THE GREAT LAKES WATER RESOURCES COMPACT AND AGREEMENT: A MODEL FOR TRANSBOUNDARY GOVERNANCE AT SUBNATIONAL SCALES?

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I. Introduction

Coordinated efforts by the United States and Canada to manage the world's largest freshwater system, the Laurentian Great Lakes, are often cited as a model of amicable binational cooperation in transboundary natural resources management. There is much to celebrate in that relationship. The venerable Boundary Waters Treaty[2] (Treaty) is now over 100 years old and still going strong, as is the International Joint Commission (IJC), the independent binational commission established by that treaty[3] to investigate and resolve disputes and keep a watchful, protective eye over the "waters . . . along which the international boundary between the United States and the Dominion of Canada passes,"[4] a definition that includes but is not limited to the Great Lakes.

One of the principal objectives of the Treaty was to guarantee full freedom of navigation and commerce on our "inland seas" and other boundary waters.[5] That objective has been so thoroughly realized that it is now universally taken for granted on both sides of the border, but it is important to remember that this is no minor accomplishment. Another major objective was to establish a process for binational review and approval or disapproval of any "uses or obstructions or diversions" on either side of the border that would materially affect the "natural level or flow of boundary waters." Any such proposals require approval by a majority of the six-member IJC, consisting of three Commissioners appointed by

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[2] Treaty Between the United States and Great Britain Relating to Boundary Waters, and Questions Arising Between the United States and Canada, U.S.-G.B., Jan. 11, 1909, 36 Stat. 2448 [hereinafter Boundary Waters Treaty]. Canada was a Dominion of the British Crown at the time, and British diplomats negotiated the Treaty on Canada's behalf.

[3] *Id.* at art. VII (establishing International Joint Commission) and art. VIII (granting IJC authority to investigate and resolve disputes).

[4] *Id.* at Preliminary Article.

[5] *See id.* at art. I ("The High Contracting Parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally…").

each nation.[6] Here, too, disputes have been few, and mechanisms for resolving those disputes have been effective.

Less frequently noted, the Treaty was also one of the first international agreements–if not the very first–to explicitly address transboundary pollution. In Article IV, the parties 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,"[7] a remarkably forward-looking commitment in a 1909 treaty, and an early expression of what would later become a customary international law norm against serious transboundary environmental harm. Although little was done to implement this commitment over the first five decades under the Treaty, the last 50-plus years have seen the adoption of a series of ambitious Great Lakes Water Quality Agreements (GLWQA), binational executive agreements to maintain and restore water quality and the ecological health of Great Lakes basin ecosystems. Beginning as relatively modest agreements to bring the most common pollutants under control, these agreements have grown increasingly comprehensive and visionary, inter alia being among the first international agreements to adopt an "ecosystem approach" calling for integrated, holistic management of all the resources and stressors that comprise the Great Lakes ecosystem.

In a more recent but equally far-reaching and visionary development, the Great Lakes Water Resources Compact and the Great Lakes-St. Lawrence River Sustainable Water Resources Agreement (collectively Compact and Agreement) commit the eight U.S. Great Lakes Basin states and the two Canadian provinces of Ontario and Quebec to keep Great Lakes basin water in the Great Lakes basin by generally limiting out-of-basin diversions and bulk withdrawals. Some critics would dismiss the Compact and Agreement as crude economic protectionist measures, designed to force people and businesses in an increasingly water-scarce world to come to the Great Lakes, rather than allowing Great Lakes basin water to "flow uphill toward money," as they say in the American West. In truth, you can find some of that protectionist sentiment in the rhetoric surrounding the Compact and Agreement, but ultimately the Compact and Agreement are about more than simple economic self-interest. At their heart, they represent a basin-wide commitment to keep water in place in the Great Lakes and their tributaries, to allow these complex and resource-rich aquatic systems to continue to function as

[6] *See id.* at arts. III & IV (provisions on uses, obstructions, and diversions), art. VII (creating IJC), and art. VIII (granting IJC authority to approve or disapprove uses, obstructions, or diversions materially affecting natural levels and flows of boundary waters).
[7] *Id.* at art. IV.

natural systems, rather than simply allowing them to devolve into a cheap and abundant source of water as an exportable commodity. That is a substantial and striking commitment.

The commitment to conserve Great Lakes basin water *in situ* appears to reflect a genuine basin-wide consensus. Not to say there's unanimity of opinion, necessarily, but the overwhelming weight of opinion at both elite and popular levels in every jurisdiction within the Great Lakes basin seems to be strongly in favor of the goals of the Compact and Agreement—that is, in favor of keeping the water in place, and keeping the Great Lakes intact as functioning natural systems. It's a remarkable thing both that this consensus has been achieved over the far-flung reaches of the region, and that it has been so effectively translated into law and public policy. In part, the consensus has arguably been shaped by the instrument. That is, the Compact and Agreement placed the question squarely on the table, and provided a decisive answer. And once those instruments were out there, it forced people in the Great Lakes basin to reflect, and that reflection led overwhelmingly to a unified response: "Of course, this is what we want!"

