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International Law's Lessons for the Law of the Lakes

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INTERNATIONAL LAW'S LESSONS FOR THE LAW OF THE LAKES

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The eight Governors of the Great Lakes States signed a proposed new compact for the Great Lakes and St. Lawrence basin on December 13, 2005, and they joined with the Premiers of Ontario and Québec in a parallel agreement on the same topic on the same day. Neither document is legally binding—the proposed new compact because it has not yet been ratified by any State nor consented to by Congress; the parallel agreement because it is not intended to be legally binding. Both documents are designed to preclude the export of water from the Great Lakes-St. Lawrence basin apart from certain limited exceptions. The documents do little to promote rational resource management apart from limiting exports. There is debate over whether the two documents are adequate to achieve their announced goals and over whether the goals are the right ones. The lessons found in the well developed body of customary international law applicable to water resources, most recently summarized in the Berlin Rules on Water Resources, *have largely been ignored. Comparison of the two documents with the* Berlin Rules *suggests that the documents will not provide satisfactory solutions to the challenges of managing the Great Lakes, even in the near future, given the broad ecological concerns that are not addressed in the two documents.*

INTRODUCTION

The Great Lakes are inland seas connected by short, narrow channels, but they are not inexhaustible. Precipitation renews less than one percent of their waters annually; new water takes twelve to fifteen years to pass through the basin.[1] Deep storage circulates at widely varying rates in the five lakes, with the retention time for Lake Superior (the world's largest body of fresh water) at 191

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1. Stanley A. Changnon, *Understanding the Physical Setting: The Great Lakes Climate and Lake Level Fluctuations, in* THE LAKE MICHIGAN DIVERSION AT CHICAGO AND URBAN DROUGHT 39 (Stanley A. Changnon ed., 1994); *see also* Brad A. Everhardt, *Great Lakes Water Resources: Planning for the Nation's Future*, 3 TOL. J. GREAT LAKES' L. SCI. & POL'Y 90, 90–96 (2001); Jerome Hinkle, *Troubled Waters: Policy and Action in the Great Lakes*, 20 T.M. COOLEY L. REV. 281, 283–91 (2003). *See generally* Siamak Rajabi et al., *Multiple Criteria Screening of a Large Water Policy Subset Selection Problem*, 37 J. AM. WATER RESOURCES ASS'N 533 (2001); Ryan C. Schwartz et al., *Modeling the Impacts of Water Level Changes on a Great Lakes Community*, 40 J. AM. WATER RESOURCES ASS'N 647 (2004); Yongyuan Yin, *Flood Management and Sustainable Development of Water Resources: The Case of Great Lakes Basin*, 26 WATER INT'L 197 (2001).

years, and for Lake Erie (smallest of the Great Lakes) at only 2.6 years.[2]

Canada is sovereign over forty-one percent of the basin, while the United States is the basin's upper riparian.[3] Disagreements between the two countries over the Great Lakes led the United States and the United Kingdom (on behalf of Canada) to enter into the Boundary Waters Treaty[4] in 1909. The Boundary Waters Treaty, which is the beginning of what might be called the "law of the lakes," created the International Joint Commission to regulate activities impacting "boundary waters" on the Canadian-U.S. border. The Great Lakes continue to be at the heart of the work of the Commission, so much so that some charge that the Commission today functions solely as a governing body for the Great Lakes.[5] While a great deal of the Commission's work does center on the Great Lakes-St. Lawrence basin, assertions that the Commission is a governing body for the basin exaggerate in two ways: The Commission also addresses matters other than the Great Lakes-St. Lawrence basin,[6] and it is only one of several transboundary institutions that work on managing the Great Lakes-St. Lawrence basin.[7]

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2. *See, e.g.*, Leticia H. Diaz & Barry Hart Dubner, *The Necessity of Preventing Unilateral Responses to Water Scarcity—The Next Major Threat against Mankind This Century*, 9 CARDOZO J. INT'L & COMP. L. 1, 14–15 (2001); Hinkle, *supra* note 1, at 288. *See generally* Naomi E. Detenbeck et al., *Region, Landscape, and Scale Effects on Lake Superior Tributary Water*, 40 J. AM. WATER RESOURCES ASS'N 705 (2004).

