Great Lakes Polycentric Governance: Governing the Great Lakes as an Urban Commons

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ABSTRACT

The Great Lakes are among the most important natural resources in North America, but even in the regulated area of the Great Lakes Basin, not everyone is permitted equitable access. This Note builds upon the author's previous work exploring the efficiency of existing regulations governing water use in the Laurentian Great Lakes Basin. Treating the Great Lakes as an urban commons, this Note assesses how well existing regulations comport with urban commons governance best practices and recommends improvements to existing regulations. To make this assessment, this Note applies the urban commons "co-cities" framework developed by legal scholars Sheila R. Foster and Christian Iaione. Through this analysis, the Note concludes that although current regulations satisfy some of Foster and Iaione's design principles, the existing governance regime does not meet them all, indicating significant room for improvement. This Note then suggests ways to better align the Compact with the co-cities framework, protect the lakes against existential threats, and ensure the millions of Americans and Canadians who depend on Great Lakes fresh water are granted equitable access. This Note argues that Foster and Iaione's co-cities framework, synthesized with Elinor Ostrom's observations of successful commons governance, provides a model for sustainable and equitable water use in the Great Lakes Basin that reduces conflict, promotes resiliency, and ensures the protection of urban commons resources amid the climate crisis. Applying this model to existing laws will alleviate mounting insecurities between the water-rich Great Lakes jurisdictions and water-poor regions nearby while promoting sustainable development practices Basin-wide.

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INTRODUCTION

North America's Laurentian Great Lakes may be the most extraordinary freshwater system on the planet. Home to unique ecosystems and an expansive human history, the Great Lakes system contains almost twenty percent of all available surface fresh water on Earth.[1] This seemingly endless expanse of water is, however, a vulnerable and sensitive ecosystem changing with the climate and human use.[2] Indeed, the current bodies of the Great Lakes system—Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario from west to east draining into the Atlantic Ocean via the St. Lawrence River—is a geologically recent development, forming only three thousand years ago.[3] Lake levels, geology, and climate have struck a careful balance to create the unique geography and hydrology we know today. The Great Lakes system loses about one percent of its water through the St. Lawrence River and via evaporation each year.[4] A comparable one percent is restored through precipitation.[5] Modifications to this delicate balance can easily harm Great Lakes ecologies and the infrastructure on which much of North America relies.

Humans have used the Great Lakes for millennia. Early use of the lakes for fishing, hydration, and transportation evolved as European colonization brought

1. *Great Lakes Fast Facts*, NOAA, https://perma.cc/5DKQ-FHND.
2. *Id.*
3. *Great Lakes Ecoregion*, NOAA, https://perma.cc/QY3K-ZEZU.
4. LEE BOTTS & PAUL MULDOON, EVOLUTION OF THE GREAT LAKES WATER QUALITY AGREEMENT 3 (2005).
5. *Id.*

new human reliance and use stressors.[6] Today, although humans still rely on the Great Lakes as sources of drinking water, the lakes have become important pieces of civil infrastructure, used for purposes as diverse as sanitation, energy production, and recreation.[7] Indeed, the Great Lakes played a significant role in settling the American and Canadian western frontiers, and as incidental instruments of the greater concept of Manifest Destiny, they still inform contemporary North American resource allocation policies, water law, and cavalier attitudes toward climate resiliency and increasingly dire racial and regional resource disparities.[8]

This Note expands on the Great Lakes water law primer and equitable water-use recommendations outlined in *International Efforts to Protect the Great Lakes and Alleviate North American Water Insecurity in Our Warming World*. This Article argued that by alleviating resource insecurity through sensible land use policies and science-based water auditing, regulators can protect the Great Lakes better than they would by passing more protectionist water use regulations that foster animosity among regions.[9] This Article also mentioned potential avenues and aspirational ethics to pursue this goal and to protect the Laurentian Great Lakes.

This Note argues that Manifest Destiny still pollutes North American water law and has led to the environmental insecurities that millions of Americans and Canadians face today.[10] But this principle, which has contributed to our irresponsible water use, need not and cannot continue in perpetuity. Through legal modifications led by collaborative governance methods, informed by the work of scholars Elinor Ostrom, Sheila R. Foster, Christian Iaione, and Astra Taylor, Great Lakes jurisdictions can use the lakes more responsibly and equitably, reducing insecurities between water-rich and water-poor regions and protecting lake ecologies and communities in the long term.

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6. *See* Nick Walter, *Mapping the Human Impact on the Great Lakes*, CANADIAN GEOGRAPHIC (Apr. 20, 2022), https://perma.cc/2MK3-JEV8.

7. EMILY RAU ET AL., MICHIGAN SEA GRANT, THE DYNAMIC GREAT LAKES ECONOMY: EMPLOYMENT TRENDS FROM 2009 TO 2018 (2020), https://perma.cc/2EYK-B7KQ.

8. Philip N. Davey, *The Tug and Tow Relationship in the United States*, 70 TUL. L. REV. 475, 476 (1995) (noting that "[t]he towing industry has been mothered by the necessities of American expansionist dreams from the era of our 'manifest destiny' and by geography, as well as statutory and regulatory necessities and advantages . . . . In the mid-1800s, our leading maritime jurists sought to meet the needs of America's manifest destiny by broadening admiralty jurisdiction beyond the ebb and flow of the tide to the full reach of navigation on the rivers and Great Lakes."); *see* James J. Knicely et al., *In God We Trust: The Judicial Establishment of American Civil Religion*, 43 J. MARSHALL L. REV. 869, 898 (2010) (discussing the "current day manifestation of [the religion of the American people]," which "centers around the telling and retelling of the mighty deeds of the white conquerors.").

9. John M. Skakun, *International Efforts to Protect the Great Lakes and Alleviate North American Water Insecurity in Our Warming World*, 32 BUFF. ENV'T L.J. 1 (2025).

10. *See generally* ASTRA TAYLOR, THE AGE OF INSECURITY: COMING TOGETHER AS THINGS FALL APART (2023) (highlighting the various forms of insecurity facing contemporary North Americans). Of course, these insecurities extend beyond environmental and natural resource apportionment concerns, but these issues are beyond the scope of this essay. These insecurities are primarily those concerning disparities in water appropriation laws in eastern and more arid western North America.

First, Part I recounts the history of legislative and judicially imposed regulations controlling Great Lakes water law. Part II examines the legal and economic literature on communal governance of common-pool resources (CPRs). Beginning with an analysis of James Hardin's *Tragedy of the Commons*, Part II discusses Elinor Ostrom's retort to Hardin's purported 'mental exercise' in her 1990 work, *Governing the Commons: The Evolution of Institutions for Collective Action*. Part II then evaluates Sheila R. Foster and Christian Iaione's adaptation of Ostrom's framework to urban commons in *Co-Cities: Innovative Transitions toward Just and Self-Sustaining Communities*. Part II applies the urban development factors discussed in *Co-Cities* to urban resources, arguing that the Great Lakes system is an urban-commons style CPR facing common challenges of urban development.

After Part II explores this historical and conceptual context, Part III applies Foster and Iaione's co-cities framework to modern Great Lakes water-apportionment governance to evaluate whether existing water regulations are likely to protect the lakes from mounting environmental and commercial threats. Finally, Part IV provides recommendations to Great Lakes governing bodies, lawmakers, and activists so that they may better abide by Foster and Iaione's framework and bolster environmental protection of the lakes and the institutions that serve them.

This analysis draws on climate justice activism and initiatives as well as the sustainability and resiliency movements responding to global climate change. It critiques the shortcomings of the existing Great Lakes water governance instruments and identifies a model for governments to realize a sustainable management regime. It also evaluates how much Foster and Iaione's framework has already been applied and recommends ways to create a resilient Great Lakes urban commons that supports North Americans while protecting fragile ecosystems.

I. HISTORY OF REGULATIONS GOVERNING GREAT LAKES WATER USE

A. MANIFEST DESTINY

By the early twentieth century, populations in the North American interior had skyrocketed. The United States and Canada had grown beyond the early colonial outposts along the Atlantic Coast and St. Lawrence River, now expanding throughout the vast continent to the Pacific Ocean. Westward migration was inspired in part by Manifest Destiny, the belief that God had ordained the entire North American content—from sea to shining sea—for the settlement of white, English-speaking, European-descended North Americans.[11] Settlers, internalizing this state-supported imperialist mythology, clashed with and eradicated First Nations and Spanish

11. *See* Alfred J. Sciarrino, *The Rehnquist Court's Free Exercise Collision on the Peyote Road*, 23 CUMB. L. REV. 315, 348 n.4 (1993) (quoting JOHN M. BLUME ET AL., THE NATIONAL EXPERIENCE 254 (5th ed. 1981) ("Manifest Destiny" was the term given to the American expansionist drive that was strengthened by a mystical and romantic concept . . . "to overspread and to possess the whole of the continent which Providence has given us for the development of the great experiment of liberty and federated self-government entrusted to us.").

communities across the North American frontier to claim the territories and natural resources they believed Providence had allotted them.[12] The development of railroads enabled waves upon waves of white settlers to move west amid gold rushes and influxes of European immigrants. Indeed, the United States' purchase of Alaska from Russia spurred Canadian Prime Minister Sir John A. Macdonald's National Policy in 1867, leading to improvements of the Canadian Pacific Railway that connected Canada from the Atlantic to the Pacific and Arctic Oceans.[13]

By then, Europeans had already settled much of Great Lakes country. Canals linking Lake Ontario to the Hudson River and Lake Erie to the Ohio River were already important economic drivers, enabling intra-continental commerce and spurring population influxes in the American interior.[14] Such modifications to the interconnected Great Lakes system had significant effects on its geology, hydrology, and ecology that persist today.[15]

The first significant diversion of Great Lakes water occurred in 1900 upon the completion of the Chicago Sanitary Canal.[16] Chicago drew its municipal water supply from Lake Michigan directly adjacent to where the Chicago River discharged the city's sewage, and to alleviate the resulting public health crisis, Chicago sought to reverse the river's flow.[17] For eight years, laborers worked to dig a trench spanning the St. Lawrence Continental Divide west of downtown Chicago and break the barrier separating two of North America's largest watersheds.[18] Once complete, Chicago's growing population required more Great Lakes water to flush the city's sewage into the Mississippi River Basin, lowering water levels in Lakes Michigan and Huron by more than two and a half inches.[19] The state of Wisconsin brought Chicago to the U.S. Supreme Court, alleging the city had exceeded its water diversion limits.[20] The U.S. Supreme Court instructed

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12. Amanda Robinson & Andrew McIntosh, *Manifest Destiny*, CANADIAN ENCYC. (Dec. 19, 2019), https://perma.cc/L5D4-DWDK; Donald M. Scott, *The Religious Origins of Manifest Destiny*, NAT'L HUMANS. CTR., https://perma.cc/2Y3L-V9CA.