But the basin-wide consensus also runs deeper than that. I'm no expert on public opinion, but I am a child of the Great Lakes basin, someone who grew up loving the Lakes and seeing them as a central part of who I am, and what makes the places I love such special places. My sense, through years of interacting with people throughout the region, is that attitude and worldview are widely shared among residents of the Great Lakes basin - not by everyone, of course, but by a great many people. There is throughout the region an interjurisdictional and binational "sense of place" - a strong identification with, and genuine affection for, the Great Lakes as a central and defining feature of our natural world.[8] Travel to the farthest reaches of the region, from Duluth to Thunder Bay to Sault Ste. Marie to Milwaukee to Chicago to Traverse City to Sandusky to the Niagara region to the "cottage country" along Georgian Bay and the eastern reaches of Lake Ontario, and you'll find people with that same sense of place, that identification with the Great Lakes. It is the glue that binds us together in a shared transboundary regional identity. It is also what makes us so passionate, across the basin, about defending "our" Lakes against perceived threats. And that,

[8] Public opinion surveys within the Great Lakes basin consistently show high levels of public support for more aggressive action to protect the Great Lakes. One basin-wide survey found that 96% of respondents agreed that "we need to do more to protect the Great Lakes from pollution" and 86% agreed that "we need to do more to protect Great Lakes habitats from development." BELDEN RUSSONNELLO & STEWART RESEARCH & COMMUNICATIONS, GREAT LAKES: RESPONSIBILITY AND AWARENESS ABOUT A VITAL RESOURCE - SUMMARY ANALYSIS OF PUBLIC OPINION IN THE GREAT LAKES STATES (2003).

ultimately, is the animating spirit that both gave rise to, and found expression in, the Compact and Agreement.

All of that is worth celebrating. But before we get too carried away with celebration, let's remind ourselves that much remains to be done. Keeping water in the Great Lakes basin is just a start. There's still work to be done to ensure good water quality, to make sure the fish in our lakes and streams are both abundant and safe to eat, to halt the spread of invasive species, to clean up contaminated hotspots, to bring nonpoint source runoff under control, to restore degraded aquatic and shoreline ecosystems, to ensure that every household and every child in the Great Lakes Basin has access to safe, health-giving drinking water (because in a region as blessed with abundant and high quality water resources as this one is, it's unconscionable that a Flint could happen, and it must never happen again). Much of that work is ongoing under the auspices of the GLWQA, through the U.S. Environmental Protection Agency (EPA), Environment Canada, and the binational processes established under that agreement.

But even more is needed. Let's be blunt. As much as the basin states and provinces are to be commended for taking the lead in negotiating and implementing the Compact and Agreement, ultimately the states and provinces need to step up and play a much larger and more central role in the entire array of Great Lakes protection issues and challenges, and in ongoing governance on basin-wide scales. In both of our federal systems in the United States and Canada, the states and provinces are critically important players. They hold much of the operational authority to get things done. To be sure, binational commitments like the venerable Treaty and the latest GLWQA are vitally important. But large portions of the policy agenda laid out in those binational agreements ultimately must be implemented, at least in part, through the states and provinces. Problematically, however, the states and provinces don't have ownership over the binational agreements or binational decision-making processes, which are understood to be the responsibility of the respective national governments. So there's a kind of disconnect between our lofty binational policy ambitions on the one hand, and the role of states and provinces as key implementers of those policies on the other hand. And that, I submit, is one of the most important reasons that the truly ambitious and visionary goals and commitments put forward in a series of binational GLWQA have often led to disappointment at the implementation stage.

Against that backdrop, this Article will argue that the Compact and Agreement represent an alternative governance model that could do much to

strengthen institutional arrangements for management of the Great Lakes ecosystem.

II. BACKGROUND: THE GREAT LAKES AND BINATIONAL GOVERNANCE

Straddling the international boundary between the United States and Canada, the Laurentian Great Lakes comprise the world's largest freshwater ecosystem with nearly 20% of the planet's fresh surface water. Covering an area of some 94,000 square miles (245,000 km^2) and with more than 10,000 miles (16,000 km) of coastline, the Great Lakes are the centerpiece of North America's industrial heartland, a major shipping route for both intra-continental and ocean-going carriers, and a priceless aesthetic, recreational, and ecological resource for the region's forty million people.

The Great Lakes are also one of the world's most important shared transboundary freshwater systems, raising complex and difficult issues of transboundary governance. As early as 1909, the United States and Canada acknowledged and sought to address the problem of pollution of shared waters. The Treaty[9] signed in that year is not primarily an environmental agreement. Instead it committed the parties to observe freedom of navigation and commerce in the Great Lakes and other boundary waters;[10] to regulate obstructions, diversions, and artificial elevations or diminutions of natural lake levels;[11] and to resolve management questions and disputes amicably. Toward that end, the Treaty established the IJC, a binational body whose members are appointed by the respective governments, but by tradition act independently of the political and policy preferences of the governments in power.[12] The IJC is empowered to regulate dams, diversions, and obstructions,[13] to investigate and make recommendations to the governments on questions they refer to it ("references"),[14] and to arbitrate disputes between the parties.[15] But the Treaty did

[9] Boundary Waters Treaty, *supra* note 2.
[10] *Id.* at art. I.
[11] *Id.* at art. III (prohibiting uses, obstructions, or diversions that alter natural levels except as authorized by the IJC).
[12] *Id.* at art. VII (creating the IJC composed of six members, three appointed by the President of the United States and three appointed by the British crown on the recommendation of the Governor in Council of Canada).
[13] *Id.* at art. VIII (authorizing the IJC to regulate uses, obstructions, and diversions and setting out a priority of uses to be followed by the IJC)).
[14] *Id.* at art. IX (committing the Parties to refer "questions or differences arising between them" to the IJC, which is empowered to "examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate").

contain one crucial and at the time novel anti-pollution provision. Under Article IV of the Treaty, the parties contract to ensure that "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."[16]

As early as 1912, after an alarming rise in typhoid mortality in the Great Lakes region, the parties referred the question of transboundary bacterial pollution in the Great Lakes and certain other boundary waters to the IJC.[17] The reference led to a massive investigation - the largest bacteriological investigation of its kind anywhere in the world up until that date[18] - - which culminated in an IJC recommendation in 1918 that sewage treatment works be installed, especially in communities around the Detroit and Niagara Rivers where bacterial concentrations were highest.[19] The IJC further urged that a single binational authority be established to set effluent standards, and volunteered itself for that role.[20] The governments responded by asking the IJC to draw up a treaty to implement these recommendations, but the governments never acted on the draft treaty.[21] The city of Detroit did complete its first wastewater treatment plant by 1925, but only to a standard of "primary treatment," with the result that Detroit continued to be the principal source of pollution to Lake Erie for the next several decades.[22] Buffalo, the principal source of bacterial pollution to the Niagara River, did not complete a sewage treatment facility until 1938.[23]