3. The term "riparian" derives from the Latin "riparius," meaning "of or belonging to the bank of a river." Riparius is derived from "ripa," meaning "bank." Little v. Kin, 644 N.W.2d 375, 377 n.2 (Mich. Ct. App. 2002). Today the term "riparian" is commonly used to refer to a lake or other water body as well as a river. *Id.* An "upper riparian" is a landowner or sovereign whose connection to a water body is higher up in the watershed of the body; generally speaking, an upper riparian's activities easily impact lower riparians, while a lower riparian's activities will only rarely impact upper riparians.

4. Treaty Between the United States and Great Britain Relating to Boundary Waters Between the United States and Canada, U.S.-U.K., Jan. 11, 1909, 36 Stat. 2448 [hereinafter Boundary Waters Treaty]; *see also* Joseph W. Dellapenna, *Canadian International Waters*, *in* 5 WATERS AND WATER RIGHTS §§ 50.01(c)–50.02(a) (Robert E. Beck ed., repl. vol. 2006).

5. *See generally* David G. LeMarquand, *Preconditions to Cooperation in Canada-United States Boundary Waters*, 26 NAT. RESOURCES J. 221 (1986); Daniel K. DeWitt, Note, *Great Words Needed for the Great Lakes: Reasons to Rewrite the Boundary Waters Treaty of 1909*, 69 IND. L.J. 299 (1993) (addressing the Treaty as if it only related to the Great Lakes).

6. *See* Dellapenna, *supra* note 4, at ch. 50; Gerald Graham, *International Rivers and Lakes: The Canadian–American Regime*, *in* THE LEGAL REGIME OF INTERNATIONAL RIVERS AND LAKES 3, 5-7 (Ralph Zacklin & Lucius Caflisch eds. 1981); Symposium, *Managing North American Transboundary Water Resources*, 33 NAT. RESOURCES J. 1–200, 233–459 (1993); Oran R. Young, *North American Resource Regimes: Institutionalized Cooperation in Canadian-American Relations*, 15 ARIZ. J. INT'L & COMP. L. 47, 65–68 (1998).

7. *See* Joseph W. Dellapenna, *Regulated Riparianism*, *in* 1 WATERS AND WATER RIGHTS § 9.06(c)(2) (Robert E. Beck ed., repl. vol. 2001) [hereinafter Dellapenna, *Regulated Riparianism*]; Joseph W. Dellapenna, *Interstate Struggles Over Rivers: The Southeastern States and the Struggle Over the Hooch*, 12 N.Y.U. ENVTL. L.J. 828, 850-64 (2005) [hereinafter Dellapenna, *Struggles*]; Dave Dempsey, *State of the Great Lakes Coast: Fragmented Government Equals Frag-*

More importantly, numerous commentators have found that these overlapping bi-national and regional arrangements for managing the Great Lakes need considerable improvement.[8] As a result, the Governors of eight of the States that share the basin[9] signed an agreement in 2001 to draft a new compact for managing the basin's waters.[10] This effort culminated in a compact signed by the Governors of the eight States on December 13, 2005[11] (the "Proposed Compact"—it has yet to be ratified by a single State or approved by Congress). The Proposed Compact has its critics, especially in Canada,[12] but also in the United States.[13] If it does enter into force, there will still be considerable room for improvement.

In this Article, I explore the legal instruments that have been developed in the effort to manage the Great Lakes as a whole. In

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mented Protection, 6 WATER RESOURCES IMPACT, Nov. 2004, at 10; DeWitt, *supra* note 5, at 314–17; Everhardt, *supra* note 1; Hinkle, *supra* note 1.

8. *See, e.g.*, Dellapenna, *Struggles*, *supra* note 7, at 863-64; Dempsey, *supra* note 7, at 10-12; Hinkle, *supra* note 1; Symposium, *Prevention of Groundwater Contamination in the Great Lakes Region*, 65 CHI.-KENT L. REV. 345 (1989) [hereinafter Symposium, *Ground Water Contamination*]; Yin, *supra* note 1; Charles F. Glass, Jr., Note, *Enforcing Great Lakes Water Export Restrictions under the Water Resources Development Act of 1986*, 103 COLUM. L. REV. 1503, 1503–05 (2003).

9. The eight states are Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. Part of Vermont is also in the Great Lakes–St. Lawrence basin, but it has never been included in any of the interstate arrangements, ostensibly because Lake Champlain is not a "Great Lake." The inclusion of Québec—which also does not border one of the Great Lakes—in regional consultations suggests that the relevant standard is the Great Lakes–St. Lawrence watershed rather than just the Great Lakes. Regarding the inclusion of Québec, see Young, *supra* note 6, at 65–68. The proposed new compact defines the basin as including the St. Lawrence River from Lake Ontario down to Trois Rivières, in Québec province. *See* Great Lakes–St. Lawrence River Basin Water Resources Compact § 1.2, Dec. 13, 2005, *available at* http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf [hereinafter Proposed Compact]. The Proposed Compact would include parts of Vermont that are drained through Lake Champlain and Rivière Richelieu to the St. Lawrence.

