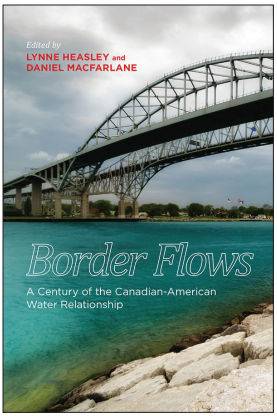

BORDER FLOWS: A Century of the Canadian-American Water Relationship

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A Citizen's Legal Primer on the Boundary Waters Treaty, International Joint Commission, and Great Lakes Water Management

Noah D. Hall and Peter Starr

I. Introduction: The Origins of United States–Canada Water Management

To modern ears, the term "water management" most likely evokes environmental concerns. This is appropriate, for water policy in North America has centred on environmental issues in recent years. But this was not always the case. Over a century ago, Canadian-American water relations grew out of very different interests. In North America, formal binational management took shape in 1903, when the United States and Canada first established the International Waterways Commission to address potentially conflicting rights in the countries' shared waterways.[1] The commission soon recommended that the two countries adopt legal principles to govern uses of their shared waters and form an international body to further advance protection of boundary waters. In 1907, the International

Waterways Commission drafted a proposed treaty, which was modified through negotiations and eventually led to the Boundary Waters Treaty of 1909. The treaty primarily provided for joint management and cooperation between the United States and Canada for the two countries' shared boundary waters. The treaty defined "boundary waters" to include the lakes, rivers, and connecting waterways through which the U.S.-Canada border passes, but not the tributaries that flow into these bodies or the waterways that leave them.

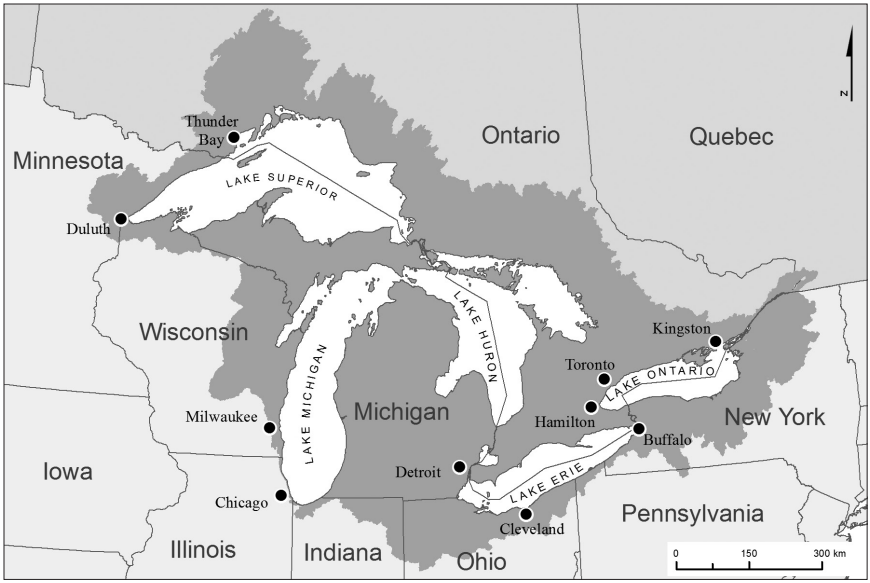
These earliest efforts at cooperative, transboundary water management were motivated not by environmental concerns but by the desire to erect a framework to govern navigation and equitable sharing of boundary waters.[2] For instance, the Boundary Waters Treaty addressed the taking and diversion of boundary waters in Article III, whereby neither party could use or divert boundary waters "affecting the natural level or flow of boundary waters on the other side of the [border]line" without the authority of the International Joint Commission (a six-member investigative and adjudicative body in which the United States and Canada were equally represented by political appointees).

While environmental degradation was not the top priority historically, it was a concern. For instance, by the late 1800s, the Great Lakes and surrounding waterways had become severely polluted as a result of the region's rapid industrialization. As one commentator put it, "the filth and stench in the waters of Great Lakes towns could be seen, tasted, and smelled."[3] This pollution also contributed to public health problems like typhoid and cholera. As a result, the first draft of the treaty included a provision forbidding water pollution that had transboundary consequences. The drafters also vested the international commission that would administer the treaty with "police powers" to enforce this rule, but the U.S. secretary of state objected. He would only agree to an antipollution provision that was limited to the defined boundary waters and had no enforcement mechanism.[4] Thus, the next (and ultimately final) draft of Article IV of the Boundary Waters Treaty simply provided the following: "It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other." During ratification debates, some U.S. senators opposed even this more limited provision, fearing the growth of an international police

power. But Canada won over the reticent senators by assuring them that the provision would be enforced only in "more serious cases."[5]

Since its ratification, the Boundary Waters Treaty of 1909 has provided the foundation for transboundary Canadian-American water management. The legal principle underlying Article IV—that one country's pollution should not harm another country—eventually catalyzed a shift in policy and public focus from water apportionment and navigation to water quality and protection. Beyond North America, this principle is now a central tenet of customary international environmental law, reflected in the United Nations Conference on the Human Environment Stockholm Declaration of 1972 and United Nations Conference on Environment and Development Rio Declaration of 1992.[6]

The rest of this chapter is an admittedly long survey of the legal waterscape of international agreements between the United States and Canada to co-manage their most precious shared resource. Such a survey is necessary for scholars, policymakers, and public audiences. Many have deep concerns over the outcome of contemporary water disputes but might lack sufficient grounding in the legal history that shapes those outcomes. Subsequent chapters in *Border Flows* examine some of the same themes, agreements, and places from different angles. We wish, in effect, to lay the foundation for multiple approaches—a crash course for citizens as well as a current state of the field for policymakers and fellow scholars in other disciplines. We focus most specifically on the vast freshwater system that is the Great Lakes, as that region acted as both catalyst and test case for dramatic and internationally significant legal and diplomatic processes. One cannot make sense of contemporary water diplomacy without understanding the intricate legal history of the Boundary Waters Treaty of 1909 and its Article IV, and these arose in a Great Lakes context. Part 2 of the article provides an overview of the evolving case law of transboundary water management within the United States (again, with a focus on the Great Lakes). This sets up part 3, which surveys the international arena of Canadian-American agreements. A nested analysis is necessary because of the different scales at which water law and management have developed: state and provincial, national, and international.