For the most part, the anti-pollution provision of the Treaty was honored more in the breach than in the keeping until pollution in the Great Lakes became so severe that by the 1960s urgent necessity forced further action. Acting largely on recommendations drawn up by the IJC under a reference on eutrophication in

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[15] *Id.* at art. X (providing that by mutual consent the Parties may refer "[a]ny questions or matters of difference" to the IJC "for decision" by majority vote of the Commission).
[16] *Id.* at art. IV.
[17] Jennifer Read, *'A Sort of Destiny': The Multi-Jurisdictional Response to Sewage Pollution in the Great Lakes, 1900-1930*, 22 SCIENTIA CANADENSIS 103, 104-05, 117 (1999).
[18] *Id*. at 117.
[19] INT'L JOINT COMM'N, FINAL REP. ON THE POLLUTION OF BOUNDARY WATERS REFERENCE (1918).
[20] *Id*.; *see also* Read, *supra* note 17, at 120.
[21] Read, *supra* note 17, at 122-23 (noting that revised versions of the draft treaty circulated within the two governments right up until the 1929 stock market crash, but reductions in typhoid deaths due to the introduction of chlorinated water treatment had dampened the sense of urgency that prompted the initial IJC reference).
[22] Arnold W. Reitze, Jr., *Wastes, Water, and Wishful Thinking: The Battle of Lake Erie*, 20 CASE W. RES. L. REV. 5, 7-10 & n. 24 (1968).
[23] Mary C. Rossi, *The History of Sewage Treatment in the City of Buffalo, New York*, 28 MIDDLE STATES GEOG. 9, 12 (1995).

Lake Erie, the United States and Canada undertook the first GLWQA in 1972, pledging to "restore and maintain the chemical, physical, and biological integrity" of the Great Lakes by "reduc[ing] to the maximum extent practicable the discharge of pollutants into the Great Lakes system."[24]

For both the United States and Canada, the GLWQA represented the first major foray into modern international environmental law. There had been bilateral, regional, and multilateral agreements on wildlife and other natural resources prior to 1972,[25] and in limited ways pollution control had begun to creep into international law well before the 1970s - for example, through the *Trail Smelter* arbitration[26] and the pollution control provision of the Treaty itself. But the GLWQA represented something new - a binational agreement dedicated exclusively to pollution control in a transboundary setting.[27]

The 1972 GLWQA was primarily a pollution control agreement, albeit an unusually broad one that pledged the parties to "ensure adequate control of all sources of pollutants."[28] Its stated goal was to restore and enhance "water quality in the Great Lakes system" by establishing water quality standards for nutrients, toxic substances, materials that produce colors, odors, or other nuisance-like effects, as well as "floating debris, oil, scum and other floating materials" and "substances that . . . settle to form putrescent or otherwise objectionable sludge deposits."[29] Notwithstanding these broad commitments, however, the principal and most urgent focus in those early years was a narrower one - controlling phosphorus pollution, which had been identified as the main culprit in Lake Erie eutrophication.[30]

As it turned out, the phosphorus problem was substantially and fairly rapidly mitigated through the construction of modern sewage treatment plants in and upstream from the Lake Erie basin, coupled with strict regulatory controls on other major point sources of pollution, implemented on the United States side through the Clean Water Act, which had been enacted roughly

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[24] Great Lakes Water Quality Agreement, U.S.-Can., Apr. 15, 1972, at art. II, T.I.A.S. No. 7312 [hereinafter GLWQA].
[25] *See*, *e.g.*, Convention for the Protection of Migratory Birds, U.S.-Gr. Brit., Aug. 16, 1916, 39 Stat. 1702.
[26] Trail Smelter Case (U.S. v. Can.), 3 R.I.A.A 1905 (1939, 1941), *available at* http://legal.un.org/riaa/cases/vol_III/1905-1982.pdf (last visited July 2, 2018).
[27] LEE BOTTS & PAUL MULDOON, EVOLUTION OF THE GREAT LAKES WATER QUALITY AGREEMENT 27 (2005).
[28] GLWQA of 1972*, supra* note 24, at art. II(c).
[29] *Id.* at arts. II-III.
[30] BOTTS & MULDOON, *supra* note 27.

contemporaneously with the first GLWQA, and on the Canadian side by regulatory requirements promulgated by the province of Ontario - the provinces having primary jurisdiction over pollution control under Canadian law. The parties soon recognized, however, that more was amiss in the Great Lakes ecosystem than excessive phosphorus inputs. Research conducted primarily in the 1970s pointed to new problems - the persistence of concentrated "hotspots" of toxic contaminants in sediments on the lake bed, especially in ports and near industrial outfalls; the buildup of bioaccumulative toxics in the flesh of fish and other aquatic life; airborne deposition of pollutants, not controlled by the new water pollution control laws; and the contributions of non-point pollution sources along the shores of the Great Lakes and far inland along their tributaries.[31]

The 1972 GLWQA also set in motion processes that mounted pressure for its own change. By the terms of the 1972 GLWQA, the IJC was to issue periodic reports on progress toward meeting the agreement's water quality objectives and to make recommendations to the governments,[32] building on the IJC's traditional role as an independent and impartial adviser to the governments and partially transforming it into an independent "watchdog" in the pollution control arena. The original GLWQA also committed the governments to undertake a five-year review of the agreement's effectiveness with an eye toward making such revisions as would be necessary[33] - thus launching a dynamic, iterative, rolling review and revision process, not only of the agreement's overall goals and objectives but also of the management approaches and institutional arrangements that might be necessary to achieve environmental improvements. Finally, among the institutional arrangements that emerged out of the 1972 GLWQA were several that dramatically opened the process to citizen participation, creating additional pressure on the governments to address these broader problems.[34]