10. COUNCIL OF GREAT LAKES GOVERNORS, THE GREAT LAKES CHARTER ANNEX 2 (2001), *available at* http://www.cglg.org/projects/water/docs/GreatLakesCharterAnnex.pdf [hereinafter Annex 2001]; *see also* Gary Ballesteros, *Great Lakes Water Exports and Diversions: Annex 2001 and the Looming Environmental Battle*, 32 ENVTL. L. REP. 10611, 10611–14 (2002); Jeffrey E. Edstrom et al., *An Approach for Identifying Improvements under the Great Lakes Charter Annex 2001*, 4 TOL. J. GREAT LAKES' L. SCI. & POL'Y 335, 335–39 (2002); Hinkle, *supra* note 1, at 306–10; James M. Olson, *Great Lakes Water*, 80 MICH. B.J. 33, 35 (2001).

11. Proposed Compact, *supra* note 9. *See generally* Noah D. Hall, *Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region*, 77 U. COLO. L. REV. 405, 432–56 (2006); Scott D. Hubbard, *Everything Old Is New Again*, 84 MICH. B.J. 28, 30 (2005).

12. *See, e.g.*, Dennis Bueckeert, *Lakes Safeguards Could Disappear in Proposed Deal*, WINDSOR STAR, Nov. 30, 2004, at A10; Elizabeth May, *Hands off Great Lakes*, TORONTO STAR, Sept. 17, 2004, at A21.

13. *See, e.g.*, Editorial, *Unprotected Great Lakes*, DET. FREE PRESS, May 16, 2004, at F2; Mark Hornbeck, *Great Lakes Debate Boils Over in Lansing*, DET. NEWS, July 13, 2004, at C1; John Myers, *Plan May Rule Great Lakes Diversions Environment: A Proposal to Establish Rules for Water Diversions Will Be Reviewed at Hearings Today and Tomorrow*, DULUTH NEWS TRIB., Oct. 5, 2005, at 01D.

Part I, I describe the treaties, compacts, statutes, and informal agreements that comprise the Great Lakes legal regime today. In Part II, I introduce the now highly developed system of customary international law that has emerged over the last century, summarizing the rules and principles applicable to water resources. Finally, in Part III, I suggest how the principles of customary international law could be drawn upon to improve the Great Lakes legal regime—the Law of the Lakes, if you will.

I. THE LAW OF THE LAKES TODAY

The Law of the Lakes presents an unusually complicated amalgam of international, interstate and interprovincial, national, and state law.[14] The interested governments include not only the federal government and eight States, but also the Canadian government and the Province of Ontario. It has become customary also to include the Province of Québec because of the St. Lawrence River, although Québec is not riparian to the Lakes as such.[15] In this Section, I describe briefly each of the legal elements that collectively form the Law of the Lakes today.

A. The Great Lakes Basin Compact

Efforts to create an interstate compact on the Great Lakes were completed in 1968 when Congress approved the Great Lakes Basin Compact[16]—two decades after the States and the Provinces negotiated it. Pursuant to the Compact, the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin,[17] joined to create the Great Lakes Commission.[18] Each State receives three votes.[19] Most decisions require a simple majority, but a majority of each delegation is required for the Commission to

14. Dellapenna, *Regulated Riparianism*, *supra* note 7, at § 9.06(c)(2); Dellapenna, *Struggles*, *supra* note 7, at 851.

15. On the inclusion of Québec and the exclusion of Vermont, see *supra* note 9.

16. Great Lakes Basin Compact, Pub. L. No. 90–419, 82 Stat. 414, 414–19 (1968). *See generally* Hall, *supra* note 11, at 423–24. The U.S. Constitution expressly provides that interstate compacts are not valid without Congressional consent. U.S. CONST. art. I, § 10, cl. 3.

17. Great Lakes Basin Compact, *supra* note 16, art. II. Although Ontario and Québec joined in the negotiation of the compact, Congress refused to include them when it consented to the compact.

18. *Id.* art. IV. Some states have three commissioners, each with one vote. Consistent with the terms of the compact, several states have opted for five commissioners, each with three-fifths of a vote.