13. *See* Frank A. Golder, *The Purchase of Alaska*, 25 AM. HIST. REV. 411 –25 (1920), https://perma.cc/53FR-272B.

14. *See, e.g.*, JAMES C. ODA & LINDA GRIMES, PIQUA AND MIAMI COUNTY 44 (1991) (explaining how the Miami and Ohio canal, connecting Lake Erie to the Ohio River watershed through western Ohio, spurred growth in industry and population).

15. *See* Complaint at ¶ 31, Catskill Mountains Chapter of Trout Unlimited, Inc. v. Env't Prot. Agency, 8 F. Supp. 3d 500 (S.D.N.Y. 2014) (*Catskill VI*), *rev'd sub nom.* Catskill Mountains Chapter of Trout Unlimited, Inc. v. Env't Prot. Agency, 846 F.3d 492 (2d Cir. 2017) (asserting that water transfers from the Ohio and Erie Canal exacerbate high levels of pollution in Lake Erie); Mary Rassenfoss, *Regulating Water Transfers in the Wake of* Catskill Mountains Chapter of Trout Unlimited, Inc. v. EPA*: Examining Alternatives to NPDES Permits*, 45 ECOLOGY L.Q. 451, 459 (2018).

16. DAVE DEMPSEY, GREAT LAKES FOR SALE 2 (2d ed. 2021).

17. DAN EGAN, THE DEATH AND LIFE OF THE GREAT LAKES 161–63 (2017).

18. DEMPSEY, *supra* note 16, at 2.

19. EGAN, *supra* note 17, at 152–60 (exploring the unforeseen and continuous ecological threats the Chicago Sanitary Canal poses to the interconnected Great Lakes system). Due to the interconnected nature of the lakes, Lakes Erie and Ontario faced similar water level decreases, as well. *Id.*

20. *See* Wisconsin v. Illinois, 281 U.S. 696 (1930).

Chicago to gradually reduce its water use.[21] To this day, the Court retains jurisdiction over Chicago's Lake Michigan water diversions.[22]

B. U.S.-CANADA BOUNDARY WATERS TREATY

Amid Chicago's diversion disputes in the early twentieth century and the United States and Canada's increasing reliance on water resources for agriculture, the need for a coordinated international water allocation scheme became apparent. In 1909, the United States and Canada signed the Boundary Waters Treaty, committing the neighboring countries to share use of the watercourses flowing between them.[23] The treaty created the International Joint Commission (IJC), a permanent body that responds to waterway diversion applications affecting the United States and Canada.[24] The IJC remains active today. The Boundary Waters Treaty also established a forum where a party injured by another party's water use can seek remedies.[25]

C. GREAT LAKES CHARTER

As insecurity mounted and arid western settlements eyed the seemingly water-rich Great Lakes region with envy, the premiers and governors of Great Lakes country met to devise further protections for Great Lakes water.[26] Along the banks of Lake Huron, lawmakers vowed not to approve future diversions of Great Lakes water beyond the Basin without the approval of all other Great Lakes premiers and governors.[27] By 1985, the Great Lakes states and provinces had all agreed to the terms of the Great Lakes Charter (Charter) committing the jurisdictions to jointly pursue legislation that would bind the parties to protect Great Lakes ecologies. They also sought legislation to standardize use-modification processes, seeking in turn, to limit future Great Lakes diversions.[28] The Charter's water-use restrictions, however, were limited by *Sporhase v. Nebraska*[29] and *El Paso v. Reynolds*,[30] which forbade the outright banning of water-transfer

21. DEMPSEY, *supra* note 16, at 4.
22. *Id.*
23. Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, Can.-U.S., Jan. 11, 1909, T.S. 548 [hereinafter Boundary Waters Treaty].
24. *Id.*
25. *Id.*
26. *See generally* PETER ANNIN, THE GREAT LAKES WATER WARS (2d ed. 2018); Peter V. MacAvoy, *The Great Lakes Charter: Toward a Basinwide Strategy for Managing the Great Lakes*, 18 CASE W. RES. J. INT'L. L. 49, 52–53 (1986).
27. *See* MacAvoy, *supra* note 26, at 54.
28. *Id.* at 55.
29. *See* Sporhase v. Nebraska, 458 U.S. 941 (1982).
30. El Paso v. Reynolds, 563 F. Supp. 379 (D.N.M. 1983).

infrastructure under the U.S. Constitution's Dormant Commerce Clause.[31] Regardless, the Charter memorialized the states' and provinces' intent to protect the Great Lakes from future diversions.

D. ANNEX 2001

In 1998, a Canadian businessman overcame water use regulations and acquired a permit to sell bulk water from Lake Superior abroad.[32] Environmentalists were outraged, fearing such withdrawals would provoke others to divert Great Lakes water.[33] The water needs of arid western communities would undoubtedly overwhelm the delicate Great Lakes system's one percent annual restoration rate.[34] Canadian officials persuaded Febbraro to desist, but the incident revealed the Charter's weaknesses. In response, Canadian lawmakers strengthened Great Lakes water-use regulations.[35] Meanwhile, American lawmakers gathered to evaluate the vulnerabilities of existing regulations.[36] The group drafted the Great Lakes Charter Annex (Annex 2001), outlining the states' intent to draft legislation to protect the Great Lakes from future mass diversions.[37]

E. GREAT LAKES COMPACT

The sentiments inspiring Annex 2001 culminated in the Great Lakes-St. Lawrence River Basin Water Resources Compact (the Great Lakes Compact), a provision codified in state and federal law formally banning all further Great Lakes diversions and intra-Basin transfers without the assent of all Great Lakes premiers and governors, subject to certain limited exceptions.[38] Québec and Ontario were included via the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (the Agreement)—a nonbinding document mirroring the Great Lakes Compact.[39] Negotiating Compact terms was challenging; each party had to compensate for the others' unique water personalities.[40] Public opposition mounted as the states and

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31. *See* A. Dan Tarlock, *The Strange Career of the Dormant Commerce Clause and International Trade Law in the Great Lakes Anti-Diversion Regime*, 2006 MICH. ST. L. REV. 1375 (2006).

32. ANNIN, *supra* note 26, at 203.

33. *Id.* at 204–05.

34. *See* BOTTS & MULDOON, *supra* note 4.

35. ANNIN, *supra* note 26, at 207.

36. *Id.* at 209.

37. *Id.* at 219. *See* The Great Lakes Charter Annex, June 18, 2001, https://perma.cc/HRP8-NUAR.

38. The Great Lakes-St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, 112 Stat. 3739 (2008). Various state statutes individually codify the terms of the Compact. *See, e.g.*, OHIO REV. CODE ANN. § 1522.01 (West 2008); 45 ILL. COMP. STAT. ANN. 147/5 (West 2007); IND. CODE ANN. § 14-25-15-1 (West 2008); MICH. COMP. LAWS ANN. § 324.34201 (West 2008); MINN. STAT. ANN. § 103G.801 (West 2007); N.Y. ENV'T CONSERV. LAW § 21-1001 (McKinney 2008); 32 PA. STAT. AND CONS. STAT. ANN. § 817.22 (West 2008); WIS. STAT. ANN. § 281.343 (West 2008).

39. Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement, Can.-U.S., Dec. 13, 2005.

40. ANNIN, *supra* note 26, at 223 (noting that, while Minnesota was typically considered the most progressive jurisdiction and Indiana the least, Ohio ranked somewhere in the middle, concerned with

provinces presented draft legislation to constituents in 2004,[41] but lawmakers eventually satisfied stakeholders, quelled public concerns, and created a plan to which the negotiating parties assented.

By 2005, the negotiators had significantly restricted Great Lakes diversions.[42] After the working group reached consensus, each state legislature ratified the Compact.[43] The U.S. Congress and President George W. Bush approved the Compact in 2008.[44] The Great Lakes Compact became effective, ratified by all eight Great Lakes states and the U.S. federal government, on December 8, 2008.[45]

The Compact requires permits for any diversions from the Great Lakes Basin.[46] It also incentivizes compliance and sanctions violators.[47] Exceptions to the anti-diversion rule apply in the following circumstances:

1) Straddling Communities: The Compact permits communities straddling the St. Lawrence Continental Divide to source municipal water from the Great Lakes Basin and divert it across the divide to outlying areas. Such diversions must not be issued frivolously. The petitioning municipality must implement comprehensive conservation measures, ensure the complete return of the diverted waters to the Basin post-use and treatment, and demonstrate a lack of feasible, cost-effective, and sustainable alternative water sources for territories beyond the Basin. Straddling communities need only secure approval from their respective governor or premier. They need not seek permission from the Compact Council—a public quasi-judicial body comprised of each Great Lakes governor or their designees charged with promulgating and enforcing the terms of the Compact and overseeing Basin-wide water management.[48]

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balancing the environmental matters facing the Great Lakes with the state's economic and political interests in maintaining its manufacturing industry historically tied to the Lake Erie coast).