In 1978 a revised GLWQA[35] was signed, committing the parties to an "ecosystem approach" to integrated management of the entire suite of

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[31] *Id.*

[32] GLWQA of 1972, *supra* note 24, at art. VI, par. 3 (mandating the IJC to report to the governments on progress toward meeting water quality objectives, assessing effectiveness of programs and measures, and offering its recommendations). *See also id.* at art. IX, par. 1 (mandating that the Parties consult on IJC reports and recommendations submitted under art. VI and that they consider modifications of water quality objectives, programs and measures, and the Agreement, as appropriate).

[33] *Id.* at art. IX, par. 3 (mandating that the Parties conduct "comprehensive review" of the Agreement at five year intervals).

[34] *See* BOTTS & MULDOON, supra note 27.

[35] Great Lakes Water Quality Agreement of 1978, U.S.-Can. , Nov. 22, 1978, 30 U.S.T. 1383 [hereinafter GLWQA of 1978].

environmental stressors and natural resources that made up the Great Lakes Basin Ecosystem, defined in the 1978 GLWQA to include "the interacting components of air, land, water and living organisms, including humans, within the drainage basin of [the international portion of] the St. Lawrence River."[36] The 1978 GLWQA was the first anywhere to embrace the ecosystem approach - - an approach that subsequently has been widely emulated elsewhere.[37]

The broad ecosystem restoration goals enunciated in the revised 1978 GLWQA were largely kept intact when a new 1987 Protocol was negotiated,[38] and these goals remain foundational to the Great Lakes management regime today. But the 1987 Protocol added several important wrinkles. First, in recognition of the important role of airborne deposition of pollutants, air pollution control was explicitly added to the GLWQA's list of objectives.[39] Second, while maintaining overall basin-wide ecosystem restoration goals, the parties committed to develop Remedial Action Plans for identified "areas of concern" (toxic hotspots) throughout the Great Lakes Basin, and launched a process to develop management plans at the level of the individual lakes.[40] The 1987 Protocol thus incorporated an innovative "nested" management scheme at multiple interconnected scales, yet another important innovation and one more significant evolutionary step in the dynamic, iterative unfolding of Great Lakes governance.[41]

A 2012 Protocol makes additional commitments.[42] It expressly recognizes aquatic invasive species, discharges from ships, climate change, and habitat and species loss as priority concerns, and places special emphasis on restoration and maintenance of nearshore areas, where stressors tend to be greatest. The

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[36] *Id.* at art. I(g). By encompassing the entire Great Lakes basin, the GLWQA thus embraces a much larger geographic scope than the Boundary Waters Treaty, which by its terms encompasses the waters "from main shore to main shore" including "bays, arms and inlets thereof" but excluding "tributary waters" and "waters flowing from such lakes, rivers, and waterways."

[37] *See* Thomas Martin, *Great Lakes Water Quality Initiative*, 14 NAT. RES. & ENV'T. 15, 16 (1999) (stating that the 1978 Great Lakes Water Quality Agreement was "the first time that a major regulatory agreement has specifically adopted an 'ecosystem' approach").

[38] Protocol Amending the Agreement of November 22, 1978, U.S.-Can., Nov. 18, 1987, T.I.A.S. No. 11551 [hereinafter 1987 Protocol].

[39] *Id.* at annex 15 (committing the Parties to research, surveillance, monitoring, and control measures on airborne toxic pollutants)

[40] *Id.* at annex 2 (committing the Parties to undertake Remedial Action Plans for designated Areas of Concern, and to develop and implement Lakewide Management Plans for each of the Great Lakes).

[41] Henry A. Regier, *Great Lakes-St. Lawrence River Basin Assessments: Case Study*, in BIOREGIONAL ASSESSMENTS: SCI. AT THE CROSSROADS OF MGMT. & POL'Y 135, 138 (1999).

[42] Protocol Amending the Agreement on Great Lakes Water Quality, Can.-U.S., Sept. 7, 2012, T.I.A.S. 13-212 [hereinafter 2012 Protocol].

governments pledge to adopt common objectives and to implement cooperative programs, and to involve key subnational actors including states, provinces, municipalities, Tribal Governments, First Nations, watershed management agencies, and the public in Great Lakes management and restoration. The parties promise heightened transparency and accountability through adoption of specific objectives for each lake and at basinwide scales, coupled with enhanced monitoring and reporting requirements. They pledge to use an adaptive management approach. The Protocol contemplates an enhanced role for the IJC and its subsidiary bodies, including the Great Lakes Water Quality Board, Science Advisory Board, and Great Lakes Regional Office, though the IJC's role remains largely one of information-gathering and advising. Indeed, the Protocol underscores that operational responsibility for implementation of all these commitments remains the sole responsibility of the national governments; both the IJC and subnational actors are relegated to an advisory and consultative role.[43]

In important ways, then, both the Treaty and the GLWQA through its multiple iterations and amendments[44] have been pathbreaking agreements, establishing a model of successful transboundary cooperation in the management of a critically important shared watercourse - and to that extent, a worthy benchmark for the rest of the world.[45] They have also been progenitors of much of modern international environmental law - the first to articulate the principle

[43] *Id.* at art. 3.2 ("The Parties shall progress to the attainment of these General Objectives, Lake Ecosystem Objectives, and Substance Objectives through their respective domestic programs"); *Id.* at art. 4 ("The Parties, *in cooperation and consultation with* State and Provincial Governments, Tribal Governments, First Nations, Métis, Municipal Governments, watershed management agencies, other local public agencies, and the Public, shall develop and implements programs and other measures … .") (emphasis added).