19. *Id.* art. IV(C).

recommend a new program or project to the States.[20] The Commission has an Executive Director who provides administrative support.[21] The Compact requires the Commission to allocate its costs "equitably" among the participating States according to "their respective interests."[22] In order to fulfill its responsibilities, the Commission established the Great Lakes Information Network,[23] a website for sharing technical data, in 1998.

The core of the Commission's functions is the power to study and recommend various policies and programs.[24] The Compact authorizes the Commission to recommend:

> (1) methods for the orderly, efficient, and balanced development, use and conservation of the water resources of the Basin or any portion thereof;[25]
>
> (2) policies relating to water resources including the institution and alteration of flood plain and other zoning laws, ordinances and regulations;[26]
>
> (3) uniform or other laws, ordinances, or regulations relating to the development, use and conservation of the Basin's water resources;[27]
>
> (4) amendments or agreements supplementary to [the] compact;[28]
>
> (5) mutual arrangements between the American and Canadian governments;[29] and
>
> (6) all things necessary and proper to carry out the [Commission's] powers.[30]

The Commission is strictly limited to making recommendations. The Compact expressly provides that "no action of the Commission shall have the force of law in, or be binding upon, any party

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20. *Id.*
21. *Id.* art. IV(F)-(H).
22. *Id.* art. V(C).
23. Great Lakes Information Network, http://www.great-lakes.net; Christine L. Manninen, *The Great Lakes Information Network: Lessons Learned from an Integrated Approach to Web Design*, 24 WATER INT'L 151 (1999); *see also* Gail Krantzberg, *A Research Agenda for Great Lakes Revitalization and Protection*, 1 TOL. J. GREAT LAKES' L. SCI. & POL'Y 13 (1998).
24. Great Lakes Basin Compact, *supra* note 16, art. VI.
25. *Id.* art. VI(B).
26. *Id.* art. VI(F).
27. *Id.* art. VI(G).
28. *Id.* art. VI(H).
29. *Id.* art. VI(K).
30. *Id.* art. VI(N).

state."[31] The States and Provinces merely promised to consider the Commission's recommendations.[32] Each State also has the right to withdraw from the Compact at any time through an act of the State's or Province's legislature giving six months notice of the intent to withdraw.[33]

B. Other Regional Initiatives

Because the Great Lakes Commission has such limited powers, the Governors of the Great Lakes States and the Premiers of Ontario and Québec entered into an informal agreement in 1985 called the Great Lakes Charter.[34] The Charter operates as the policy setting arm of the governors and premiers, while the Compact's Commission provides technical studies and recommendations to implement those policies. While policy setting under the Charter is primary, legally the Charter must be subsidiary to the Compact because the Charter has never been approved by Congress. This lack of congressional approval makes the Charter's legality as a free standing instrument highly doubtful: It probably is not a "minor arrangement" among the States that can be accomplished without Congress's approval;[35] and it is an international agreement that States cannot make without congressional assent.[36] The Charter, like the Compact, also lacks an effective enforcement mechanism,

31. *Id.*

32. *Id.* art. VII.

33. *Id.* art. VIII.

34. GREAT LAKES GOVERNORS' TASK FORCE, COUNCIL OF GREAT LAKES GOVERNORS, FINAL REPORT AND RECOMMENDATION ON WATER DIVERSION AND GREAT LAKES INSTITUTIONS app. III (1985) [hereinafter Great Lakes Charter], *available at* http://www.cglg.org/pub/charter/index.html; *see* Anthony S. Earl, *Protecting the Great Lakes: The Case for a Regional Approach*, 24 U. TOL. L. REV. 271, 272–75 (1993); Hall, *supra* note 11, at 424–26; Hinkle, *supra* note 1, at 304–05; Chris A. Shafer, *Great Lakes Diversions Revisited: Legal Constraints and Opportunities for State Regulation*, 17 T.M. COOLEY L. REV. 461, 495–502 (2000); Steven M. Siros, *Transboundary Pollution in the Great Lakes: Do Individual States Have any Role to Play in Its Prevention?*, 20 S. ILL. U. L.J. 287, 299–301 (1996).

35. *See, e.g.*, West Virginia *ex rel.* Dyer v. Sims, 341 U.S. 22 (1951) (holding an interstate agreement to control water pollution void for lack of congressional approval). *See generally* Julius M. Friedrich, *The Settlement of Disputes Between States Concerning Rights to the Waters of Interstate Streams*, 32 IOWA L. REV. 244, 265–69 (1947); Charles J. Meyers, *The Colorado River*, 19 STAN. L. REV. 1, 48–50 (1966).