41. *Id.* at 230–32; *see also* Adele Hurley & Andrew Nikiforuk, *Don't Drain on our Parade*, GLOBE & MAIL (July 29, 2005), https://perma.cc/3L28-7MJ7; Chris Wood, *Melting Point: How Global Warming Will Melt Our Glaciers, Empty the Great Lakes, Force Canada to Divert Rivers, Build Dams, and Yes, Sell Water to the United States*, THE WALRUS (Oct. 12, 2005), perma.cc/PXS3-V6QA.

42. ANNIN, *supra* note 26, at 230. Specifically, Wisconsin and Ohio were satisfied with exceptions for Waukesha and Akron. Ontario, Michigan, and Québec were satisfied with the anti-diversion decision, and Illinois was satisfied that the U.S. Supreme Court would retain governance of its historic diversions in Chicago. *Id.* at 239–43.

43. *Id.* at 238–41.

44. *Id.* at 241.

45. *Id.* at 242–43. Ontario had adopted an international agreement similar to the Compact in 2007. *Id.* Québec followed suit in 2009. *Id.* at 243

46. Compact, *supra* note 38, § 4.8.

47. *Id.* §§ 7.3(2), 7.3(4).

48. *Id.* § 4.9(1). Kenosha, Somers, Racine and Mount Pleasant, Wisconsin are notable municipalities that were already abiding by the straddling-communities exception upon the Compact's ratification. *See, e.g.*, *City of Racine Diversion*, WIS. DEP'T OF NAT. RES., https://perma.cc/DMD5-BDHM; *Village of Somers Water Diversion Application*, WIS. DEP'T OF NAT. RES., https://perma.cc/8Y4A-ULE8.

2) Communities in Straddling Counties: The Compact further outlines provisions governing transfers of Great Lakes waters to communities inside counties straddling the Basin. Here, any diverted waters must be allocated solely for public water supply purposes. Treated water must be returned to the Basin post-use. These diversions are subject to heightened scrutiny; such transfer proposals require the Compact Council's unanimous approval. The Compact directs the Council to exercise extreme prudence when evaluating straddling county diversions, stating that such diversions shall not be permitted absent compelling evidence that the diversion does not threaten the ecological integrity of the Basin's ecosystems.[49]
3) Intra-Basin Transfers: The Compact permits intra-Basin diversions in the watershed, provided average withdrawal rates do not exceed one hundred million gallons per day measured over a ninety-day period. Alternatively, the Compact allows transfers of up to five million gallons per day, contingent upon the applicant demonstrating an absence of feasible, cost-effective, and environmentally sustainable alternative water sources within the receiving jurisdiction. For any intra-Basin transfer, the jurisdiction of origin must issue prior notice to all other jurisdictions before a final decision will be rendered. Proposals seeking transfers exceeding the five-million-gallon daily average over ninety days must satisfy the same rigorous criteria applied to lower-volume diversions, undergo review from all Compact parties, and secure unanimous approval from the Council.[50]

Upon receiving Compact Council diversion approval, the parties must conduct recurring evaluations assessing the diversion's impacts at least once every five years, whenever Basin water losses attributable to the diversion average fifty million gallons per day over ninety days, or at the request of any Compact party.[51]

After years of negotiation amid the states and provinces, and the Canadian and American federal governments, the regulations controlling the use of Great Lakes surface water are as strong as they have ever been. Although critics argue the suite of domestic laws and international agreements fail to contemplate the entire watershed, at no other point has there been a suite of policies so completely governing Great Lakes water use while providing a limited forum for flexibility.

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49. Compact, *supra* note 38, § 4.9(3). *See* ANNIN, *supra* note 26, at 232; WALLACE STEGNER, THE AMERICAN WEST AS LIVING SPACE 12 (1987) (outlining John Wesley Powell's argument for American political divisions to be drawn along watershed divides to avoid conflict between water-rich and water-poor areas while helping to preserve watershed integrity).

50. Compact, *supra* note 38, at § 4.9(2).

51. *Id.* § 3.4.

II. COMMON-POOL RESOURCES

Part II proceeds with an analysis of best practices and scholarship addressing CPR governance. Although some economists and philosophers have argued that all CPRs are destined to degrade and fail, others have identified processes and practices to ensure these resources and the individuals depending on them thrive long-term. This Part assesses Elinor Ostrom's work examining CPR use in the field and concludes with an in-depth analysis of recent scholarship by Sheila R. Foster and Christian Iaione that applies Ostrom's work to urban commons. With the background of the governance landscape surrounding Great Lakes water use in mind, later sections of this Note apply Foster and Iaione's work to evaluate whether the Compact satisfies their co-cities framework and assess how regulatory modifications could better satisfy their design elements.

A. THE TRAGEDY OF THE TRAGEDY OF THE COMMONS

Increasing water insecurity in the American West has spurred environmentalists to advocate for increasingly protectionist Great Lakes water use regulations. As western states face significant aridification and migration, political and economic pressures might persuade Congress to relax Great Lakes water protections.[52] In response to speculation from the west, and western states' increasing Congressional power, officials in the Great Lakes Basin have called for strengthening Great Lakes environmental and water use protections.[53] In 2021, a commission member of the Metropolitan Water Reclamation District of Greater Chicago advocated for designing a "Compact 2.0" to strengthen protections governing the use of Great Lakes water and further dissuade potential users elsewhere from attempting to seize Great Lakes water.[54] Michigan environmental policy analyst Dave Dempsey notes the dwindling Great Plains aquifers, diminishing western snowpacks, and significant evaporation of Colorado River reservoirs as indicators of increasing water scarcity in the North American West.[55] He warns that this resource insecurity will inspire drastic actions like constructing pipelines from the Great Lakes to Phoenix.[56]

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52. Elena Bruess, *Great Lakes Water Diversions Could Be More Numerous*, CIRCLE OF BLUE (May 12, 2021), https://perma.cc/58QD-8J2E. *See* Reid v. Covert, 354 U.S. 1, 18 (1957); The Cherokee Tobacco, 78 U.S. 616, 621 (1870).

53. Jay Famiglietti, *Will We Have to Pump the Great Lakes to California to Feed the Nation?*, N.Y. TIMES (Aug. 5, 2024), https://perma.cc/UA99-7QTN; Dan Pogorzelski, *The West Should Put Its Straws Away. Great Lakes Water is Not For Sale.*, CHI. TRIB. (Sept. 1, 2024), https://perma.cc/RW75-HBMA; Laura Rubin, *House Needs to Pass Bill to Protect Great Lakes Water. Too Much at Stake.*, MILWAUKEE J. & SENTINEL (Dec. 19, 2024), https://perma.cc/X69F-C7NC; John Szalasny, *US Population Continues to Move Westward—Will Water from the Great Lakes Follow?*, BUFFALO RISING (Oct. 15, 2021), https://perma.cc/5HKD-NVU3.

54. DEMPSEY, *supra* note 16, at 73–74.

55. *See generally id.*

56. *Id.*; Tony Ganzer, *NASA Scientist: Undoing Great Lakes Progress Would Take Generations to Recover*, IDEASTREAM PUB. MEDIA (Apr. 4, 2017, 10:42 AM), https://perma.cc/RBF7-JMY9.

Meanwhile, scholars agree that the consequences of violating the Compact are sufficient to ensure compliance.[57] The standards that states must follow make any state's nonconformity apparent.[58] Any jurisdiction that would violate the Compact or Agreement would be subject to naming and shaming from the other parties and voters.[59] Such a state would be violating federal law, as well. Practically speaking, any infrastructure to transport Great Lakes water to western North America would likely be too laborious and costly to construct with existing technology.

Regardless, the drought in western North America places serious stress on existing water resources everywhere. As western jurisdictions become increasingly water insecure, regions such as the Great Lakes that are perceived as water-rich[60] may pursue increasingly protectionist policies, intensifying pressures between the water-rich and the water-poor and furthering resource insecurity that could contribute to future conflict.[61] This cycle and the calls for increasingly strict conservation and diversion moratoria comport with Garrett Hardin's thesis in *The Tragedy of the Commons*.[62]

Hardin's seminal 1968 essay posited that resources possessed as a shared commons will inevitably fall victim to overexploitation as individual actors rationally pursue self-interest at the expense of the collective good.[63] Simply put, use will always outpace what common resources can provide. However, the degradation and ultimate exhaustion of shared commons is not inevitable as Hardin surmised. Scholars have proven that, by implementing various resource-use design principles, groups can sustainably use common-pool resources for prolonged periods.[64]

In his later work, *Lifeboat Ethics: The Case Against Helping the Poor*,[65] Hardin advocated for protectionist governance, aiming to insulate the propertied classes from the resource demands of the impoverished multitudes.[66] Hardin

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57. *See* Aaron Messing, *Nonbinding Subnational International Agreements: A Landscape Defined*, 30 GEO. ENV'T. L. REV. 173, 198 (2017).

58. *Id.* at 199.

59. *Id.*

60. *See* John Flesher, *Even in Water-Rich Michigan, No Guarantee of Enough for All*, DETROIT NEWS (Feb. 26, 2022, 12:49 PM), https://perma.cc/SGJ9-AQLT (highlighting persistent and significant water insecurities in the Great Lakes Basin, exacerbated by environmental stress posed by climate change).

61. *See* Skakun, *supra* note 9.