1.1 Great Lakes watershed. Map by Jason Glatz.

II. U.S. Context: Approaches to Transboundary (Interstate) Water Management

U.S.-Canada transboundary water management coevolved with interstate water management within the United States. During the twentieth century, the U.S. federal government—especially the judicial branch—resolved numerous water disputes between American states. The methods and principles that evolved in the United States to resolve interstate conflicts centred primarily on consumptive uses and diversion. The legal areas of equitable apportionment, interstate compacts, and interstate nuisance complaints all developed into major bodies of water case law that established precedents for future conflict resolution. These, in turn, would influence the development of U.S.-Canada water regimes and transboundary environmental law globally.

Interstate Water Allocation through Equitable Apportionment

In the federal system of the United States, states are coequal sovereigns. The U.S. Constitution vests the Supreme Court with jurisdiction over suits between states. The Supreme Court has allocated interstate waters pursuant to this authority with a doctrine it terms "equitable apportionment." Equitable apportionment relies heavily on the specific facts and circumstances of the interstate dispute before the court. It is premised on the states' status as sovereigns; thus, no single state can command an entire transboundary water body to the detriment of other neighbouring riparian states. The doctrine was explained succinctly in the Supreme Court's decision in *Kansas v. Colorado* (1907):

> One cardinal rule, underlying all the relations of the States to each other, is that of equality of right. Each State stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none. Yet, whenever . . . the action of one State reaches through the agency of natural laws into the territory of another State, the question of the extent and the limitations of the rights of the two States becomes a matter of justiciable dispute between them, and this Court is called upon to settle that dispute in such a way as will recognize the equal rights of both and at the same time establish justice between them.[7]

Despite its constitutional jurisdiction over these cases, the Supreme Court has been reluctant to exercise its authority. The court has made clear its desire that such disputes be resolved with the benefit of technical expertise, policy discussions, and cooperation through the interstate compact process, discussed below.

Interstate Water Allocation through Interstate Compacts

Interstate compacts are powerful tools for making law in the United States. A compact is essentially a contract between states entered into through

state legislation. Because interstate compacts increase the power of the states at the expense of the federal government, they are subject to congressional approval. Once Congress grants its approval, the interstate compact has the full force and supremacy of federal law. This allows the terms of a compact to be enforced in federal court and prevents states from ignoring their compact duties.[8]

Historically, substantive interstate water compacts have followed one of two models: western and eastern. Western water compacts, such as the Colorado River Compact and the Rio Grande Compact, typically focused on allocating coveted water rights to a shared river among the party-states. Western compacts divided the proverbial pie into pieces, and what each state did (or does) with its piece is beyond the scope of the compact. In other words, these compacts restrict the total amount of water available to each state but do not provide any guidance for managing water withdrawals within the state's allocation.[9]

The two major eastern water compacts, the Delaware River Basin Compact and the Susquehanna River Basin Compact, use a very different approach.[10] They created centralized interstate management authorities comprised of the party-states and federal government. These authorities, termed compact commissions, assumed broad regulatory powers for permitting and managing individual withdrawals and diversions of all waters in the respective river basins. The commissions even set regional standards for discharges of water pollution.[11] This centralized approach had obvious benefits for uniform management of a single resource but required a significant loss of state autonomy.[12]

Regardless of the underlying approach employed by interstate water management compacts, the greatest challenge of allocating interstate waters through compacts has always been the political challenge of getting a compact enacted.[13] Enacting a compact requires uniform ratification by each party-state's legislature, the signature of each party-state's governor, approval by a simple majority in both houses of Congress (which can modify the terms of the compact to protect national interests), and presentment to the president. At any of those stages, the compact process can die. The process also requires all negotiation and compromise up front (before legislative deliberations), as no individual state can unilaterally modify the terms of the compact during ratification. The process for enacting a

compact is thus a political obstacle course, and several recent efforts to allocate interstate waters through a compact have failed for political reasons.[14]

Another limitation inherent in the interstate compact approach is Congress's reluctance to include foreign governments in their compacts. In 1968, the Great Lakes states created an interstate compact (the Great Lakes Basin Compact) and attempted to include Canadian provinces as members. However, Congress explicitly refused to consent to the provision that would have allowed Ontario and Quebec to join as parties. Stymied by Congress, Ontario and Quebec eventually became "associate members" of the compact's governing commission, but they still do not enjoy full membership in the compact itself.[15]

The exclusion of Canadian provinces from the Great Lakes Basin Compact was not a major setback to transboundary water management efforts, for the compact did not substantively impact water law or rights in the basin.[16] The functions of the Great Lakes Basin Compact and its Great Lakes Commission were limited to gathering data and making nonbinding recommendations regarding research and cooperative programs. In fact, Joseph Dellapenna has characterized the Great Lakes Basin Compact as typical of the "let's keep in touch" approach used in many interstate water compacts in the eastern United States—and he notes that, "not surprisingly, such a 'let's keep in touch' approach failed to accomplish much toward protecting the biological, chemical, and physical integrity of the rivers and lakes addressed in the particular compacts."[17]

Historical Interstate Nuisance: Example of the Chicago Diversion Litigation

Despite the abundant supply of water in the Great Lakes, the region has not been immune to interstate disputes over water diversions and use. When one state's diversion results in a nuisance to another state, the states can resolve the dispute in the U.S. Supreme Court. A summary of the Chicago diversion litigation (the series of *Wisconsin v. Illinois* cases) provides an example of the role that this approach can play in transboundary water management.