36. *See generally* Michael J. Donahue, *Strengthening the Binational Great Lakes Management Effort: The Great Lakes Commission's Provincial Membership Initiative*, 1998 TOL. J. GREAT LAKES' L. SCI. & POL'Y 27; H. Patrick Glenn, *Reconciling Regimes: Legal Relations of States and Provinces in North America*, 15 ARIZ. J. INT'L & COMP. L. 255 (1998); Hall, *supra* note 11, at 425; Peter R. Jennetten, Note, *State Environmental Agreements with Foreign Powers: The Compact Clause and the Foreign Affairs Powers of the United States*, 8 GEO. INT'L ENVTL. L. REV. 141 (1995); Symposium, *How Do Canadian Provinces and U.S. States View the Importance of Their Relationship with Their Cross-Border Counterparts?*, 27 CAN.-U.S. L.J. 137–60 (2001).

particularly because the lack of congressional assent necessarily means that the Charter is not binding or enforceable.[37] In fact, persistent underfunding of the Charter's reporting and consultation requirements have prevented it from fulfilling its goals.[38]

The governors also established the Great Lakes Protection Fund in 1989.[39] Incorporated in Illinois, the Fund administers donations by the States, making grants for environmental protection and ecological health. Rather than imposing decisions on the participating States, the Fund seeks to influence them by providing benefits to them. Why a State would channel some pollution control money through the Fund rather than administer it directly remains unclear. This perhaps explains why the seven participating States have pledged only $81,000,000 to endow the Fund, only about half of which was awarded as grants by 2002.[40]

The Great Lakes Basin Compact, the Great Lakes Charter, and the Great Lakes Protection Fund bring together interested professionals across political boundaries to begin the process of integrating water management basin wide.[41] Yet even taken together, while these arrangements allow the State and Provincial governments to talk a good game, they have no teeth.[42] In an attempt to strengthen the Great Lakes legal regime, the Governors of the Great Lakes States and the Premiers of the two Canadian Provinces committed themselves in June 2001 to Annex 2001[43]—an agreement to negotiate a new compact with real decision making authority by June 2004. We will return to the results of that process in Part III.[44] Next, I turn to the institutions for cooperative action created by the national governments.

37. Hall, *supra* note 11, at 426.

38. *Id.* at 425–26.

39. Earl, *supra* note 34, at 277–78; Siros, *supra* note 34, at 301–03.

40. GREAT LAKES PROTECTION FUND, 2002 ANNUAL REPORT, preface (2002), http://www.glpf.org/about/02annual.pdf. For earlier Fund data, see Earl, *supra* note 34, at 277–78; Siros, *supra* note 34, at 302.

41. *See generally* Barry G. Rabe & Janet B. Zimmerman, *Cross-Media Environmental Integration in the Great Lakes Basin*, 22 ENVTL. L. 253 (1992).

42. *See generally* Symposium, *Ground Water Contamination*, *supra* note 8. For a more optimistic view of the effectiveness of "non-binding" compacts or agreements between states, see Susan J. Buck et al., *"The Institutional Imperative": Resolving Transboundary Water Conflict in Arid Agricultural Regions of the United States and the Commonwealth of Independent States*, 33 NAT. RESOURCES J. 595, 619 (1993).

43. Annex 2001, *supra* note 10; *see also* Ballesteros, *supra* note 10, at 10–11; Edstrom et al., *supra* note 10 at 336–37; Hall, *supra* note 11, at 432–35; Hinkle, *supra* note 1, at 306–10; Olson, *supra* note 10, at 35.

44. *See* discussion *infra* Part III.B.

C. The International Joint Commission

In the Boundary Waters Treaty of 1909,[45] Canada and the United States prohibited alterations of boundary waters without the authority of the nation in which the necessary works transpire and of the International Joint Commission, which the treaty created, if the alternation would have a measurable impact on the waters.[46] Courts have uniformly rebuffed private litigants' attempts to invoke the Boundary Waters Treaty in order to challenge regulatory decisions in the United States,[47] leaving enforcement in the hands of the Commission. The Commission consists of three members appointed by each country, with decisions being made by a majority vote of the commissioners attending so long as a quorum of four exists.[48] The Commissioners have rarely divided evenly along national lines.[49]