62. *See, e.g.*, Paul Shugar, *A Troubled Agreement for Troubled Waters: How an Amended Boundary Waters Treaty Can Solve the Great Lakes Agreement's Fatal Flaws*, 3 GLOB. BUS. L. REV. 251, 253 (2013).

63. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968), https://perma.cc/W4TA-UE8K.

64. ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (1990); Adam Polko, *Governing the Urban Commons: Lessons from Ostrom's Work Commoning Practice in Cities*, 155 INT'L J. URB. POL'Y & PLANNING, no. 105476, Dec. 2024, at 2, https://perma.cc/Z6UY-JCAX.

65. Garrett Hardin, *Lifeboat Ethics: The Case Against Helping the Poor*, PSYCH. TODAY (Sept. 1974), https://perma.cc/K6F3-VCJL.

66. *Id.*

argued that population reduction was the best way to avoid overloading a metaphorical lifeboat at sea, a commons-like resource that is destroyed when overburdened. Limiting access, to Hardin, avoids a tragedy of the commons. This callous theory preserves resources at the expense of those who need them most. Mapped onto Great Lakes water distribution, Hardin's theses suggest that the Compact's diversion exceptions render this fragile, interconnected hydrological system vulnerable to inevitable overexploitation. Efforts to address the western water crisis via deregulation could be catastrophic.[67] But, Hardin's protectionism would lead to divisions and animosity between residents of the Great Lakes Basin and communities elsewhere. Despite the Great Lakes system's sensitivity and the risks of mismanagement further diversions will not destroy it. Ironically, it is the protectionism Hardin favors that most threatens existing common-pool resources.

In *The Age of Insecurity: Coming Together as Things Fall Apart*, Astra Taylor argues that Hardin's thesis in *The Tragedy of the Commons* "is more of a rant than a work of rigorous analysis."[68] She continues her scathing critique of Hardin, equating *Lifeboat Ethics* to "eco-fascis[m]."[69] Indeed, Taylor claims that Elinor Ostrom disproved Hardin's forebodings through her scholarship concerning CPRs.[70] Applying Ostrom's principles can ease resource insecurity while strengthening democratic institutions and ensuring CPRs remain viable, reliable, accessible, and useful.

B. ELINOR OSTROM AND GOVERNING THE COMMONS

As a rebuttal to *The Tragedy of the Commons* and *Lifeboat Ethics*, Ostrom identified several sustainable CPRs not subject to depletion and exhaustion in her work, *Governing the Commons: The Evolution of Institutions for Collective Action*.[71] Through field studies examining longstanding CPRs in Spain,[72] the Philippines,[73] and elsewhere, Ostrom devised "seven design principles that characterize all of these robust CPR institutions, plus an eighth principle used in the larger, more complex cases."[74] Ostrom described the eight common design principles as follows:

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67. *See generally* Shugar, *supra* note 62 (pointing to the ecological disasters that have befallen the Aral Sea in central Asia and Lake Chad in Africa as cautionary tales illustrating the potential fate of delicate surface freshwater systems when subjected to excessive withdrawals for agriculture or human use).

68. *See* TAYLOR, *supra* note 10, at 203 (highlighting the dearth of evidence and data corroborating "Hardin's sweeping generalizations").

69. *Id.* at 212.

70. *Id.* at 204.

71. *See generally* OSTROM, *supra* note 64 (outlining solutions for collective action and the preservation of CPRs).

72. *Id.* at 69–82.

73. *Id.* at 82–88.

74. *Id.* at 89–90. This Note applies Ostrom's eighth design principle here concerning the geographic and hydrologic magnitude of the Laurentian Great Lakes and the huge number of people who depend on them for the myriad of purposes mentioned in this Note's Introduction.

1) Clearly defined boundaries: individuals or households who have rights to withdraw resource units from the CPR are clearly defined, as are the boundaries of the CPR itself.[75]
2) Congruence between appropriation, local conditions, and provision rules: Operational rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and provision rules requiring labor, material, and/or money.[76]
3) Collective-choice arrangements: Most individuals affected by the operational rules can participate in modifying such rules.[77]
4) Monitoring: Monitors who actively audit CPR conditions and appropriator behavior are accountable to the appropriators or are themselves the appropriators.[78]
5) Graduated sanctions: Appropriators who violate operational rules are likely to be stopped and assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, officials accountable to the appropriators, or both.[79]
6) Conflict-resolution mechanisms: Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.[80]
7) Recognition of rights to organize: The rights of the appropriators to devise their own institutions are not challenged by the external governmental authorities.[81]
8) Nested enterprises (for CPRs that are part of larger systems): Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.[82]

Ostrom argues that these design principles must include incentives such that resource appropriators will fully and faithfully commit themselves and "conform to operational rules devised in such system, to monitor each other's conformance, and to replicate the CPR institutions across generational boundaries."[83] Whereas Ostrom's scholarship mainly focused on small rural CPRs, other scholars have assessed similar design principles for large and urban CPRs.

75. *Id.* at 90.
76. *Id.*
77. *Id.*
78. *Id.*
79. *Id.*
80. *Id.*
81. *Id.*
82. *Id.*
83. *Id.* at 91.

C. SHEILA R. ROSTER AND CHRISTIAN IAIONE'S 'CO-CITIES' FRAMEWORK

In their 2023 book *Co-Cities—Innovative Transitions toward Just and Self-Sustaining Communities*, Foster and Iaione updated Ostrom's CPR design principles and modified them for urban environments.[84] Foster and Iaione argue that through collaborative governance, local resource users can share ownership of resources with government authorities and other stakeholders. The revised approach helps build respect between residents and officials while encouraging uses that best serve residents' needs.[85] Such modifications to typical resource use and appropriation must be conducted on an "experimental basis" and require flexibility and nimbleness that governments often lack.

Building from Ostrom's design principles, Foster and Iaione proposed five design principles for collaborative urban-commons governance to create a cooperative "co-city." Through this framework, they envisioned an urban environment that exceeds the technocratic rigidity and mechanization of a smart city[86] and instead considered urban environments and "the city *itself* as a commons—a [collaborative and] shared resource that is generative and produces goods for human need and human flourishing."[87] Foster and Iaione's co-cities design principles for urban commons are described as follows:

1) Co-Governance is an evolving polycentric ownership model connecting the public authority with social, civic, and private actors "in pursuit of the common good and common interest."[88] While co-governance can begin with local governments initiating pacts of collaboration with residents, granting urban actors the right to govern and control land themselves,[89] a wider cultural sustainability ethic must be adopted beyond the contract.[90] The ultimate objective of co-governance is to

84. SHEILA R. FOSTER & CHRISTIAN IAIONE, CO-CITIES – INNOVATIVE TRANSITIONS TOWARD JUST AND SELF-SUSTAINING COMMUNITIES 61–68 (2023).

85. *Id*. at 78–79.

86. *See* Iria Giuffrida, *Smart Cities and Sustainability: A New Challenge to Accountability?*, 45 WM. & MARY ENV'T. L. & POL'Y REV. 793, 756–68 (2021) (noting (1) "loss of privacy," (2) that the public sector lacks resources necessary to "retrofit technological solutions onto existing urban infrastructure or to fund smart-from-the-start centers," and (3) "the datafication of citizens" as sources of skepticism among scholars disillusioned by the smart-city approach).

87. Sheila R. Foster, *The Co-City: From the Tragedy to the Comedy of the Urban Commons*, NATURE OF CITIES (Nov. 2, 2016), https://perma.cc/9NSR-Q9S6. *Cf.* Craig Anthony Arnold et al., *Resilience Justice and Community-Based Green and Blue Infrastructure*, 45 WM. & MARY ENV'T. L. & POL'Y REV. 665, 685–704 (2021) (exploring co-governance principles and how they satisfy climate- and racial-justice solutions while creating more resilient urban centers in our warming world).

88. FOSTER & IAIONE, *supra* note 84, at 194. *See generally* MODERN GOVERNANCE: NEW GOVERNMENT-SOCIETY INTERACTIONS (Jan Kooiman ed., 1993).

89. *See, e.g.*, *Bologna Lab*, LABGOV, https://perma.cc/G7ZT-SPWH (referencing an analysis and assessment of Foster's and Iaione's work in Bologna, Italy where they developed the co-cities framework).

90. TAYLOR, *supra* note 10, at 221.

adopt a shared, multi-stakeholder governance scheme where one actor collaborates with some or all of Foster and Iaione's four identified actor categories—the (1) public, (2) civic, (3) private, and (4) knowledge sectors—and those other community groups operating beyond this scheme.[91] By striving for Ostrom's polycentric governance model through the practice of co-governance, urban environments can "foster democratic legitimacy, transparency, and social inclusion," while preserving the urban commons for public use and enjoyment.[92]

2) Enabling States is defined as the governing body or bodies building partnerships with community groups and creating an environment where local groups and institutions can develop organically, granting groups greater autonomy in governing their local communities and a significant portion of the shared urban commons. The government(s) need not relinquish control of their property entirely but should transfer resources to local groups when necessary to provide technological and institutional support. The government must use the information gathered from local groups when drafting policies or modifying legislation concerning the urban commons to ensure and preserve public governance.[93]
3) Pooling Economies is "the process of different sectors or actors combining their efforts to share resources, collaborate, and cooperate to create and steward urban goods, services, and infrastructure," enabling "the co-production and co-creation of collectively owned or collectively managed economic ventures, creating equal opportunities for the community as a whole."[94] Examples include community land trusts, community gardens, and neighborhood-managed parks, which all enable local residents to transform their own communities to best satisfy their unique needs. Reciprocity and collaboration must be the core of any such economic structure. This also need not be an isolated practice. In fact, pooling enables collaboration and resource sharing that can expand the commons' capacity while bringing diverse groups together.[95] Because many urban areas engage in pooling economies already, Foster and Iaione recommend merely "scaling-up" the practice to incorporate a greater number and diversity of participating residents.[96] They have observed that urban areas can employ pooling economies to create:

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91. FOSTER & IAIONE, *supra* note 84, at 194.

