversion application for the Compact-member states to review.³¹⁴ Canada would be unable to prevent this precedent-setting diversion³¹⁵ of 10.9-million gpd³¹⁶ if Waukesha can show it cannot conserve its current supply, has no *reasonable* alternative water supply, the amount sought is *reasonable*, the water used will be returned to the watershed, and there is no adverse impact on the water resource.³¹⁷ Canada cannot even argue that the diversion should not be granted because a diversion that is 3-million gpd more than the city's average daily demand in 2010 is *unreasonable*,³¹⁸ and Waukesha still has not shown how it can return used water to the Watershed.³¹⁹ Further, granting such a diversion would establish a precedent that could set up other municipalities located outside or along the Basin's border to apply for diversions that Canada would be powerless to prevent. The amended Treaty must eliminate the Compact-member states' abilities to grant new diversions outside the watershed or make all future diversion requests subject to both the states' and provinces' reviews, and/or potential vetoes.

Like the system Hardin created for his herdsmen, the Agreement and its implementing legislation compelled some member states and provinces to increase their access to the Great Lakes to increase their own personal benefits.³²⁰ To ensure all the member states and provinces must cooperate to sustain the resource and the Regional economy, an amended Boundary Waters Treaty must address the inequality the Chicago diversion creates between the U.S. and Canada. Further, the amended Treaty must remove the advantages the U.S. states receive in the ability to grant new diversions under the Compact. Only when all the Great Lakes states and provinces are subject to the same regulations governing diversions will the freedom to use the

³¹⁰ See DEMPSEY, *supra* notes 225-26.

³¹¹ See ANNIN, *supra* note 224.

³¹² See *id.*, *supra* note 173.

³¹³ See TOO CLOSE FOR COMFORT, *supra* note 222.

³¹⁴ See *City of Waukesha Water Diversion Application*, *supra* note 228.

³¹⁵ See TOO CLOSE FOR COMFORT, *supra* notes 222.

³¹⁶ See Behm, *supra* note 233.

³¹⁷ See Maestas, *supra* note 232.

³¹⁸ See *id.*

³¹⁹ See Behm, *supra* note 234.

³²⁰ See Hardin, *supra* note 15.

Great Lakes be properly regulated to ensure a tragedy of the commons³²¹ does not occur.

C. An Amended Treaty Should Regulate the Bottled-Water Industry

Finally, the Agreement and its implementing legislation create an exemption for the bottled-water industry that allows each member to set its own regulations regarding bottled-water withdrawals as long as those withdrawals are in containers of 5.7 gallons or less.³²² Such a lax regulation provides the states and provinces with too much freedom to increase the amounts of Great Lakes water bottled-water companies can withdraw. Further, such regulations could make Great Lakes water subject to NAFTA and GATT,³²³ which could limit the member states' and provinces' abilities to regulate the resource. Under the Agreement, the member states and provinces are like Hardin's herdsman in that these states and province can increase bottled-water companies' access to Great Lakes water within their respective jurisdictions to maximize the states' and provinces' personal returns from the resource.³²⁴ Therefore, an amended Boundary Waters Treaty must remove the Agreement's exemption for bottled-water withdrawals.

As the drafting history of the Great Lakes Compact shows,³²⁵ the Agreement-member states and provinces insisted on the exemption for their own personal economic benefits because bottled-water companies already operated within their borders.³²⁶ What these selfish interests prevented the Agreement-member states and provinces from realizing is how this exemption could lead the bottled-water industry using NAFTA or GATT to prevent the states and provinces from regulating the bottled-water industry in the future.³²⁷ Both trade agreements deem bottled water a good,³²⁸ and because the exemption allows withdrawals in containers of 5.7 gallons or less,³²⁹ the tap already is on and running. If the Agreement members decided to cut off bottled-water withdrawals now, the bottled-water industry possibly could sue under either GATT or NAFTA to prevent such a restriction.³³⁰ Further, NAFTA's proportionality clause would forbid either country from reducing or restricting the export of bottled water below the standards established during the preceding 36 months.³³¹ Water already has been the subject of one NAFTA arbitration case between a U.S. company and Canada that never was adjudicated.³³² Exceptions to

³²¹ *See id.*, *supra* note 13.

³²² *See Great Lakes Agreement*, *supra* note 237.