The International Joint Commission has accomplished more than the several regional institutions,[50] but it is subject to many of the same criticisms as those regional institutions.[51] In fact, the

45. Boundary Waters Treaty, *supra* note 4. *See generally* Dellapenna, *supra* note 4.

46. Boundary Waters Treaty, *supra* note 4, art. III.

47. DiLaura v. Power Auth. of N.Y., 786 F. Supp. 241, 250–52 (W.D.N.Y. 1991) (holding that the Boundary Waters Treaty does not create private rights), *aff'd*, 982 F.2d 73, 77-80 (2d Cir. 1992); Soucheray v. Corps of Eng'rs of the U.S. Army, 483 F. Supp. 352, 355-57 (W.D. Wis. 1979) (dismissing the suit as a political question). *But cf.* Gasser v. United States, 14 Cl. Ct. 476, 510–16 (1988) (finding that the Treaty Respecting Utilization of Waters of the Colorado and Tijuana Rivers, U.S.-Mex., Feb. 3, 1944, 59 Stat. 1219, does not affect private remedies available for projects on the Colorado River undertaken before negotiation of the Treaty), *vacated*, 22 Cl. Ct. 165 (1990).

48. Boundary Waters Treaty, *supra* note 4, arts. VII–XII; *see also* Dellapenna, *supra* note 4, at § 50.02(c).

49. *See, e.g.*, DeWitt, *supra* note 5, at 308–11 (describing the decisions made by the Commission regarding pollution, none of which involved division along national lines); *see also id.* at 313–14 (noting the Commission's history of objectivity and independence).

50. *See, e.g.*, Dellapenna, *supra* note 4, § 50.02(d) (discussing the Skagit-High Ross Dam). *See generally* PERSPECTIVES ON ECOSYSTEM MANAGEMENT FOR THE GREAT LAKES: A READER (Lynton K. Caldwell ed., 1988); Gordon K. Durnil, *The "Big Picture": A Perspective on Environmental Dredging from the International Joint Commission*, 1 BUFF. ENVTL. L.J. 255 (1993); Graham, *supra* note 6; William Griffin, *Great Lakes Diversions and Consumptive Uses in Historical International Legal Perspective*, 75 MICH. B.J. 62 (Jan. 1996); Olson, *supra* note 10, at 35; Symposium, *Managing North American Transboundary Water Resoures*, *supra* note 6; Stephen J. Toope & Jutta Brunnée, *Freshwater Regimes: The Mandate of the International Joint Commission*, 15 ARIZ. J. INT'L & COMP. L. 273 (1998).

51. *See, e.g.*, Hall, *supra* note 11, at 416 ("[A] review of the Boundary Waters Treaty's provisions and its role in managing Great Lakes water withdrawals and diversions shows that its international and historic status exceeds its actual value in Great Lakes water management."); *see also* DeWitt, *supra* note 5; Gerald F. George, *Environmental Enforcement across National Borders*, 21 NAT. RESOURCES & ENV'T. No. 1, 3 (2006); Mark Van Putten & Gayle Coyer, *Saving Lake Superior*, 9 ENVTL. F., 10 (1992)); Lori J. MacPherson Satterfield, Comment, *The Bi-National Program to Restore and Protect the Lake Superior Basin: Talk or Substance?*, 4 COLO. J. INT'L ENVTL. L. & POL'Y, 251 (1993).

Treaty's apparent creation of an institution to regulate the shared waters (the "boundary waters") of the two nations is somewhat deceiving. "Boundary waters" are narrowly defined to include only waterbodies (or their connecting waters) that form or cross the international boundary.[52] Except for Lake Michigan,[53] the Treaty expressly declares that each nation has absolute sovereignty over the waters within its borders before they flow across the international border.[54] The only limitation on the upper riparian's use of "nonboundary waters" is that persons injured across the border by activities involving such waters must have the same legal remedies "as if such injury took place in the country where such diversion or interference occurs."[55] The Treaty goes on to exempt from regulation "ordinary" uses of water for domestic or sanitary purposes and governmental projects which do not "materially" affect the level of flow of the boundary waters,[56] although the Treaty also flatly prohibits the pollution of boundary waters to the injury of health or property in the other nation.[57]

The United States is the upper riparian in the Great Lakes basin, and thus seems doubly advantaged by the provisions of the Treaty. First, the United States can undertake, or authorize, virtually any project it chooses on "nonboundary waters" above the international border, Canada having foresworn a right to object.[58] Second, Canada cannot undertake, or authorize, a project below