In the early 1880s, Chicago was becoming one of the nation's largest cities when an outbreak of chronic water-borne illnesses threatened the health of residents. The problem, simply put, was that Chicago was

disposing of its sewage into Lake Michigan (via the Chicago River), while taking its drinking water from the same source.[18] The solution was a bit more complicated: Chicago built a canal to reverse the flow of the Chicago River, changing its output from Lake Michigan to the Illinois River and ultimately to the Mississippi River. The project was bold, controversial, and successful in both protecting public health and linking the Great Lakes with the Mississippi River. Missouri, now downstream from Chicago's sewage, brought an interstate nuisance action in the Supreme Court, challenging Illinois's discharge of sewage into the Mississippi River system.

Missouri's challenge in the Supreme Court failed for lack of scientific proof of harm and causation, but this did not mark the end of litigation. Due to Chicago's growing population, the city increased its diversions from Lake Michigan by over 200 percent from 1900 to 1924.[19] That year, Wisconsin, Michigan, and New York brought suit in the Supreme Court against Illinois. The complaining states alleged that the Chicago diversion had lowered levels in Lake Michigan, as well as Lakes Huron, Erie, and Ontario, by more than six inches, harming navigation and causing serious injury to the complaining states' citizens and property. Illinois denied that the diversion had caused any such injuries and pointed out that the diversion was necessary.[20]

The Supreme Court appointed former Supreme Court justice and secretary of state Charles Evan Hughes to be special master. As special master, Hughes would review factual evidence and make a report with recommendations. His report found that Chicago's diversion had lowered the levels of Lakes Michigan and Huron by six inches and Lakes Erie and Ontario by five inches, which damaged numerous interests. The court adopted the special master's report, concluding that the reduced lake levels caused the complainant states and their citizens and property owners "great losses."[21]

While generally supporting the claims of the complaining states, the court recognized the public health implications and economic costs that would come from immediately halting the entire Chicago diversion. The court thus followed the special master's recommendation to allow Chicago to complete a phased reduction in the diversion, along with the construction of additional sewage treatment facilities. This did not, however, end the matter. Litigation in the Supreme Court continued over several decades regarding Illinois's compliance with the diversion reduction schedule and the amount of water allowed for domestic pumping.[22]

What is most notable about the case is the Supreme Court's recognition that Great Lakes water management was less an issue of apportionment of water rights and more an issue of defining the bounds of the states' shared reasonable-use duties. While the relatively short opinions do not advance this proposition directly, the leading Chicago diversion opinion was authored by Chief Justice William Howard Taft, the former U.S. president whose administration had negotiated the Boundary Waters Treaty of 1909 between the United States and Canada. Taft was an Ohioan, and he may have instinctively appreciated both the abundance of Great Lakes water that made allocation unnecessary and the shared importance of the resource between two countries and eight states that made protection of all of its values (including navigation, drinking supply, fishing, recreation, and property enhancement) critical.

Speculation about the court's motivations aside, the Chicago diversion litigation leaves two key legacies in shaping the law of the Great Lakes. First, the Chicago diversion, authorized at 3,200 cubic feet per second (90.6 cubic metres per second), remains the largest diversion of Great Lakes water out of the basin. Second, while the court's decisions stopped short of an absolute prohibition on diversions, they demonstrate a general preference for protecting the interests of other states and preserving the integrity of the Great Lakes system. Both of these legacies are an important part of the evolution of Great Lakes transboundary water management.

Contemporary Interstate Nuisance: Asian Carp and the Chicago Diversion Today

In light of the Chicago diversion's contentious past, it should come as little surprise that it is once again at the heart of a major legal dispute. This time, the issue is not what Chicago sends downstream but what might swim upstream through the diversion and into the Great Lakes: Asian carp. The term "Asian carp" refers to two non-native species of fish, Bighead and Silver carp. The carp were introduced into U.S. waters by the government and the private sector in hopes that the filter-feeding fish would prove useful for cleaning suspended particles and algae out of dirty ponds.[23] The carp were useful in this regard, but their efficient (and voracious) feeding habits also made them dangerous to native species. Thus, when these fish escaped their containment ponds in the southern United States, they began to wreak

havoc in the Mississippi River. Due to their size (up to 100 pounds/45 kilograms), large appetites, and active spawning, Asian carp can outcompete native species. The preferred food of the carp is plankton—and since most native fish species also depend on this food source either directly or indirectly, the Asian carp's rapid consumption of it can truly decimate native species. As one journalist writes, the fish are "so thick in some stretches of [the Mississippi] River that they literally roil the water."[24]

The Asian carp's invasion of the Mississippi began in the South, and they have been steadily moving up the river. Thus, the Great Lakes states fear that the fish will enter the lakes through the Chicago diversion and do irreversible harm to the ecosystem. In 2009, Michigan, Wisconsin, Minnesota, Ohio, and Pennsylvania asked the Supreme Court to reopen its decree in *Wisconsin v. Illinois* in order to close the Chicago canal. Unfortunately, the court declined the states' request, leaving them to seek relief in the lower courts. The states then filed suit in federal district court, alleging that the U.S. Army Corps of Engineers and the City of Chicago had created a public nuisance by allowing the Asian carp to threaten the waters and fisheries of the Great Lakes. The litigation has worked its way through several rounds of court decisions, and while the presiding judges often recognize the potential catastrophic harm of an Asian carp invasion, the courts have consistently ruled against the plaintiff states.