92. *Id.* at 193. *See also* Henrik Paul Bang, *Everyday Makers and Expert Citizens: Active Participants in the Search for a New Governance*, *in* PUBLIC MANAGEMENT IN THE POSTMODERN ERA: CHALLENGES AND PROSPECTS 163, 163–91 (2010).

93. FOSTER & IAIONE, *supra* note 84, at 199–200.

94. *Id.* at 202 (distinguishing between Foster and Iaione's common pooling definition with Ostrom's definition of common pool resources).

95. Christopher Iaione & Elena De Nictolis, *Urban Pooling*, 44 FORDHAM URB. L.J. 665, 695 (2017).

96. FOSTER & IAIONE, *supra* note 84, at 204.

> "platforms that are (1) collectively owned or managed; (2) multi-actor and cross-sectorial; (3) autonomous from but interdependent with other urban stakeholders; (4) aimed at generating a transfer of resources from the private [or public] sector to communities; (5) aimed at realizing the goals of the right to the city []; (6) sustainable, circular, and climate-neutral, and environmentally friendly; and (7) based on collective action at the [local] level."[97]

4) Urban Experimentalism: Governments must employ a pluralistic and evidence-based approach when designing and implementing new legislation and establishing or modifying norms.[98] This ensures that local knowledge and diverse perspectives drive government initiatives from the bottom up.[99] Foster and Iaione recommend that governmental experimentalism include "(1) an evaluative methodology that is data driven; (2) an experimental process that is adaptable; and (3) a process that is interactive" for and with stakeholders.[100] Such procedures foster organizational adaptability and flexibility while helping to establish new organizations that bring stakeholders together and encourage cross-sector-diverse collaboration. To encourage experimentalism, Foster and Iaione identified six key phases through which governments and stakeholder groups should pass together:
   a) Cheap Talking Phase: Participants identify settings for low-pressure communications to encourage non-adversarial collaboration and identify community concerns and desires;[101]
   b) Mapping Phase: Polycentric groups conduct research through surveys and fieldwork to understand unique community histories, concerns, issues, and needs;[102]
   c) Practicing Phase: Parties jointly identify "alignment[s] between projects and relevant actors," supporting those putting their "ideas into practice;"[103]
   d) Prototyping Phase: A reflection period where "participants and policymakers . . . reflect on [previous] phases and begin to extract the specific characteristics and needs of the community that will be served."[104] Here, "the specific policy, legal, or institutional

97. *Id*. at 205.
98. Lisa Larrimore Ouellette, *Patent Experimentalism*, 101 VA. L. REV. 65, 118 (2015).
99. FOSTER & IAIONE, *supra* note 84, at 205.
100. *Id*. at 206.
101. *Id*. at 211.
102. *Id*.
103. *Id*.
104. *Id*. at 212.

mechanism is co-designed to solve the issues and problems identified;"[105]

e) Testing Phase: Prototypes are tested and parties employ qualitative and quantitative metrics to assess whether results satisfy community needs or whether different procedures should be explored and implemented;[106]

f) Modeling Phase: If prototypes succeed, this phase ensures the policies are nested "in the legal and insertional framework" of the relevant governing body.[107] Existing laws and regulations should be modified to ensure the successful prototype is legally entrenched and can provide for the prolonged support and future equitable development of the community it concerns.

5) Tech Justice: Technological infrastructure must be modified such that it is accessible and open to all potential users so individuals can "build social capital across economic and cultural lines."[108] This connects co-communities and allows easy sharing and distribution of digital resources and online information, much like Ostrom's CPRs. This benefits democracy and improves participation in building the civic urban commons, strengthening the experimentation and development phases necessary for a successful urban commons design.[109]

While Foster and Iaione's design principles are not prescriptive, they have proven successful in city labs in the United States and Europe.[110] Likewise, Ostrom observed that communal resource management could relieve the resource insecurities plaguing many groups today.[111] Taylor argues that applying Ostrom's work and bolstering public commons and democratic institutions can alleviate environmental degradation and threats such as "mega-fires, heat domes, polar vortexes, superstorms, and droughts."[112] Such environmental hazards and hazards

105. *Id.*
106. *Id.*
107. *Id.*
108. *Id.* at 213.
109. *Id.* at 215. *See* The Sustainable City, *Sheila Foster on Co-Cities and a New Model of Urban Governance*, MIT PRESS READER (Dec. 5, 2022), https://perma.cc/462Z-LML4 (mentioning that the co-cities framework acts as an agent for democracy by strengthening local community organizations, encouraging community input, collaboration, and civic involvement, and ensuring more diverse voices and perspectives are engaged and included in the governing process).
110. FOSTER & IAIONE, *supra* note 84, at 215. *See, e.g.*, *supra* note 89 (Foster and Iaione exploring the application of these principles in Bologna, Italy).
111. OSTROM, *supra* note 64, at 133.
112. TAYLOR, *supra* note 10, at 213. These and other climate-change-related environmental issues can adversely affect the health of the Great Lakes, too.

from pollution and toxic waste also disparately impact "poor people and people of color."[113]

Other scholars argue that government officials should seek to inspire a "conservation ethic through engagement with and education about nature as a part of daily life," to promote biodiversity and environmental resiliency.[114] This can protect existing civil infrastructure, natural resources, and vulnerable populations from the inequitable harms of climate change.[115] Conservation efforts can benefit both residents near natural systems and those living far away, who benefit from the security associated with stable, clean, and reliable natural resources.[116]

Scholars warn, however, that environmental sustainability and resiliency policies must not be exclusionary and that protections associated with resource co-governance should be accessible to all.[117] Implementing increasingly expensive green construction mandates "might be examples of new urban exclusionary policies, with similar effects as exclusionary zoning and other land use policies that suburbs have been pursuing for decades, which limit the openness of these areas to low-income people and people of color insofar as race is correlated with income."[118] Urban revival, often sought in tandem with stricter environmental regulations, "has raised the prospect of gentrification and displacement in historically minority neighborhoods," which resource co-ownership and co-governance might successfully mitigate.[119] In contrast, preserving urban commons and implementing mindful, locally driven environmental design concepts through Foster and Iaione's co-cities framework satisfies progressive sustainability initiatives and incorporates diverse perspectives. This approach also helps avoid furthering gentrification and displacement in urban and suburban developments. Governments and regulatory bodies should work together to apply these principles to large-scale CPRs and urban commons to protect them, and the individuals and ecologies relying on them, from the effects of climate change. They may also

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113. *See* LUKE W. COLE & SHEILA R. FOSTER, FROM THE GROUND UP: ENVIRONMENTAL RACISM AND THE RISE OF THE ENVIRONMENTAL JUSTICE MOVEMENT 10 (2001).

114. *See* Timothy Beatley & JD Brown, *The Half-Earth City*, 45 WM. & MARY ENV'T. L. & POL'Y REV. 775, 792–93 (2021) (citing Toledo, Ohio residents' passage of The Lake Erie Bill of Rights, a citizen-led initiative to grant rights to Lake Erie and the Lake Erie watershed to protect it and the ecosystems it supports from toxic algal blooms and other harms caused by agricultural runoff and irresponsible human development). *Cf.* Erin West, *Could the Ohio River Have Rights? A Movement to Grant Rights to the Environment Tests the Power of Local Control*, ENV'T HEALTH NEWS (Feb. 4, 2020), https://perma.cc/T25P-RBQB (including claim that well-established legal arguments are surer avenues for affecting change than relying on novel legal approaches to which courts may not be amenable).

115. *See, e.g.*, Zachariah Sullivan, *Bringing Community Mindfulness to Green Infrastructure Flooding Solutions in Detroit*, 68 WAYNE L. REV. 601, 607–08 (2023).

116. Not to mention the undeniable boon for the countless organisms and ecological systems dependent upon those natural systems, too.

117. *See* Katrina M. Wyman & Danielle Spiegel-Feld, *The Urban Environmental Renaissance*, 108 CALIF. L. REV. 305, 335 (2020).

118. *Id.* at 335–36.

119. *Id.* at 337.

help to rectify climate injustices and historic exclusionary policies like redlining that continue to adversely affect many in the environmental health context.

Through Ostrom's work, it is clear that Hardin's commentary on the universal degradation of public commons is false. Ostrom's scholarship establishes that humans can benefit from and maintain CPRs in the long term. Foster and Iaione advance Ostrom's theory, identifying key design principles necessary for sustainably utilizing, maintaining, and preserving urban commons. While not prescriptive, these principles, if applied widely, could be revolutionary tools to mitigate resource disparities and avoid the worst effects of the climate crisis. They may also be the key in ensuring the Great Lakes remain usable and ecologically viable long term.

III. EVALUATION

After identifying the utility of Foster and Iaione's co-cities framework at alleviating natural resource insecurity and promoting a more just land-use ethic in the tradition of Ostrom's CPR design principles, Part III of this Note returns to the regulations governing Great Lakes water use. Part III explains why Foster and Iaione's co-cities framework applies to the Laurentian Great Lakes system. Part III then evaluates how well the regulations discussed in Part I satisfy Foster and Iaione's co-cities framework, meet the goals Foster and Iaione established, and further the sustainability ethic Taylor prescribes.