52. Boundary Waters Treaty, *supra* note 4, at pmbl; *see* Dellapenna, *supra* note 4, § 50.02(b).

53. Boundary Waters Treaty, *supra* note 4, at arts. II, XIV; *see also* Sanitary Dist. of Chi. v. United States, 266 U.S. 405, 426 (1924); Graham, *supra* note 6, at 8. Some commentators have concluded that the Boundary Waters Treaty does not apply to Lake Michigan, except to the limited extent expressly provided in the Treaty. *See* DeWitt, *supra* note 5, at 306–07; Hall, *supra* note 11, at 417. Questions about the relation of the Treaty to Lake Michigan could be resolved by considering Lake Huron and Lake Michigan to be a single body of water—which, hydrologically speaking, they are, as the briefest glance at a map would show.

54. Boundary Waters Treaty, *supra* note 4, arts. II, IV.

55. *Id.* art. II. In today's world, such problems are perhaps better addressed through the exercise of long-arm jurisdiction, an approach not available when the Boundary Waters Treaty was negotiated. *See, e.g.*, Pakootas v. Teck Cominco Metals, Ltd., 452 F.3d 1066, 1075-77 (9th Cir. 2006); Richard Du Bey et al., *CERCLA and Transboundary Contamination in the Columbia River*, 21 NAT. RESOURCES & ENV'T. no. 1, 8 (2006); George, *supra* note 51; Noah Hall, *Bilateral Breakdown: U.S.-Canada Pollution Disputes*, 21 NAT. RESOURCES & ENV'T. no. 1, at 18 (2006).

56. Boundary Waters Treaty, *supra* note 4, art. III.

57. *Id.* art. IV; *see* Dellapenna, *supra* note 4, § 50.06(b); George, *supra* note 51.

58. Canada only has the right to object if diversions above the boundary would affect the level of the boundary waters themselves, something that is difficult to do for the Great Lakes given their large volume of water. The now reduced, but once massive, Chicago diversions lowered the levels of the Lakes by about six inches. *See* Wisconsin v. Illinois, 278 U.S. 367, 407 (1929). Canada has never raised the cumulative effect of many small diversions as an issue under the Treaty. *See generally* Hall, *supra* note 11, at 417, 419–22.

the border on boundary waters or waters flowing from boundary waters if it would adversely affect uses above the border. Canada thus seems at a severe disadvantage despite its sovereignty over forty-one percent of the Great Lakes basin.[59] Canada is compensated for these disadvantages in the Great Lakes by being the upper riparian in other basins, particularly the Columbia River.[60]

The Boundary Waters Treaty could allow the International Joint Commission to regulate some consumptive uses of the boundary waters. Yet because the initiation of proceedings before the Commission is in the hands of the two governments,[61] and with the Commission's authority limited to alterations of boundary waters that materially change the level of flow of the waters,[62] the Treaty has rarely come into play at the level of single users. Between 1909 and 1976, the Commission altogether (along the entire border, not just for the Great Lakes basin) considered fifty-nine "applications" (binding proceedings initiated with the consent of both governments)[63] and forty-one "references" (non-binding proceedings).[64] These are remarkably small numbers given the enormous development in water use and abuse during that period. Three applications related to water diversions, fifteen related to changes in water levels and flows, and thirty-six related to dams.[65] Sixteen of the references related to water levels and flows and ten related to water pollution.[66] The non-water proceedings, including both applications and references, ranged from air pollution to general

59. *See* Leonard B. Dworsky et al., *Management of the International Great Lakes*, 14 NAT. RESOURCES J. 103, 105 (1974). *See also* DeWitt, *supra* note 5, at 307; Graham, *supra* note 6, at 17–18; Hall, *supra* note 11, at 417.

60. *See, e.g.*, JOHN V. KRUTILLA, THE COLUMBIA RIVER TREATY: THE ECONOMICS OF AN INTERNATIONAL RIVER BASIN DEVELOPMENT (1967); KEITH W. MUCKLESTON, INTERNATIONAL MANAGEMENT IN THE COLUMBIA RIVER SYSTEM 2–8 (UNESCO, 2003), http://unesdoc.unesco.org/images/0013/001332/133292e.pdf; Michael C. Blumm, *The Columbia Basin*, *in* 6 WATERS AND WATER RIGHTS 63 (Robert E. Beck ed., repl. vol. 2005); Dellapenna, *supra* note 4, §§ 50.05–50.05(h).