With this lawsuit somewhat stalled in federal court, one might hope for Congress or the president to act, but that does not seem likely. Congressional proposals (the so-called CARP Act) have gone nowhere, and President Obama has declined to become directly involved. By failing to address this problem, the federal government has not only put the Great Lakes ecosystem at risk but, as we will see next, ignored the United States' obligations to Canada under the Boundary Waters Treaty and other international agreements.

III. Binational Context: International Agreements on Water Management

Ambitious but Unenforceable: International Agreements Prior to the Great Lakes–St. Lawrence River Basin Compact and Agreement

The Great Lakes Water Quality Agreement

In the 1960s, citizens and scientists became increasingly alarmed about water pollution in the Great Lakes. In response to these concerns, the United States and Canada issued a joint reference to the International Joint Commission in 1964 regarding pollution in Lakes Erie and Ontario. It took the commission nearly seven years, but in 1970 it issued a report recommending new water quality control programs and the need for a new agreement for cooperative action on pollution. Two years of negotiations followed, and in 1972, Prime Minister Pierre Trudeau and President Richard Nixon signed the Great Lakes Water Quality Agreement.[25]

The 1972 signing of the Great Lakes Water Quality Agreement is emblematic of the historic shift in the countries' water relations. Long gone were the days when access and navigation were primary concerns; water quality had moved to the fore. However, the agreement also typifies the countries' practice of entering into ambitious but unenforceable agreements: implementation of the agreement was hobbled by its subtreaty status and lack of enforcement provisions.

As stated in the 1972 Great Lakes Water Quality Agreement, the two countries were "seriously concerned about the grave deterioration of water quality on each side of the boundary to an extent that is causing injury to health and property on the other side." The agreement set forth general and specific water quality objectives, provided for programs directed toward the achievement of the water quality objectives, and defined the powers, responsibilities, and functions of the International Joint Commission. However, the agreement gave primary responsibility for achieving its objectives to the two federal governments (specifically, the U.S. Environmental Protection Agency and Environment Canada), not the International Joint Commission.

Initially, the 1972 Great Lakes Water Quality Agreement focused on phosphorous pollution. As both countries were making progress on this front, however, new threats emerged. Scientists uncovered risks from previously unknown persistent organic chemicals that "were already affecting the health of wildlife and could be a threat to human health."[26] In response, the United States and Canada amended the agreement in 1978 with a new, more expansive purpose:

> to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem. In order to achieve this purpose, the Parties agree to make a maximum effort to . . . eliminate or reduce to the maximum extent practicable the discharge of pollutants into the Great Lakes System. Consistent with the provisions of this Agreement, it is the policy of the Parties that [t]he discharge of toxic substances in toxic amounts be prohibited and the discharge of any or all persistent toxic substances be virtually eliminated.[27]

Nine years later, the parties again revised the agreement, signing the 1987 Protocol, which focused on critical pollutants and drew upon broad local community involvement. Canada and the United States expanded the Great Lakes Water Quality Agreement yet again in 2012, with another protocol, in order to address a number of new areas of concern such as increased phosphorous loadings, harmful vessel discharges, invasive species, habitat degradation, and climate change impacts.[28]

As previously mentioned, the effectiveness of the Great Lakes Water Quality Agreement was limited by its subtreaty status and its lack of enforcement provisions. Courts in the United States have refused to enforce the agreement domestically for these reasons.[29] However, this is not to say that the agreement did not effect real, positive change. One of the agreement's major achievements was to give citizens an increased role in shaping policy to address transboundary pollution in the Great Lakes. Prior to the agreement, the International Joint Commission had held public hearings on specific topics but essentially conducted its business in private. In the face of increased citizen pressure resulting from the growing environmental movement, the agreement opened the International Joint Commission up to the public. The increased public involvement in the implementation

of the agreement became one of its most significant results. The International Joint Commission emphasized this point in its ninth biennial report:

> The public's right and ability to participate in governmental processes and environmental decisions that affect it must be sustained and nurtured. … The Commission urges governments to continue to effectively communicate information that the public needs and has come to expect, and to provide opportunities to be held publicly accountable for their work under the Agreement.[30]

To some extent, the increased opportunity for public participation in decision making compensates for the failure of the Great Lakes Water Quality Agreement to contain specific enforcement provisions. With increased public participation comes increased accountability on the part of the two federal governments to comply with their joint responsibilities under the agreement. Equally important, the agreement has helped create an informed and engaged citizenry on both sides of the border, which has led to improved transnational protection of the Great Lakes.

The Great Lakes Charter of 1985

Like the Great Lakes Water Quality Agreement, the Great Lakes Charter is an international agreement with laudable but unenforceable goals. The charter was signed by all of the Great Lakes states and provinces, and while it is only a good-faith agreement, it contains individual commitments and a cooperative process for Great Lakes water management that would have been tremendously valuable if fully implemented. The problem with such "handshake agreements" is that they are not sanctioned by the U.S. Constitution and thus have limited legal value. The U.S. Constitution provides a mechanism for approved interstate compacts to have the full force of federal law, but no similar mechanism exists for informal agreements such as the Great Lakes Charter. Thus, the charter was an aspirational policy with no legal effect.