[44] *See* Revised Great Lakes Water Quality Agreement of 1978, U.S.-Can., Nov. 22, 1978, 30 U.S.T. 3083; Phosphorus Load Reduction Supplement to Annex 3, U.S-Can., as amended by Protocol, Nov. 18, 1987, T.I.A.S. No. 11,551. The GLWQA is not a formal treaty requiring Senate approval, but rather an executive agreement. *See* DAVE DEMPSEY, RUIN & RECOVERY: MICHIGAN'S RISE AS A CONSERVATION LEADER 251 (2001) (hereinafter DEMPSEY). Executive agreements are nonetheless considered binding as a matter of both international and U.S. law. *See* Jack L. Goldsmith & Eric A. Posner, *International Agreements: A Rational Choice Approach*, 55 VA. J. INTL. L. 113, 123 (2004) ("Under international law and U.S. constitutional law, an executive agreement made on the president's authority alone, without legislative participation, can be legally binding.").

[45] *See*, *e.g.*, Nicholas A. Robinson, *Befogged Vision: International Environmental Governance a Decade After Rio*, 27 WM & MARY ENVTL. L. & POL'Y REV. 299, 360 (2002) (characterizing the GLWQA as an "effective illustration" of "regional integration of environmental protection systems"); DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 809 (2d ed. 2002) (characterizing the Great Lakes management effort as "[o]ne of the most widely respected transboundary freshwater management initiatives.").

against transboundary harm by pollution, the first comprehensive free-standing transboundary pollution control agreement, and the first to adopt an ecosystem approach.

Yet for all that, the Great Lakes remain a deeply troubled system, hanging in a delicate balance between collapse and recovery.[46] Even as progress is made in some areas, new crises emerge. To be sure, there has been substantial progress on some fronts. Overall Great Lakes water quality has improved since the 1960s when Lake Erie was proclaimed "dead" and some of the other lakes were thought to be not far behind.[47] We no longer dump raw sewage into the Great Lakes or their tributaries[48] - at least, not usually.[49] Water pollution from industrial point sources has been brought substantially under control.[50] The populations of some species have stabilized, and may be making a comeback in some parts of the Great Lakes system where they had been all but locally extirpated.[51]

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[46] *See*, *e.g.*, JACK BAILS ET AL., NAT'L WILDLIFE FED'N, PRESCRIPTION FOR GREAT LAKES ECOSYSTEM PROTECTION AND RESTORATION: AVOIDING THE TIPPING POINT OF IRREVERSIBLE CHANGES (2005) (assessment by leading Great Lakes scientists calling for urgent action to avoid an ecological "tipping point" due to toxic contamination, nutrient loading, land use changes, hydrologic modifications, and biological change that could result in irreversible ecosystem breakdowns).

[47] *See* DEMPSEY, *supra* note 44, at 248-49 (stating that *Life* magazine declared Lake Erie "dead" in the 1960s and *Newsweek* announced a "death watch" for Lake Michigan in 1969).

[48] *See* DAVE DEMPSEY, ON THE BRINK: THE GREAT LAKES IN THE 21ST CENTURY 113-15 (2004) (describing how raw sewage entered the Great Lakes in the 1960s); William L. Andreen, *Water Quality Today - Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537, 580 (2004) (stating that the U.S. and Canada have reduced phosphorus loads in the Great Lakes by 50% through municipal wastewater treatment, industrial point source pollution controls, and restrictions on the use of phosphates in detergents).

[49] *See* Editorial, *Stop the Sewage-Report Shows Need for Stanching Overflows in Great Lakes; Grand Rapids Points the Way*, GRAND RAPIDS PRESS, Dec. 6, 2006, at A12 (editorial stating that twenty-four billion gallons of untreated effluent are released into the Great Lakes each year through sewage spills and combined sewer overflows).

[50] *See* INTN'L JOINT COMM'N, 11TH BIENNIAL REPORT: GREAT LAKES WATER QUALITY: THE CHALLENGE TO RESTORE AND PROTECT THE LARGEST BODY OF FRESHWATER IN THE WORLD 21 (2002) ("Since the signing of the Great Lakes Water Quality Agreement, the governments have taken action to curb chemical inputs, particularly from industrial point sources discharging directly into the lakes. The lakes responded … .").

[51] *See*, *e.g.*, Pat Currie, *Great Lakes "Legend" Makes a Comeback: After Nearly Disappearing, Sturgeon Thriving, Species Has Been Around for 130 Million Years*, TORONTO STAR, Feb. 22, 2005, at A17 (reporting increased populations of lake sturgeon in southern Lake Huron, western Lake Erie, and the Detroit and St. Clair Rivers). Other important species like lake trout and lake herring are reportedly coming back in Lakes Superior and Huron. ENV'T CANADA & U.S. ENVTL. PROT. AGENCY, GREAT LAKES PROGRAM OFFICE, OUR GREAT LAKES 6, 14 (2004).

And certainly our scientific understanding of the ecology, hydrology, and biogeochemistry of the Great Lakes system is better than it ever has been, thanks to the tireless efforts of independent scientists, academic institutions, nongovernmental organizations, and government agencies at both the federal and state/provincial levels on both sides of the border, and to the cumulative, progressive nature of scientific advance itself.