A. THE LAURENTIAN GREAT LAKES SYSTEM AS AN URBAN COMMONS

To apply Foster and Iaione's co-cities framework to the Great Lakes, it must first be determined that the Great Lakes system constitutes an urban commons distinct from Ostrom's rural and small-scale CPRs. Foster notes that scholars have described urban commons as "'saturated' spaces . . . constituted by the coming together of strangers."[120] When many people are forced to share or compete for limited resources, additional challenges are placed on CPRs, exceeding in complexity those that Ostrom studied.[121] Urban commons are also more multifunctional than traditional CPRs, providing different resources to different people or groups, leading to regulatory challenges and "potential conflicts of interest among different groups of urban citizens."[122] Additionally, urban commons can be unequally challenging for marginalized and poor communities to claim and

120. Sheila R. Foster, *The New Urban Commons: Enabling Land and Resource Stewardship in Cities*, 37 J. LAND USE & ENV'T L. 1, 15 (2021) (quoting Amanda Huron, *Working with Strangers in Saturated Space: Reclaiming and Maintaining the Urban Commons*, 47 ANTIPODE 963 (2015)).

121. *Id.*

122. Polko, *supra* note 64, at 3 (citing Sheila Foster, et al., *Ostrom in the City: Design Principles and Practices for the Urban Commons*, *in* BLAKE HUDSON ET AL., RUTLEDGE HANDBOOK OF THE STUDY OF THE COMMONS (2019)).

acquire for their own beneficial use.[123] To remedy these disparate challenges, "strong mobilization of the institutions of the state" is necessary, "especially if the goal is to serve communities and groups, who have been pushed to the social, economic, and political margins of society."[124] These are the qualities that distinguish Foster and Iaione's urban commons from Ostrom's CPRs.

The Great Lakes system satisfies these urban-commons criteria. First, it is a saturated space vital to the lives of millions and an integral element of North American water infrastructure. Diverse users rely on the lakes as fisheries and for myriad other purposes. The Great Lakes system supplies drinking water to more than thirty-five million people in the United States and eight million people in Canada.[125] This requires countless stakeholders in Foster and Iaione's public, civic, private, and knowledge sectors to access the lakes for drinking water and sanitation. Further, the Great Lakes system is integral to the American and Canadian economies, facilitating movement of more than two hundred million tons of freight each year.[126] They are also important for energy generation and are key elements of North American nuclear power infrastructure.[127] Additionally, major urban centers of industry, culture, and innovation line the coasts of North America's Great Lakes and St. Lawrence River, including Toronto, Montreal, Detroit, Cleveland, Chicago, Milwaukee, Québec, Toledo, and Thunder Bay. Still more municipalities lie in the Great Lakes Basin and rely upon the Great Lakes system for water. These already important centers will only become more significant as host cities for millions of climate migrants later this century seeking cooler climes and more stable and reliable water resources as global temperatures continue to rise.[128] Increased demand, however, further challenges already vulnerable indigenous communities whose traditional and cultural uses of the Great Lakes could be jeopardized through overuse and degradation exacerbated by the climate crisis.[129] The excessive demand and near-complete reliance intra-Basin communities place upon these common resources suffice to establish the Great Lakes system's urban-commons status.

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123. Prakash Kashwan et al., *Reimagining and Governing the Commons in an Unequal World: A Critical Engagement*, 3 CURRENT RSCH. IN ENV'T SUSTAINABILITY, no. 100102, at 1, 8 (2021), https://perma.cc/9DZK-BHA6.

124. *Id.* at 5.

125. *See Climate Change Connections: Michigan (The Great Lakes)*, U.S. ENV'T PROT. AGENCY, https://perma.cc/ZJ2Q-9CMB; *Government of Canada Makes Transformative Investments to Clean Up and Protect the Bay of Quinte and Other Areas of the Great Lakes*, ENV'T & CLIMATE CHANGE CAN., https://perma.cc/3AFG-WSPX.

126. *See Our Work*, GREAT LAKES COMM'N DES GRANDS LACS, https://perma.cc/M3TW-9PYM.

127. *Great Lakes*, U.S. CLIMATE RESILIENCY TOOLKIT (Apr. 19, 2024), https://perma.cc/99VG-TPXD; Scott Levin et al., *See Map of All Nuclear Power Plants in the Great Lakes Watershed*, MLIVE (June 1, 2024 8:06 PM), https://perma.cc/UA8G-Y4DR.

128. *See* ABRAHM LUSTGARTEN, ON THE MOVE: THE OVERHEATING HEARTH AND THE UPROOTING OF AMERICA (2024).

129. *See Great Lakes*, *supra* note 127.

The Laurentian Great Lakes system also satisfies the second co-cities urban commons prong. While communities compete for precious Great Lakes freshwater, disadvantaged groups are disproportionately harmed while others reap inordinate benefits. The disparate impact facing historically marginalized communities amid the ongoing Flint water crisis[130] exemplifies unequal and disparate access to potable Great Lakes–sourced drinking water in the Basin. Much like Cleveland's 1969 Cuyahoga River fire catalyzed Congress to enact the Clean Water Act after decades of unbridled harmful pollution, it was not until conditions became so clearly detrimental to vulnerable groups in Flint that any substantive state action occurred.[131] Therefore, because the Great Lakes system satisfies Foster's saturation requirement; plays an integral infrastructural, recreational, economic, and aesthetic role in countless urban centers; and serves as a vital freshwater resource upon which millions of people rely with disparate degrees of quality access, the co-cities approach should be applied here, and the Great Lakes system should be considered an urban commons.

B. HOW THE LAURENTIAN GREAT LAKES WATER USE REGULATIONS COMPORT WITH THE CO-CITIES FRAMEWORK

The need for uniform Great Lakes water governance was a priority for Great Lakes Compact drafters who understood the importance of maintaining water and ecosystem quality for the viability of the lake system and preservation of human health. However, it is not clear that the drafters were expressly concerned with the lake system's status as a CPR or an urban commons. In a recent correspondence with former Ohio Governor Robert Taft, an integral player in Compact drafting and negotiations, the Governor stated he was not aware of Ostrom's principles informing the drafting and negotiating process.[132] Governor Taft's chief advisor for environmental policy, Kate Bartter, echoed Taft's assertions, stating she did not recall any express discussions about Ostrom's principles during Compact negotiations.[133] Despite this, many of the provisions of the Compact comport with Ostrom's principles and those Foster and Iaione developed later for resources more like the Great Lakes system.

The following section addresses how the Compact comports with Foster and Iaione's co-cities framework for urban commons. Part IV will address the

130. *See Flint Water Crisis: Systemic Racism Through the Lens of Flint*, MICH. C.R. COMM'N (Feb. 17, 2017), https://perma.cc/CA7X-N9PS.

131. *See* Amanda Williamson, *The Federal Government's Failure to Respond to the "Flint Water Crisis"*, ARK. J. SOC. CHANGE & PUB. SERV. (Feb. 2, 2021), https://perma.cc/K4TD-PJGE; *See generally* Noah D. Hall, *Flint's Fight for Environmental Rights*, 117 NW. U. L. REV. 123 (2022).

132. Email from Robert Taft, former Ohio Governor, to author (Feb. 7, 2024, 8:53 PM EST) (on file with author).

133. Email from Kate Bartter, Chief Policy Advisor for Ohio Governor Robert Taft, to author (Feb. 16, 2024, 4:50 PM EST) (on file with author). Bartter did recall, however, "scores of conversations—sometimes late at night—about the importance of viewing the Great Lakes ecosystem as a shared resource we needed to protect for the wellbeing and 'common good' of the millions who depend on the resource for water, commerce and recreation." *Id.*

Compact's shortcomings as it pertains to the co-cities framework and provide recommendations to lawmakers.

The Compact satisfies the framework by establishing a collaborative, multi-jurisdictional governance structure enabling public participation, preserving state and local autonomy while promoting shared, conservation-minded resource management, and following an evidence-based drafting process that created institutions that facilitate regional democratic stakeholder engagement.

1) Co-Governance. During negotiations, it appears that drafters actively engaged the public, soliciting public comments throughout the drafting process while negotiators pursued the common good. For years, organizations including the Alliance for the Great Lakes (formerly, the Lake Michigan Federation) advocated tirelessly, lobbying lawmakers to draft policies to limit lake diversions. Residents were actively involved in the policy development of the Compact when lawmakers presented draft versions in the summers of 2004 and 2005.[134] As one scholar noted, every "jurisdiction had to engage with intra-state and -province conflicts and reach consensus at the state or provincial level before continuing negotiations with the other parties to the Compact."[135] Public comment and activism continued through 2008 upon the Compact's eventual passage in the state legislatures and Congress.[136] These processes furthered democratic aims by allowing the public, civic, private, and knowledge sectors to contribute to the drafting process. Even before the drafting process, however, parties to the Compact initiated a pact of collaboration through Annex 2001 by affirming the parties' collective commitment to cooperatively designing a Basin-wide legal framework, with the help of public and private actors, to protect Great Lakes water and ecosystems from exploitation and further degradation.[137] Following its passage, the Compact provided additional avenues for public governance by establishing the Regional Body and the Compact Council. The Regional Body enables all ten Great Lakes states and provinces to participate and collaborate in investigating and reviewing Compact compliance and other Great Lakes-related environmental concerns. Final regulatory authority, however, rests with the Compact Council, a forum created to settle Great Lakes water management disputes in the United States, which provides final judicially reviewable opinions for Great Lakes stakeholders by Great Lake stakeholders.[138]

134. ANNIN, *supra* note 26, at 226.
135. *Id*. at 226.
136. Skakun, *supra* note 9, at 17-22.
137. ANNIN, *supra* note 26, at 218–19.
138. Compact, *supra* note 38, §§ 4, 7.3.