³²³ *See BLUE COVENANT*, *supra* note 238.

³²⁴ *Hardin*, *supra* note 15.

³²⁵ *See DEMPSEY*, *supra* notes 241-44.

³²⁶ *See PolitoFact.com*, *supra* note 240.

³²⁷ *See Dornbos*, *supra* note at 254.

³²⁸ *See BLUE COVENANT*, *supra* note at 255.

³²⁹ *See Great Lakes Agreement*, *supra* note 237.

³³⁰ *See BLUE COVENANT*, *supra* note 256.

³³¹ *See id.*, *supra* notes 261-62.

³³² *See Sun Belt Water*, *supra* note 268.

both trade agreements might prevent either trade agreement from applying,³³³ but that is a large risk with the Great Lakes Region's \$4.6 trillion economy at stake.³³⁴

The bottled-water industry is correct that it is not yet a significant threat to the Great Lakes,³³⁵ but environmentalists are right that there is no difference between the water leaving the watershed in a tanker ship or a ship filled with bottled water.³³⁶ For an industry that posts an annual growth rate of 10%, such an exemption could severely harm the resource.³³⁷ The exemption encourages each state and province to increase its bottled-water regulations to attract the water-bottling industry, creating standards that Canada and the U.S. must continue to meet under NAFTA and GATT.³³⁸ Like Hardin's herdsman, the current system allows Agreement-member states and provinces to increase bottled water companies access to Great Lakes water within their respective jurisdictions to maximize the states' and provinces' personal returns from the resource.³³⁹ Therefore, an amended Treaty must end the bottled-water exemption to ensure a tragedy of the commons³⁴⁰ does not occur.

VI. CONCLUSION

Canada and the United States must amend the outdated Boundary Waters Treaty of 1909. Such an act would provide a uniform approach to regulating the Great Lakes, solving the problems the Agreement's conflicting implementing legislation create. An amended Treaty would limit each state's and province's freedom to use the resource and avert a potential tragedy of the commons³⁴¹ that could exhaust the Great Lakes' freshwater and decimate the largest bi-national Regional economy in the world.³⁴² The danger of not appreciating the symbiotic relationship between water supplies and the economies they fuel is evident worldwide in places such as Las Vegas³⁴³ and the Aral Sea.³⁴⁴ The Great Lakes states and provinces made commendable progress in limiting the freedom to access their shared resource with the Great Lakes Agreement.³⁴⁵ Yet the freedom the Agreement permits still allows a potential tragedy of the commons to occur. Therefore, Canada and the United States must amend the outdated Boundary Waters Treaty to solve these problems. An

³³³ See BLUE COVENANT, *supra* note 263-67.

³³⁴ See *The Seaway*, *supra* note 7.

³³⁵ See Dornbos, *supra* note 249.

³³⁶ See *id.*, *supra* note 251.

³³⁷ See BLUE COVENANT, *supra* note 245.

³³⁸ See BLUE GOLD, *supra* note 261.

³³⁹ See Hardin, *supra* note 15.

³⁴⁰ See *id.*, *supra* note 13.

³⁴¹ See *id.*

³⁴² See *The Seaway*, *supra* note 7.

³⁴³ See Strasmann, *supra* notes 61-62.

³⁴⁴ See *Our Great Lakes Commons*, *supra* note 63.

³⁴⁵ See *Great Lakes-St. Lawrence River Basin Water Resources Compact Project Background, Organization and Road to Development*, *supra* note 25.

amended Treaty can eliminate the autonomy the Agreement provides member states and provinces to set water-withdrawal rates that put each state's and province's own economic interests over the economic sustainability of the Great Lakes Region as a whole. Next, an amended Treaty can address the inequality that existing diversions create along with the U.S. states' abilities to grant future diversions. Finally, an amended Treaty can eliminate the Agreement's bottled-water exemption to ensure the bottled-water industry's economic interests do not supersede the Region's interests through international trade agreements such as NAFTA or GATT. Only when such a treaty is in place will strict regulations ensure cooperation among the Great Lakes states and provinces to sustain the resource. Each state and province will lose some freedom to use the Great Lakes as a resource, but a potential tragedy of the commons will be averted, and the Region's invaluable, Great Lakes-dependent economy will be protected.