Yet despite all that, the grand binational project of Great Lakes restoration sometimes appears to be on a treadmill. Among the major problems that remain:

- The most severely contaminated toxic "hotspots" have been identified and designated as "Areas of Concern" meriting priority remediation, but only a handful of those clean-ups have been completed and progress has stalled on most of the rest.[52]

- Non-point source water pollution continues largely unabated and in some areas appears to be growing worse, resulting in excess nutrient loads.[53]

- Notwithstanding the adoption of a Binational Toxics Strategy, the governments have made little headway against airborne deposition of both toxic and conventional pollutants.[54]

- There is no real strategy for managing land use within the basin so as to protect the Great Lakes and their tributaries.[55]

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[52] *See* The Right Hon. Herb Gray, *Proceedings of the Canda-United States Law Institute Conference on Understanding Each Other Across the Largest Undefended Border in History*, 31 CAN.-U.S. L.J. 287, 294-95 (2005) (stating that pursuant to the 1987 Protocol, the United States and Canada had identified forty-three "Areas of Concern" or contaminated "hotspots" for priority remedial action, but to date only two have been fully cleaned up).

[53] ENVTL. PROT. AGENCY, GREAT LAKES ECOSYSTEM REPORT 2000 37 (2000) (stating that EPA considers non-point source run-off "the most important remaining source of pollution" in the Great Lakes basin).

[54] *See* Andreen, *supra* note 48, at 581 (stating that atmospheric deposition is now the principal source of mercury pollution and a leading source of other toxic pollutants entering the Great Lakes).

[55] *See* INT'L JOINT COMM'N, PRIORITIES 2001-2003: PRIORITIES AND PROGRESS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT 75-84 (2003) (concluding that sprawling patterns of urban growth in the Great Lakes basin are adversely affecting water quality, and that such cumulative regional environmental impacts are typically given little consideration in local land use planning decisions).

- Invasive species carried in by ships' ballast or infiltrating through rivers and canals continue to wreak ecological havoc, displacing native species and disrupting the food webs and ecological relationships that define aquatic life in the Great Lakes.[56]

Not only are these problems real, severe, and persistent, but the legal and institutional mechanisms capable of addressing them are for the most part not yet in place.

So we have an apparent paradox - or at least a curious juxtaposition of seemingly incompatible facts. One the one hand, we have what is fairly described as one of the most successful and durable models of binational cooperation through international law in transboundary natural resource management the world has ever seen. Those legal arrangements are bolstered by a genuine political will on both sides of the border (at least within the Great Lakes basin) to commit real resources toward the project of protecting and restoring the Great Lakes.[57] Juxtaposed against that, however, we have a picture of widespread and really quite severe failure at the level of substantive policy, amidst a general sense of legal and institutional inadequacy and ineptitude.

III. SCALE MISMATCHES AND THE COMPACT-AGREEMENT SOLUTION

At its core, the problem in Great Lakes governance is that the binational institutions are mismatched to the nature and scale of the problems to be addressed in the Great Lakes basin.[58] The United States and Canada were quick to recognize that neither could manage the Great Lakes alone, and that therefore

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[56] *See* INT'L JOINT COMM'N GREAT LAKES WATER QUALITY BD., ALIEN INVASIVE SPECIES AND BIOLOGICAL POLLUTION OF THE GREAT LAKES ECOSYSTEM 4-5 (2001) (stating that at least 160 non-indigenous species have become established in the Great Lakes including the zebra mussel which clogs water intakes and displaces indigenous mussels, the Eurasian ruffe and round goby, exotic fish that feed on the eggs of native fish and compete with native species for food, and the fishhook water flea, a zooplankton that eats native plankton, disrupting aquatic food supplies); *Id*. at 16-20 (recommending additional measures to control introduction of alien invasive species by regulating ballast water discharges).

[57] Public opinion surveys within the Great Lakes basin consistently show high levels of public support for more aggressive action to protect the Great Lakes. One basin-wide survey found that 96% of respondents agreed that "we need to do more to protect the Great Lakes from pollution" and 86% agreed that "we need to do more to protect Great Lakes habitats from development." BELDEN RUSSONNELLO & STEWART RESEARCH & COMMUNICATIONS, *supra* note 8.

[58] *See* Bradley C. Karkkainen, *Managing Transbonudary Aquatic Ecosystems: Lessons from the Great Lakes*, 19 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 209, 220-27 (2006) (describing subject, scale, and capacity mismatches in transboundary natural resources management).

some level of transboundary cooperation and coordination was essential. So they established a binational Treaty, and later a series of bilateral GLWQA spelling out an innovative vision of integrated ecosystem management and an ambitious set of environmental objectives. But they left implementation of those objectives to their own good offices, each on its own side of the international boundary. While there has been some rearranging of the institutional deck furniture on both sides of the border, the regime for management of the Great Lakes essentially reverts at the implementation phase to the traditional assumptions of Westphalian public international law: the GLWQA is an agreement between national sovereigns, that is to say between the respective federal governments of the United States and Canada, which remain the only real players. Their obligations run to each other, and each is exclusively responsible for implementing the agreement within its own territory. The failure, then, is widely seen as a failure of implementation at the national level, borne of a failure of each party to hold its own and its counterpart's feet to the fire.

Yet closer examination suggests the failure runs deeper than a failure of implementation. An institutional arrangement in which the only two relevant players are the federal governments of the United States and Canada is arguably a flawed institutional design - however consonant that approach may be with the standard assumptions of public international law. That analysis suggests that until the transboundary governance institutions are realigned and, where necessary, redesigned into a new institutional architecture better fitted to the scope and nature of the task at hand, pouring more money through the same old institutional funnels may not get us all that much closer to providing effective solutions. Perhaps it is time to shift our focus away from thinking of management of the Great Lakes as an inter-*national* problem requiring an *inter*-national law solution - a binding contractual agreement between sovereign nation states. Instead, we might think of it as a transboundary problem, requiring a new form of effective transboundary governance, scaled to the resource we are trying to manage and protect.