2) Enabling States. The parties to the Compact negotiations created a suite of regulations that limited Great Lakes water use and out-of-Basin diversions. Although the exceptions to the diversion moratorium did not expressly relinquish control of the Great Lakes as a resource to the people or individual community groups, they allowed flexibility for state and provincial jurisdictions to pursue their own best interests while providing an appellate avenue for parties these actions may adversely affect.[139] These bodies do not explicitly operate to form partnerships between community groups and governing entities, but they allow for public and community engagement in the process of developing Great Lakes water use decisions.
3) Pooling Economies. Although every jurisdiction party to the Great Lakes Compact must abide by the Compact's terms, each jurisdiction is free to pursue its own activities at the state and local levels. The Compact did not place all Great Lakes water governance power solely into the hands of American and Canadian federal, state, or provincial officials. Whereas the Basin is subject to federal environmental regulations, Constitutional limitations, and U.S. Supreme Court control of the Chicago Lake Michigan diversions on the American side, state and local laws still govern significant portions of Great Lakes water use so long as those regulations remain within the broad terms of the Compact. Furthermore, private parties enjoy liberal water use permissions for commercial water harvesting and general commodification of Great Lakes water.[140] The terms of the Compact generally provide for autonomous use of Great Lakes water while recognizing that all users are interdependent. It recognizes that the Great Lakes system is a circular water economy—water leaving the Basin typically must be returned.[141] And these terms were created through joint and collective actions with representatives from each jurisdiction who communicated extensively with the individuals and communities they represented.

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139. *See generally* Compact, *supra* note 38, § 4 (outlining the various exceptions to the Compact's general anti-diversion sentiment).

140. *See* DEMPSEY, *supra* note 16, at 21–26 (outlining the "water bottle loophole," allowing the transport of water from the Great Lakes Basin in containers no larger than 5.7 gallons, an example of Compact negotiators managing the Great Lakes as an urban commons and permitting limited use by private actors and stakeholders).

141. *See* Skakun, *supra* note 9, at 9, 18, 76-77 (exploring Great Lakes jurisdictions' understandings that the Great Lakes are a closed system; describing initiatives local governments take to provide water to beyond-Basin neighborhoods and return treated water to the Great Lakes Basin, an example of equitable use through partnerships between intra- and extra-Basin parties that ensures other users continue to benefit from Great Lakes resources without degrading health and functionality or slipping into protectionism.)

4) Urban Experimentalism. The Compact drafters took a pluralistic and evidence-based approach to drafting the legislation.[142] The Compact negotiation process was always based on evaluative data. Along with the Agreement, the Compact was experimental and interactive, subject to significant public engagement and input during official government public comment periods as well as criticisms and recommendations published in media and other less formal channels.[143] Although it is unclear whether negotiators employed a phase comparable to Foster and Iaione's "cheap talking phase," they certainly engaged in the "mapping phase" under the technocratic Lochhead Brief and Annex 2001. The extensive negotiations in 2004 and 2005 and the concurrent public-comment phases satisfy the "practicing phase," ensuring that the actors themselves are involved in enacting their policy recommendations. Early drafts of the Compact likely satisfy the "prototyping phase" as the drafters sought policies to solve the issues and problems identified in the Lochhead Brief. It is unclear whether a "testing phase" ever occurred, but it seems clear that the drafters discussed the outcomes of hypothetical and anticipated cases arising under the Compact's terms considering the various carveouts and specific language for special instances of water use occurring in the Basin.[144] Lastly, the drafters satisfied the "modeling phase" as each state adopted the Compact into state law, the provinces assented to the terms of the Agreement, and Congress and the President ratified the Compact into U.S. federal law. While the Compact terms are nonbinding in Canada, the provincial governments of Ontario and Québec and the Canadian federal government all sought their own heightened Great Lakes water conservation legislation similar in scope, content, and intent to the Compact in the United States.[145]

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142. *See* ANNIN, *supra* note 26, at 209, (explaining that Annex 2001 and the Compact were built around a council led by James Lockhead, former executive director of the Colorado Department of Natural Resources, who in 1999 developed a brief outlining the Great Lakes' vulnerabilities and how, if not mitigated, such vulnerabilities could harm the United States in the spheres of resource allocation, economic development, ecological preservation, and national security).

143. *See, e.g.*, Wood, *supra* note 41; Hurley & Nikiforuk, *supra* note 41.

144. *See* Application by Waukesha, Wis. for Diversion of Great Lakes Water from Lake Mich. and Exception to Allow Diversion, Case No. 2016-1 (Great Lakes-St. Lawrence River Basin Water Res. Council 2016), https://perma.cc/KP6J-L5FY (final decision). The Waukesha, Wisconsin, diversion acted as the first test to the regulatory system established by the Compact. Although scandalous to some environmentalists, the Compact survived and water from Lake Michigan was apportioned for municipal use in Waukesha pursuant to the use restrictions in the Compact and subject to the Compact's straddling-county rule. *Cf.* Adriana Forest, *The Approval of Waukesha's Diversion Application Under the Great Lakes-St. Lawrence River Basin Water Resources Compact—Bad Precedent for the Great Lakes*, 41 CAN.-U.S. L.J. 69, 81 (2017).

145. *See, e.g.*, Safeguarding and Sustaining Ontario's Water Act, S.O. 2007, c 12 (Can.); An Act to Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection,

5) Tech Justice. While not a technological solution *per se*, the Regional Body and the Compact Council further the spirit of the tech-justice element as an accessible, open, and public-facing data-gathering group and quasi-adjudicatory body, capable of building social capital across economic and cultural lines. While the Compact did not expressly or intentionally increase public access to technology in the Great Lakes Basin, it created an international instrument to inspect diversions and Compact compliance through the Regional Body. It also established a legal infrastructure allowing Basin residents to build communal social and political capital across economic and jurisdictional lines. The Compact created the Compact Council, a forum composed of representatives from each jurisdiction party to the Compact, from which parties seeking diversions under the Compact's straddling-county provision, for example, must first acquire unanimous approval.[146] The Council, which successfully adjudicated the highly contentious Waukesha, Wisconsin diversion,[147] satisfies Foster and Iaione's intent to strengthen democratic institutions and increase participation in governing civic spaces and urban commons by creating an additional oversight body composed of Great Lakes stakeholders representing each jurisdiction and thus the jurisdictions' unique interests and "water personality."[148] It also satisfies Ostrom's conflict-resolution and nesting principles by creating a forum for parties to remedy disagreements with binding legal effect and is fully entrenched in legal and institutional frameworks at the state, provincial, federal, and international levels.

In sum, although government officials did not explicitly consider public-commons governance practices during the drafting and negotiating phases, the Compact satisfies several of Foster and Iaione's co-cities framework elements and aligns with relevant sections of Ostrom's CPR design principles.

IV. RECOMMENDATIONS TO BETTER ABIDE BY FOSTER AND IAIONE'S 'CO-CITIES' FRAMEWORK TO REDUCE WATER INSECURITY

The Great Lakes Compact satisfies much of the co-cities framework. However, there are several shortcomings in both the Compact's text and the drafting process. Future reforms should reject protectionism and North American impulses toward Manifest Destiny—a conquer-and-control-based approach to land and resource use—and instead prioritize Indigenous representation, intra-Basin

S.Q. 2009, c 21 (Can.); International Boundary Waters Treaty Act, R.S.C. 1985, c I-17, amended by c 12, s 3.

146. *See* Compact, *supra* note 38, § 4.9(3).

147. *See, e.g.*, Forest, *supra* note 144.

148. *See, e.g.*, ANNIN, *supra* note 26, at 223.

equitable access, and more flexible governance structures that can adapt to climate change while preventing exploitation.

1. Co-Governance. To more closely follow Foster and Iaione's co-cities framework and to justly and sustainably use the Great Lakes system as an urban commons, lawmakers must first expand existing resource co-governance measures. While the Compact drafting process included diverse stakeholders, First Nations and Indigenous peoples were never directly included in devising its terms and provisions.[149] This glaring omission perpetuates the longstanding practice of marginalizing the groups with the deepest historical and cultural ties to the Great Lakes, many of whom consider the lakes sacred spaces.[150] Further, it echoes the systematic annihilation of First Nations and Indigenous peoples that was central to Manifest Destiny and American and Canadian continental expansionism. Although it was possible for these parties to express their interests during the public comment period,[151] they should have been granted greater leverage and a formal seat at the negotiating table to help design the terms of the Compact.

   Listening to these groups and integrating their overlooked perspectives and knowledge of stewardship into Great Lakes water use regulations is the first step in remedying these historic injustices. Moving forward, independent and government organizations at all levels working to protect the Great Lakes should actively solicit opinions and perspectives from Indigenous and First Nations peoples and groups. The Compact requires that federally recognized Tribes in the Basin receive "reasonable notice indicating that they have an opportunity to comment" to the Council, the Regional Body, and other relevant organizations when the Council or Regional Body considers a water use proposal.[152] The notice also must inform Tribes of any meeting to be held regarding the proposal and invite them to attend.[153]

   Despite these efforts, the Compact should provide greater avenues for Indigenous perspectives when considering proposals. The Regional Body and the Compact Council could reserve seats for Indigenous peoples or representatives of Indigenous groups to bring these marginalized voices to the table. Perhaps more radically but

149. *See* Caitlin Looby & Frank Vaisvilas, *Great Lakes Tribes Teach 'Water Is Life.' But They're Forced to Fight for Its Protection*, U.S.A. TODAY (Nov. 29, 2023, 6:03 AM), https://perma.cc/YRY6-K543.

150. *See generally* Joyce Tekahnawiiaks King, *The Value of Water and the Meaning of Water Law for Native Americans Known as the Haudenosaunee*, 16 CORNELL J.L. & PUB. POL'Y 449 (2007).