Within this informal framework, the Great Lakes Charter integrates three key components: (1) the commitment of the states and provinces to manage and regulate new consumptive uses or diversions of Great Lakes

water greater than 2,000,000 gallons per day (7,570,000 litres per day); (2) the commitment of the states and provinces to gather and report comparable information on all new or increased withdrawals of Great Lakes water greater than 100,000 gallons per day (379,000 litres per day); and (3) the prior notice and consultation procedure with all of the states and provinces for new or increased consumptive uses or diversions of Great Lakes water greater than 5,000,000 gallons per day (18,900,000 litres per day).[31] If a state or province fails to meet its regulatory obligations—specifically, its commitment to regulate new uses of Great Lakes water exceeding 2,000,000 gallons per day—it will lose its right to participate in the prior notice and consultation process.

The charter's success is open to debate. On the one hand, the states and provinces largely met their information and reporting commitments. All of them enacted authority to gather and report comparable information on new or increased withdrawals of Great Lakes water over 100,000 gallons per day (379,000 litres per day). But on the other hand, not all states met the regulatory commitment contained in the charter, and some of their reporting programs failed to supply complete and reliable data on Great Lakes water withdrawals.

The weakness that permeates the charter's regime is encapsulated by its prior notice and consultation procedure. This procedure can be fairly characterized as a more specific version of "let's keep in touch."[32] It requires the state or province considering issuance of a permit for a new or increased consumptive use or diversion greater than 5,000,000 gallons per day (18,900,000 litres per day) to first notify the offices of the other governors and premiers, as well as the International Joint Commission. The issuing state or province will then "solicit and carefully consider the comments and concerns of the other Great Lakes States and Provinces"; if necessary, a "consultation process" is initiated to "seek and provide mutually agreeable recommendations to the permitting State or Province."[33] However, if this extensive consultation process proves fruitless, or if one state persists despite the objections of others, the Great Lakes Charter does not provide an enforcement mechanism or remedy. This shortcoming is due to the charter's nonlegal status. If the charter's terms had been incorporated into a binding and enforceable compact, it could have played a major role in achieving comprehensive water management of the Great Lakes. Instead,

it has merely provided a framework for cooperation among the parties as a foundation for future efforts.

Annex 2001 to the Great Lakes Charter

In 2001, the Great Lakes governors and premiers signed an Annex to the Great Lakes Charter Agreement (commonly known as "Annex 2001"). While nonbinding—just like the Great Lakes Charter to which it was appended—the commitments and principles of Annex 2001 ultimately led to the creation of binding international authority: the Great Lakes–St. Lawrence River Basin Water Resources Compact and Agreement. Because the content of Annex 2001 helped to shape this seminal authority, it deserves some examination here.

Essentially, Annex 2001 reaffirmed the commitments in the Great Lakes Charter and contained a new commitment to develop an "enhanced water management system" that "protects, conserves, restores, and *improves* the Waters and Water-Dependent" resources of the Basin (emphasis mine). Annex 2001 also committed the governors and premiers to "develop[ing] and implement[ing] a new common, resource-based conservation standard" that would apply to new and increased water withdrawals from Great Lakes Basin waters.[34] To establish the new standard governing water withdrawals, Annex 2001 proposes four guiding principles:

- preventing or minimizing [Great Lakes] Basin water loss through return flow and implementation of environmentally sound water conservation measures;
- no significant adverse individual or cumulative impacts to the quantity or quality of the Waters and Water-Dependent Natural Resources of the Great Lakes Basin;
- an improvement to the Waters and Water-Dependent Natural Resources of the Great Lakes Basin; and
- compliance with the applicable local, federal, and international laws and treaties.[35]

These goals and principles created much excitement throughout the Great Lakes region. The concept of return flow—requiring diverted water to be

returned to its source—could protect the lakes from being depleted by exports. Establishing water conservation ethics in a region accustomed to abundance would be a major step toward sustainable water use. The enlarged scope of the agreement also represents an important advancement. By encompassing *all* water withdrawals, not just diversions, Annex 2001 recognizes the effects of the basin's own water uses.

Yet the most interesting and promising principle was the improvement standard. Most environmental statutes are designed to protect the environment from increased harms, which often leads to a slow but steady loss of natural resources. The improvement principle would change the existing paradigm. It is premised on the notion that limiting harm to an already damaged system is insufficient. Users of Great Lakes water—the region's most valuable public resource—must leave the resource better than they found it. The principle even holds the potential to change public attitudes toward water withdrawal projects. As individual projects came to be seen for their environmental benefits and not simply their externalized costs, new projects would drive restoration of the Great Lakes ecosystem. However, as with any new policy proposal, the improvement concept raises thorny, practical questions: What exactly is an improvement? And how much improvement would be enough to satisfy regulators? The difficulty in answering these questions eventually undermined implementation of the improvement concept.

While the effectiveness of Annex 2001 was limited by the fact that it was a nonbinding agreement, it nevertheless resulted in vital water management dialogue. In fact, the importance of the Great Lakes Charter and of Annex 2001 lies not in the immediate effects they produced, but in what they eventually led to: the region's governors and premiers agreed in Annex 2001 to negotiate and draft a common decision-making standard. The product of this collective commitment was the Great Lakes–St. Lawrence River Basin Water Resources Compact and the companion Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement, released in late 2005.