Strictly binational solutions are predicated upon, and further entrench, a basic disconnect on the question of scale. Even for very large natural systems like the Great Lakes, natural resource management issues will always be seen as essentially regional issues by national-level decision-makers. As a consequence, they'll naturally be a lower priority on the national policy agenda than issues that are perceived to be national in scope.

To be sure, there's also a similar kind of scale mismatch at the state level. With the singular exception of Michigan, most of the Great Lakes states have

most of their land and half or more of their population outside the Great Lakes basin, so that Great Lakes issues tend to be seen as "regional" issues even within states like Ohio and Indiana, much less those like Pennsylvania and New York whose populations overwhelmingly reside outside the basin. Generally speaking, however, states and provinces are "closer to the ground" than the national governments. Issues like the possible loss of Great Lakes water, or threats to the quality of public drinking water supplies, or the decline of fisheries, or the quality of the Great Lakes as an aesthetic, recreational, and tourism-generating resource, have more immediacy and salience at that level, and the constituencies who care about Great Lakes-specific issues tend to have proportionally greater influence at more localized state and provincial scales than at the national level.

Yet acting alone, each of the Great Lakes states and provinces has only a limited capacity to affect conditions in and on the Great Lakes. That, perhaps more than any other factor, has led to a history of passivity and inaction at the state and provincial level.

Here's where the Compact and Agreement represent a potentially critical breakthrough, suggesting alternative institutional possibilities in the Great Lakes basin. They represent a blueprint and model for concerted state and provincial action - legally binding, transboundary, but subnational policy harmonization across jurisdictions, coupled with the establishment of regional-scale institutions vested with real decision-making authority that each of the jurisdictions is bound to respect, all pitched to the scale of the resource we are trying to protect.

The Compact and Agreement are water allocation instruments, aimed at the rather modest goal of limiting out-of-basin diversions of water from the Great Lakes Basin. More specifically, the legally binding Compact among the eight Great Lakes Basin states, and its mirror-image companion document, the good-faith Agreement between the same eight states and two Canadian provinces, provide for:

- A ban on new out-of-basin diversions, subject to narrowly limited exceptions for "straddling" communities that are partly within the basin and partly outside it and for certain intra-basin transfers (e.g., a diversion from the watershed of one Great Lake to the watershed of another Great Lake is permissable).

- Establishment of uniform regional standards for evaluating and permitting proposed water withdrawals, including requirements that return flows shall be to the source watershed, no individual or cumulative adverse impacts on water quality or quantity

shall be permitted, all withdrawals and consumptive uses must be implemented so as to incorporate environmentally sound and economically feasible water conservation measures, and each permitted withdrawal or consumptive use shall be "reasonable" as determined by reference to a multi-factor balancing test set out in the Compact and Agreement.

- Requirements that each state (and province) develop a comprehensive water resources inventory and contribute to a common database on water resources and withdrawals; adopt a state or provincial water management conservation and efficiency plan and submit it for regional review; establish a program to regulate water withdrawals and diversions in accordance with basin-wide standards set forth in the Compact and Agreement; and report at five year intervals on how the Compact and Agreement are being implemented in each respective jurisdiction.

- Establishment of a regional governing body called the Great Lakes Water Resources Council, consisting of the governors of each of the states (or their representatives), and a parallel body called the Regional Body consisting of the governors and the premiers of the two provinces. The Council and Regional Body meet concurrently and are jointly empowered to promulgate and enforce basin-wide regulations; to develop and implement region-wide water management conservation and efficiency plans; to review the water management plans and implementation reports of the basin states and provinces; to make recommendations to the states and provinces regarding implementation of the Compact and Agreement; and to exercise "regional review" permitting authority over proposed withdrawals or diversions deemed to be of region-wide significance or of precedent-setting character.

The Compact and Agreement apply not only to water within the Great Lakes and St. Lawrence River proper, but to all surface and groundwater within the basin. In a controversial compromise, the Compact and Agreement classify shipments of water out of the basin in containers smaller than 5.7 gallons as not constituting "diversions." Also exempted is the longstanding diversion at

Chicago, which is governed by the United States Supreme Court's decree in *Wisconsin v. Illinois*.[59]

Some critics within the Great Lakes basin question whether the instruments will be effective in achieving their stated goal.[60] Other critics question the goal itself, arguing that locking up 20% of the world's fresh surface water at a time of growing water shortages and an uncertain water future in the age of global climate change is a dubious undertaking.[61] Still others have suggested that the Compact and Agreement were put forth as a solution to a remote and speculative, or even non-existent, problem.[62] These critiques raise important questions about the Compact and Agreement that are beyond the scope of this paper.

The focus here is not on the effectiveness of the Compact and Agreement themselves, however; nor on the wisdom of what these instruments are trying to achieve. Instead, the focus is on what the Compact and Agreement represent as a novel kind of transboundary governance mechanism in federal systems. They provide a model in which the states and provinces did not wait for the national governments to act. Nor did the states and provinces assume that because questions of Great Lakes water allocation had a transboundary dimension, decisions about their management properly fell within the exclusive foreign affairs powers of their respective national governments, to be treated as questions of international diplomacy and international law, and thus the exclusive domain of national sovereigns and, according to classical Westphalian theory, no place for subnational actors. Instead, the states and provinces seized the initiative and crafted their own solution - a Compact among the eight states that became legally binding by virtue of Congressional approval, and a legally non-binding but

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[59] Wisconsin v. Illinois, 281 U.S. 696 (1930) (limiting diversion at the Chicago Drainage Canal to an average of 1,500 cubic feet per second (c.f.s.) after December 31, 1938, and larger amounts during a transition period).