151. Looby & Vaisvilas, *supra* note 149.

152. Compact, supra note 38, § 5.1(2).

153. *Id.*

more closely aligned with the co-cities framework, regulators could require prior and informed consent for any proposed policies or projects affecting traditional or existing Indigenous territories along the lakeshore or even in the Basin. This proposal exceeds the Compact's current notice and invite requirement. Additionally, existing jurisdictions exercising ownership of the Great Lakes or their water could return control and ownership of historic Indigenous territories to Indigenous groups from whom the lakes were seized originally to ensure greater local control and stewardship of the lakes still subject to overall preservation-oriented and culturally appropriate regulations.

Additionally, it is unclear whether Compact drafters sought to mitigate the historic water-access inequities that lie along racial and class lines.[154] While the Compact is principally concerned with limiting diversions beyond the Great Lakes Basin, ensuring equitable access to safe freshwater in the Basin should have been a concurrent priority for Compact drafters. Directing greater attention to the needs of everyday people and the most vulnerable communities could have created a more equitable regime and better satisfied the co-governance design principle. If Compact amendments are ever considered, these groups should receive special attention so that their concerns are heard and reflected in novel amendments and modifications to regulations.

Lastly, regulators must work throughout the Great Lakes Basin to create a forward-facing, equitable water conservation and efficiency strategy that complements the Compact's current, narrow focus on diversions and withdrawals while ensuring that all voices are considered and respected. This will require states, provinces, municipalities, and the Canadian and American federal governments to coordinate and consider the concerns of residents living near the Great Lakes. Those individuals must be heard so that, in cooperation with all stakeholders, an equitable water-use strategy promoting water-saving and resource-preservation technologies, techniques, and policies is implemented.[155] A communally-designed and data-driven, Basin-wide water budget—accompanied by water efficiency standards for new buildings and infrastructure, water-saving retrofits and upgrade incentives, and public education campaigns encouraging responsible water use—will help preserve the lakes. But none of these steps should be taken without prioritizing the needs of the people, groups, and institutions with whom

154. *See* Zoë Roller & Megan Demit, *An Equitable Water Future: Opportunities for the Great Lakes Region*, US WATER ALLIANCE (2018), https://perma.cc/JA2J-256H (exploring techniques to mitigate historic inequities concerning Great Lakes water-derived resources and utilities).

155. *See* Skakun, *supra* note 9, at 73.

governments share the Great Lakes urban commons. Building resiliency against the impacts of climate change must also be a cooperative and inclusive process.

2. Enabling States. The Compact drafters also satisfied the enabling states design principle by creating comprehensive legislation with relative flexibility to account for the changing water needs of communities in the Compact's jurisdiction. These provisions allowed for much-needed modifications to water acquisition processes in Waukesha, Wisconsin, and preserved novel engineering feats in other straddling communities. Although it would have been politically unpopular, allowing for greater flexibility by permitting limited de minimis out-of-Basin transfers in a basic water budget would have helped alleviate insecurities between parties on either side of the St. Lawrence Continental Divide.[156] If lawmakers identified common concerns by listening closely to local groups, the enabling states principle may have helped ensure voices from beyond the Basin were considered, too. However, Great Lakes water use limited to the Basin, with a few exceptions, is the bedrock of the Compact.

   It is unlikely that governments, institutions, and in-Basin stakeholders would actually relinquish control to stakeholders outside the Basin. Given the lakes' vulnerabilities, such impulses are not altogether imprudent. Despite the regulatory, political, and environmental challenges, however, Great Lakes water use regulations must account not only for the perspectives of all interested parties in the Basin but also for concerns from beyond and refrain from ignoring those across the continental divide. Using the co-cities approach, regulators can foster an era of equitable resource allocation and alleviate the shortcomings of previous regulations while strengthening North American democracy and protecting our Great Lakes.

3. Pooling Economies. The pooling economies design principle would likely be satisfied by my recommendations for expanding co-ownership of the Great Lakes system and governance mechanisms. Ensuring that many diverse stakeholders throughout the Basin are included and able to access the benefits of the Great Lakes system would better align with this principle. Lawmakers should consult Indigenous communities and First Nations, or potentially grant these groups greater or special ownership interests in Great Lakes water resources to more accurately represent concerns in the Basin. Further, granting greater authority to the Regional Body and Compact Council would improve collective self-government in the

156. *Id.*

Basin. Although the drafters took steps to ensure that Great Lakes water was governed and treated as a circular economy, legislators and Basin residents may wish to modify exceptions and mandate annual or seasonal science-based water budgets to more closely align with this end. A stronger Regional Body with greater resources could advise the Compact Council and Great Lakes Basin lawmakers about any water management concerns and modification desires in the Basin. It could also provide the additional scientific and engineering capacity needed for the Compact Council to make informed decisions about water use and need, monitor changes in the Great Lakes' environmental health, and protect against ill-informed calls for water-use modifications.

4. Urban Experimentalism. Additionally, parties to the Compact must remain forward-facing, collaborative, and experimental. Although parties must not compromise the Compact's fundamental goal—the preservation of the Great Lakes hydro system and the ecosystems and economies they support—they must resist tribalist tendencies and protectionist proclivities. Governance practices should be responsive to a changing climate and the changing needs and number of Great Lakes Basin residents. Although the Compact creates a forum for such adaptation, its modification provisions might be insufficient. Indeed, current exceptions to the Compact's general anti-diversion intent are limited to continental divide-straddling cities and counties and intra-Basin transfers. The Compact must also work to further connect residents and stakeholders throughout the Basin, as no one should be excluded. Future Compact modifications should ensure that the Compact provides for the free flow of information and ideas that connect all Great Lakes stakeholders. At a minimum, Compact provisions should be universally accessible and easy to understand.
5. Tech Justice. Additionally, satisfying the tech justice design principle requires creating greater access to digital information surrounding Great Lakes water quality, quantity, and use. Creating a live database of water quantity and quality concerns overlayed with climate data in the Basin could better educate the public about the state of the lakes and their role in the greater North American natural environment. Such information must be public, comprehensible, and detailed. The interface could also be interactive, allowing users to explore and learn about the Basin in new ways. It may also include avenues for citizen science initiatives, allowing knowledgable individuals to supplement the information provided by government and academic sources. A strengthened Regional Body could administer and publish this data, providing a public-facing data system.

> Creating such a digital interface would not only serve to educate the public about this most important natural resource but could also instill a sense of regional pride and respect for the Great Lakes, promoting a shared understanding of our entangled reliance and inspiring an environmental conservation ethic.

CONCLUSION

On a planet home to over eight billion people experiencing unprecedented warming,[157] all freshwater resources are vitally important. We must preserve them, and use them intelligently, soberly, and equitably. Ostrom recommended that we all work collaboratively through "rich mixtures of public and private instrumentalities" and with nature to overcome current obstacles.[158] Taylor suggested that rather than turning solely to engineering solutions to our climate insecurities, we instead transform our insecurities into solidarity by building a sustainable, collaborative, equitable, and resilient resource-use ethic, acknowledging and celebrating "our fundamental interdependence, including our interdependence with the more-than-human world."[159] Applied to North America's Great Lakes system and the insecurities between perceived water-rich and arid regions of the continent, solidarity means understanding our interconnectedness in the planetary hydrological cycle, acknowledging local water-wealth disparities, and organizing systems that prioritize equitable ecological and human security over unchecked development and archaic pursuits of Manifest Destiny. This requires a level of humility, and understanding that we are but momentary caretakers of this vast, interconnected water planet.

Although some scholars classify current Great Lakes governance as a tragedy of the commons,[160] this Note argues that the Great Lakes Compact and ensuing legal developments have proven a successful but incomplete communal governance method. While the system is imperfect and should be modified to better comport with Foster and Iaione's solutions, American and Canadian lawmakers laid a proper and robust groundwork for sustainable governance of this urban commons.

Moving forward equitably requires a refusal of protectionist and exclusivist eco-fascist sentiments.[161] In the future, if lawmakers alter existing regulations or

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157. *See* Shannon Osaka, *Earth Breached a Feared Level of Warming Over the Past Year. Are We Doomed?*, WASH. POST (Feb. 8, 2024, 12:24 PM), https://www.washingtonpost.com/climate-environment/2024/02/08/1-5-celsius-global-warming-record/ [https://perma.cc/SBM8-5AJS]

158. OSTROM, *supra* note 64, at 182.

159. TAYLOR, *supra* note 10, at 216–19.

160. *See* Shugar, *supra* note 62 (highlighting that "[i]n the 1980s, every inch lost on the Great Lakes cost commercial shippers as much as $50 million in lost cargo capacity. In 2010, with adjustments for inflation, each one-inch drop costs roughly $130 million . . . Already the Great Lakes are showing signs that their resources are not infinite, and a potential tragedy of the commons could occur").

161. *See* Christine A. Klein, *The Law of the Lakes: From Protectionism to Sustainability*, 2006 MICH. ST. L. REV. 1259, 1278 (2006).

introduce additional rules affecting Great Lakes water use, they must comport more closely with the co-cities framework. This will guarantee that a greater number of people representing diverse interests acquire equitable access to fresh water, help establish a communal sustainability ethic, and strengthen self-government by bringing people together to revive our atrophying democracy. Americans and Canadians will be significantly closer to alleviating water insecurity in and beyond the Great Lakes Basin by enhancing a holistic, polycentric Great Lakes water governance model rooted in the co-cities framework. Doing so will also ensure that the Great Lakes Basin's water wealth is equitably and properly enjoyed by a greater number of individuals and ecologies, all of whom possess some claim in ownership and concurrent interest in preserving North America's most important freshwater resource.