Creating Enforceable Authority: Domestic Legislation and the Run Up to the Great Lakes–St. Lawrence River Basin Water Resources Compact and Agreement

While the informal international agreements discussed above have limited practical impact in the United States, domestic legislation does have a tangible effect on Great Lakes water management. In 1986, Congress enacted section 1109 of the Water Resources Development Act (WRDA 1986), which provides that

> no water shall be diverted or exported from any portion of the Great Lakes within the United States, or from any tributary within the United States of any of the Great Lakes, for use outside the Great Lakes basin unless such diversion or export is approved by the Governor of each of the Great Lake [*sic*] States.[36]

Thus, the statute requires the unanimous approval of all governors for any diversion outside of the Great Lakes Basin.

While the 1986 act is remarkable as a clear statement of Congress's intent to leave Great Lakes water management to the states, it suffers from numerous limitations and flaws that have undermined its value in terms of both protection and process. For example, the statute contains no standards to guide the governors in deciding whether to approve or deny a proposed diversion. Nor does it provide any judicial remedy—even for another Great Lakes state—to challenge a governor's decision. From a citizens' perspective, the statute is fatally limited by its lack of a private right of action to enforce compliance. These omissions can be explained by understanding the threat that the statute was intended to address. When the law was passed, the Great Lakes states shared a common concern about the threat of water diversions to other parts of the country. The federal statute was thus meant to create a barrier to water diversions that would harm the region as a whole. In addition to these problems, WRDA 1986 is also limited by its narrow scope of coverage: it applies only to diversions out of the basin—not to in-basin consumptive uses—and it does not apply to ground water. This is a major gap, as ground water comprises over 15 percent of the total water supply in the Great Lakes Basin.[37]

Perhaps the most problematic aspect of the act is the power discrepancy it sets up. In every Great Lakes state except Michigan, a significant portion (usually a majority) of its land and population lies outside of the watershed line. Michigan, in contrast, sits entirely within the Great Lakes Basin; thus, Michigan's governor could unilaterally stop any other Great Lakes state from diverting water within its own borders—but outside the basin—without worrying about payback from that state in the form of a veto of its own. This exact scenario has already played out, when the town of Lowell, Indiana, sought a diversion from Lake Michigan to replace local water supplies and the governor of Michigan alone blocked the diversion.[38] Conflicts like these make the federal statute politically vulnerable to repeal by Congress.

In light of the shortcomings discussed above, Congress later encouraged the states to be more proactive and comprehensive in how they used their authority. Congress amended the 1986 version of WRDA in 2000 to urge the states, "in consultation with the Provinces of Ontario and Quebec," to develop a common standard for making decisions regarding "the withdrawal and use of water from the Great Lakes Basin."[39] Congress did not go so far as to condition the states' veto power on the success of implementing a standards-based management mechanism. Nor did it need to. The states' recognition of the flaws in the WRDA 1986 system was evidenced by their subsequent amendment to the Great Lakes Charter: the Great Lakes Charter Annex of 2001. As previously discussed, Annex 2001 was an intermediary step in the development of binding law (in the form of an interstate compact and analogous international agreement). It allowed state and provincial officials to articulate and enshrine common standards in a nonbinding context. And when the states and provinces were ready to formalize those standards, they made them binding in the Great Lakes–St. Lawrence River Basin Water Resources Compact and Agreement, discussed below.

The Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement and Great Lakes–St. Lawrence River Basin Water Resources Compact

The Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (Great Lakes Agreement) and the Great Lakes–St. Lawrence

River Basin Water Resource Compact (Great Lakes Compact) represent a tremendous advancement in both the substantive legal rules for water use in the Great Lakes Basin and the cooperative management among the states and provinces that share this resource. The innovation of the Great Lakes Agreement and Compact was to cooperatively establish binding principles for sustainable water use and then leave administration of those principles to the individual states and provinces. Thus, the Great Lakes Agreement and Compact create an enforceable transboundary water management regime that still respects state autonomy and sovereignty.

Here we eschew the particulars in order to focus on the Great Lakes Compact as a new model for interstate water management and the Great Lakes Agreement as a new model for subtreaty international cooperation. However, to best understand the interstate and international management structures, it is important to first note the compact's common standards (referred to as the "decision-making standard") for new or increased water withdrawals of Great Lakes Basin water. The standard mandates that all withdrawals will

(1) return any leftover water to the source watershed;

(2) not cause any significant adverse impacts to the quantity or quality of the waters of the Great Lakes Basin;

(3) incorporate specific environmental and economic water conservation measures;

(4) comply with all applicable law and interstate and international agreements, including the Boundary Waters Treaty of 1909; and

(5) pass a reasonable-use balancing test.[40]

The fourth requirement, which requires compliance with all applicable laws, agreements, and treaties, has special significance. As discussed above, the key treaties and agreements between the United States and Canada regarding water management have suffered from a lack of enforceability and private causes of action. The Boundary Waters Treaty of 1909, expressly referenced in criterion 4, lacks any judicial review provisions or enforcement mechanisms short of Senate action. Similarly, the

Great Lakes Water Quality Agreement cannot be enforced in domestic court proceedings.[41] The Great Lakes Compact does much to remedy this problem. By requiring compliance with the Boundary Waters Treaty and the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement, the Great Lakes Compact elevates their terms to enforceable standards for new or increased water withdrawals. This feature of the Great Lakes Compact sets it apart from previous attempts to create international water management schemes.