[60] *See* Mark Squillace, *Rethinking the Great Lakes Compact*, MICH. ST. L. REV. 1347, 1358-60 (2006) (arguing that the Compact focuses exclusively on new or increased withdrawals and diversions without addressing existing water uses in the basin, which are much larger and more significant); Amanda Paterka*, 'Jury Is Out' on Implementation of Landmark Great Lakes Compact*, N.Y. TIMES, https://archive.nytimes.com/www.nytimes.com/gwire/2011/07/14/14greenwire-jury-is-out-on-implementation-of-landmark-grea-33525.html?pagewanted=all (describing environmentalist critiques of state implementation of the compact) (last visited Aug. 2, 2018).

[61] *See* Squillace, *supra* note 60, at 1363-64 (questioning the ban on small-scale out-of-basin diversions that cause no perceptible harm to the Great Lakes but may force out-of-basin communities in smaller watersheds to place greater demands on already stressed water resources).

[62] *See* A. Dan Tarlock, *Four Challenges for International Water Law*, 23 TUL. ENVTL. L.J. 369, 391 (2010) (stating that the Compact and Agreement were a response to "remote or trivially possible transbasin diversion threats").

morally compelling parallel good-faith Agreement between the eight U.S. states and two provinces, committing the two Canadian provinces to the exact same provisions to which the U.S. states are legally bound by the Compact, and giving the provinces an equal seat at the table alongside the states in the regional governing body created by the instruments. The Compact and Agreement are then given further legal and practical effect by legislative ratification in each state and province, coupled with implementing legislation in each state and province to put the procedural and substantive commitments called for in the Compact and Agreement into effect. Through this ingenious device, the effect of the Compact and Agreement is to create an actual transboundary governance regime, complete with real transboundary decision-making institutions and backed by the force of law in each of the states and provinces with a stake in the resource, each harmonizing its domestic laws with the common transboundary regulatory scheme.

That all this could take place without a sovereign-to-sovereign international treaty specifically authorizing it might seem remarkable. And so it is, but it gives us a sense of the possibilities. These transboundary governance arrangements do not fit the familiar contours of international law and international lawmaking. Yet neither are they unlawful, nor completely extra-lawful. Indeed, on the United States side at least, they come now with the formal blessing of the federal government, in the form of Congressional ratification of the Compact and acquiescence by silence with respect to the Agreement. It suggests there is space for more of this sort of thing, even in the Great Lakes basin where similar institutional arrangements addressing fully integrated management of the shared water resources is a tantalizing conceptual possibility, albeit not on anyone's policy agenda at the present time.

Ultimately, then, the greatest significance of the Compact and Agreement may lie not in the substantive terms of those agreements, but in the governance model they represent. That model empowers the states and provinces by allowing them to act in concert, making their efforts so much more powerful and effective than if any of them were to act alone. And it also empowers the states and provinces in another sense, by enabling them to act at regional, resource-appropriate transboundary scales, without waiting for policy direction from Washington or Ottawa. This is truly a remarkable breakthrough.

There is a powerful tendency in international law and the practice of international diplomacy to see every transboundary problem as an inter-*national* problem - or in the case of the Great Lakes, a *binational* problem. If there's a transboundary dimension, another nation must be involved, and that brings the

matter within the scope of the foreign affairs power, which in turn places it exclusively within the jurisdiction of the national sovereigns. That is the spirit that brought us the Treaty, the IJC, and the GLWQA between Washington and Ottawa. That is not just a Great Lakes phenomenon, of course; it is standard operating procedure in international law and international diplomacy.

The Compact and Agreement represent a striking alternative to that conventional way of thinking. They say, in effect, "Wait a minute. There are important state and provincial interests here as well, and maybe not everything needs to be decided at the binational level. Maybe we can get the states and provinces to work together, to make some common commitments, to adopt common policies and standards, to harmonize their approaches across all jurisdictions within the basin, and to create effective, ongoing regional bodies to make decisions and ensure that the basin-wide commitments are implemented and enforced, with those regional bodies owned and operated by the states and provinces, not by the national sovereigns."

That's a powerful idea, and a potentially powerful governance structure. It is also a powerful alternative to - and fundamentally a challenge to - the conventional binational way of doing business. In other published papers I have tried to give it fancy names - "post-sovereign governance" or "transboundary normativity without international law." But call it what you will, it is potentially a powerful alternative way of addressing transboundary natural resource management challenges.

Now imagine applying that model to other problems facing the Great Lakes basin. I am not suggesting that the Compact and Agreement themselves should "morph" into multi-issue agreements. That is unlikely, and perhaps even undesirable; they have got enough work to do as it is, and there is some chance they could break apart if they are asked to do too much. But one can imagine parallel sets of commitments on matters like land-based nonpoint source pollution, or shoreline protection standards, or cumulative environmental impact assessment on proposed developments of basin-wide impact. These are critically important matters the national governments of the United States and Canada are unlikely ever to touch, and arguably do not have the jurisdiction to address, but nonetheless are of critical importance to the future of the Great Lakes. These are matters the states and provinces potentially could step forward to address collectively, and in an effective, coordinated way, through additional interstate compacts and parallel transboundary state-provincial agreements.

Nor do I mean to suggest that state-provincial agreements on the model of the Compact and Agreement should wholly supplant or displace binational efforts.

Binational and national efforts - especially efforts to harness up the disparate resources and authorities of various U.S. federal agencies, and to get them working toward common purposes in Great Lakes restoration - are, and will remain, critically important.

But much more is needed. The states and provinces must step forward as full participants and players, not merely as subsidiary implementers of national or binational policy agendas, and not merely as junior consultative partners in a binational decision-making process, but as decision-makers, authors, and implementers of policy in their own right. So my modest proposal is that we look at the Compact and Agreement not only as an important step toward keeping Great Lakes basin water in the Great Lakes basin and keeping the Great Lakes functioning as natural systems, but as a possible model and blueprint for institutional vehicles by which that heightened role for state and provincial participation in and ownership of Great Lakes protection and restoration efforts might come to fruition.