It should also be noted that while the improvement concept did not become a requirement for new or increased water withdrawals, the concept was incorporated into the decision-making standard. One of the factors under criterion 5's reasonable-use balancing test allows consideration of proposals to restore "hydrologic conditions and functions" in the source watershed. Thus, improvements can be considered in the overall determination regarding the reasonableness of the proposed use. Water users can propose an improvement as a way of making their water use more compatible with the resources and limitations in the watershed.

State-Provincial Cooperation under the Great Lakes Agreement

State-provincial cooperation has been a regional goal for decades, but as the preceding sections note, drafting enforceable international agreements has proven difficult. For constitutional and political reasons, including the Canadian provinces in the Great Lakes Compact could have made the compact vulnerable to political and legal challenges. In order to steer clear of these problems while still achieving the goal of state-provincial cooperation, the Great Lakes governors and premiers developed the Great Lakes Agreement as a nonbinding, good-faith agreement that encompassed the provinces of Ontario and Quebec. This dual structure creates a legally and politically acceptable mechanism for cooperation with Canadian provinces.

The fundamental legal and political concerns raised by state cooperation with Canadian provinces are founded on the U.S. Constitution and on principles of federalism. The Compact Clause of the Constitution provides that "no State shall, without the Consent of Congress . . . enter into any Agreement or Compact with another State, or with a foreign Power." The

same constitutional section also provides that "no State shall enter into any Treaty, Alliance, or Confederation."[42] Thus, the prohibition on states entering into a "Treaty, Alliance, or Confederation" is absolute, while the prohibition on states entering into an "Agreement or Compact," even with a foreign government, is limited only by the political decision of Congress to consent.

The question of what constitutes a "Treaty, Alliance, or Confederation" versus an "Agreement or Compact" raises constitutional questions of separation of powers and federalism. In the case of the Great Lakes, Congress has already exercised its treaty powers in this area through the Boundary Waters Treaty of 1909, and it could view any attempt by the states to enter into a binding management arrangement with the provinces on this subject as an impermissible treaty. Further, even if Congress viewed such an arrangement with the provinces as a compact rather than a treaty, it would likely reject either the entire compact or the inclusion of the provinces, as it did when the Great Lakes states proposed including Canadian provinces in the original Great Lakes Basin Compact over fifty years ago.

Despite these thorny legal issues, Congress has articulated its desire for the states to work "in consultation with" the provinces to develop a Great Lakes water management agreement.[43] Thus, the elegant solution developed by the Great Lakes states was to create a binding compact among themselves and a nonbinding agreement, consisting of the same terms, between them and the Canadian provinces. This arrangement apparently proved suitable to Congress; both the Senate and House of Representatives endorsed the compact in 2008, and President Bush signed it into law.

The Great Lakes Compact also incorporates the provinces through the Great Lakes Agreement's "Regional Body," comprised of representatives from each state and province. The Regional Body's authority could be fairly described as procedural rather than substantive and its determinations as advisory rather than final. The Regional Body's role includes notice, consultation, and public participation, but stops short of final decision making. The parties and Compact Council need only "consider" (but are not obliged to follow) the Regional Body's findings. The process thus avoids infringing on federal treaty powers while still giving the provinces an evaluative and procedural role that may prove useful for affecting major decisions.

Interstate Management under the Great Lakes Compact

As discussed above, the Great Lakes Compact includes only the American states, not the Canadian provinces. It creates two separate approaches to managing new or increased water withdrawals in the Great Lakes states. The differentiation is based almost entirely on whether the water is used inside or outside of the Great Lakes Basin surface watershed boundary. Water use inside of the Great Lakes Basin is managed by each state individually, with limited advisory input from other states for very large consumptive uses. Water uses outside of the basin (diversions) are subject to a spectrum of collective rules, including a general prohibition on most diversions.

The Great Lakes Compact requires the states to "create a program for the management and regulation of New or Increased Withdrawals [for use within the basin] . . . by adopting and implementing Measures consistent with the Decision-Making Standard" within five years. The states must make reports to the Compact Council, which is comprised of the governor of each party-state, regarding their implementation. The Compact Council then reviews the state programs and makes findings regarding their adequacy and compliance with the Great Lakes Compact. The states must further develop and promote water conservation programs and a water resources inventory.

While management of in-basin uses is left to the states, diversions of water outside the Great Lakes Basin are generally prohibited. Exceptions to this general ban are made for intrabasin diversions (lake-to-lake transfers within the entire Great Lakes Basin) and diversions to communities that straddle the basin divide, but these exceptions are not absolute. Even if a diversion qualifies under one of the exceptions, it is usually subject to the unanimous approval of all eight Great Lakes governors voting as the Compact Council.

The compact envisions a rather broad enforcement scheme. It gives the governors' Compact Council the ability to conduct special investigations and institute court actions, including enforcement. Crucially, ordinary citizens also have enforcement power. Citizens can bring legal actions in the relevant state court against any water user that has failed to obtain a required permit or is violating the prohibition on diversions. These broad enforcement provisions are complemented by similarly progressive public

participation provisions. As with the minimum substantive decision-making standard, the compact provides minimum procedural public process requirements for the party-states and Compact Council. These include public notification of applications with a reasonable time for comments, public accessibility to all documents (including comments), standards for determining whether to hold a public meeting or hearing on an application, and open public inspection of all records relating to decisions.

The Great Lakes Compact has the potential to significantly reshape water management in the region. In large part, this potential for change derives from the compact's innovative design: it incorporates formerly unenforceable international agreements, provides for a common decision-making standard, and involves the Canadian provinces in regional water management. Furthermore, its broad enforcement provisions ensure that these promising reforms will have a real effect on the ways in which we use Great Lakes water.

IV. CONCLUSION

More fresh water is at stake in the management of the Great Lakes than of any other single freshwater resource in the world. As demand for fresh water grows worldwide, transboundary waters will be under increasing pressure. This pressure will lead to new disputes over water rights and usage. Protecting and managing the Great Lakes has been an ongoing exercise in cooperation among multiple jurisdictions and levels of government, with numerous and potentially overlapping legal regimes. During the past century, most transboundary water rights disputes were resolved by allocating access and use among competing parties. This approach did little to ensure protection of the transboundary freshwater ecosystem. It also did little to ensure that the water was used sustainably to avoid depleting our natural wealth for future generations. More recently, transboundary water management has focused on environmental protection and sustainable use. This shift in emphasis resulted in part from a growing role for a concerned public in managing transboundary waters. Examining agreements between the United States and Canada demonstrates the evolution of transboundary water management from simple allocation and dispute resolution to cooperative multilevel conservation

of a shared resource. Transboundary water management also continues to evolve toward environmental protection and active citizen participation. These parallel developments provide reason for optimism as new threats such as climate change put further pressure on freshwater resources in the twenty-first century.

Notes

1 Jennifer Woodward, "International Pollution Control: The United States and Canada—The International Joint Commission," *New York Law School Journal of International and Comparative Law* 9 (1988): 326.

2 F.J.E. Jordan, "Great Lakes Pollution: A Framework for Action," *Ottawa Law Review* 5 (1971): 65–83.

3 Phil Weller, *Fresh Water Seas: Saving the Great Lakes* (Toronto: Between the Lines, 1990), 59.

4 Jordan, "Great Lakes Pollution," 67.

5 Ibid., 67–68.

6 Noah D. Hall, "Transboundary Pollution: Harmonizing International and Domestic Law," *University of Michigan Journal of Law Reform* 40 (2007): 699–700.

7 Kansas v. Colorado, 206 U.S. 46, 97–98 (1907).

8 Noah D. Hall, "Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region," *Colorado Law Review* 77 (2006): 410–11.

9 Ibid., 411.

10 Joseph W. Dellapenna, "Interstate Struggles over Rivers: The Southeastern States and the Struggle over the 'Hooch,'" *NYU Environmental Law Journal* 12 (2005): 831–32.

11 Ibid., 845.

12 Hall, "New Horizontal Federalism," 412.

13 Ibid., 454.

14 Ibid.

15 Ibid., 423n101.

16 Ibid., 423.

17 Dellapenna, "Interstate Struggles," 839.

18 Hall, "New Horizontal Federalism," 420.

19 Wisconsin v. Illinois, 278 U.S. 367, 417 (1929).

20 Ibid, 401.

21 Ibid., 409.

22 Wisconsin v. Illinois, 289 U.S. 395 (1933); Wisconsin v. Illinois, 388 U.S. 426 (1967); Wisconsin v. Illinois, 449 U.S. 48 (1980).

23 Dan Egan, "Chaos Uncorked," *Milwaukee Journal Sentinel*, October 15, 2006.

24 Ibid.

25 Great Lakes Water Quality Agreement, U.S.-Can., Apr. 15, 1972, 23 U.S.T. 301.

26 Lee Botts and Paul Muldoon, *Evolution of the Great Lakes Water Quality Agreement* (East Lansing: Michigan State University Press, 2005), 27.

27 Great Lakes Water Quality Agreement of 1978, 30 U.S.T. 1383 (Nov. 22, 1978).

28 Great Lakes Water Quality Agreement, 2012 Protocol, Great Lakes Water Quality Agreement of 1987, T.I.A.S. No. 11551 (Nov. 18, 1987).

29 Lake Erie Alliance for the Protection of Coastal Corridor v. U.S. Army Corps of Engineers, 526 F. Supp. 1063, 1077, W.D. PA (1981); American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 1001, D.C. Cir. (1996).

30 International Joint Commission, *Ninth Biennial Report on Great Lakes Water Quality: Perspective and Orientation*, July 1998, http://www.ijc.org/php/publications/html/9br/fs6.html.

31 Council of Great Lakes Governors (CGLG), *The Great Lakes Charter: Principles for the Management of Great Lakes Water Resources*, February 11, 1985, http://www.greatlakes.org/Document.Doc?id=148.

32 Dellapenna, "Interstate Struggles," 838.

33 CGLG, *Great Lakes Charter*, 4.

34 CGLG, *The Great Lakes Charter Annex: A Supplementary Agreement to the Great Lakes Charter*, June 18, 2001, p. 1, http://www.cglslgp.org/media/1369/greatlakescharterannex.pdf.

35 Ibid., 2.

36 Water Resources Development Act of 1986, 42 U.S.C. § 1962d-20 (amended 2000).

37 N.G. Grannemann et al., *The Importance of Ground Water in the Great Lakes Region*, Water-Resources Investigations Report No. 00-4008 (Lansing, MI: USGS, 2000), http://pubs.usgs.gov/wri/wri00-4008/pdf/WRIR_00-4008.pdf.

38 Peter Annin, *The Great Lakes Water Wars* (Washington, DC: Island, 2006), 139–53.

39 Water Resources Development Act of 1986 (amended 2000).

40 Great Lakes–St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 122 Stat. 3739 (2005), http://www.greatlakeslaw.org/files/public_law_110_342.pdf.

41 *Lake Erie Alliance v. USACE*, 526 F. Supp. 1063, 1077 (1981); *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1001 (1996).

42 U.S. Const. art. I, § 10, cl. 3.

43 Water Resources Development Act, Pub. L. No. 106-541, § 504, 114 Stat. 2572, 2644–45 (2000).