61. Boundary Waters Treaty, *supra* note 4, art. X (binding decisions only after consent to the referral by both governments, with consent by the United States requiring approval by the U.S. Senate).

62. *Id.* art. III.

63. *Id.* art. X. Such "applications" require the "advice and consent" of the U.S. Senate, although the Treaty does not address whether a two-thirds majority is required for such consent. Two authors have asserted that there never has been a "binding reference." *See* DeWitt, *supra* note 5, at 308–14; Hall, *supra* note 11, at 418. Apparently these authors mean that because the Commission has been making binding decisions regarding boundary waters, such a reference has never gone from the Commission to a single arbiter.

64. For the number of applications and references between 1909 and 1976, see Graham, *supra* note 6, at 13–14.

65. *Id.*

66. *Id.*

river basin development to socio-economic problems.[67] The congressional decision in 1986 to confer authority on the Commission to veto diversions from the Great Lakes basin[68] has not played a significant role in the Commission's work, if only because governors of Michigan have vetoed all such diversions.

The International Joint Commission has taken significant steps to regulate pollution of the Great Lakes, most notably through a further agreement between Canada and the United States known as the Great Lakes Water Quality Agreement.[69] This agreement has been somewhat effective in improving water quality despite its essentially consultative and advisory nature.[70] The Commission, however, has been less successful in dealing with pollution than in dealing with the more strictly engineering aspects of its charge.[71] Improvements in water quality in recent decades are primarily attributable to loosely coordinated steps by the several States and Provinces or the two federal governments taken independently of the Commission.[72] Coordination remains loose at least in part because the States and Provinces are unable to enter into a binding agreement among themselves without the full participation of the

67. *Id.*

68. Water Resources Development Act of 1986, 42 U.S.C. § 1962d-20 (2000 & Supp. 2001); *see* discussion *infra* Part I.D.

69. Agreement on Great Lakes Water Quality, U.S.-Can., Apr. 15, 1972, 23 U.S.T. 301, *amended* Nov. 27, 1978, 30 U.S.T. 1394 [hereinafter 1978 Amendments], *amended* Nov. 18, 1987, TIAS No. 11,551 [hereinafter 1987 Protocol].

70. SALLY BILLUPS ET AL., TREADING WATER: A REVIEW OF GOVERNMENT PROGRESS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT (1998), *reprinted in* 1998 TOL. J. GREAT LAKES' L. SCI. & POL'Y 91 (pt. I), 245 (pt. II); Dellapenna, *supra* note 4, § 50.06(b); DeWitt, *supra* note 5; Earl, *supra* note 34, at 275–77; Stewart Elgie, *Federal, State and Provincial Interplay Regarding Cross-Border Environmental Pollution*, 27 CAN.-U.S. L.J. 205 (2001); John Knox, *Federal, State and Provincial Interplay Regarding Cross-Border Environmental Pollution*, 27 CAN.-U.S. L.J. 199 (2001); Barry Sadler, *Shared Resources, Common Future: Sustainable Management of Canada-United States Border Waters*, 33 NAT. RESOURCES J. 375 (1993); Symposium, *Great Lakes Symposium*, 26 U. TOL. L. REV. 271 (1995) [hereinafter Symposium, *Great Lakes*]; Symposium, *Ground Water Contamination*, *supra* note 8; Christina D. Arvin, Comment, *Virtual Elimination of Dioxin: Efforts of the United States and Canada to Eliminate Dioxin Pollution as Required by the Great Lakes Water Quality Agreement*, 7 IND. INT'L & COMP. L. REV. 131 (1996); Sean P. Gallagher, Note, *Great Lakes Water Quality Initiative: National Standards Governing a Binational Resource*, 2 IND. J. GLOBAL LEGAL STUD. 465 (1995).

71. Robert I. Fassbender, *Reducing Great Lakes Toxics: Can We Do More for Less through Wastewater Effluent Trading?*, 1 WIS. ENVTL. L.J. 57 (1994); Siros, *supra* note 34, at 303–10. *See generally* Marco Verweij, *Why is the River Rhine Cleaner than the Great Lakes (Despite Looser Regulation)*, 34 LAW & SOC'Y REV. 1007 (2000).

72. Siros, *supra* note 34, at 287–303; Symposium, *Federal, State and Provincial Interplay Regarding Cross-Border Environmental Pollution*, 27 CAN.-U.S. L.J. 197–219 (2001) [hereinafter Symposium, *Interplay*]; Symposium, *State and Provincial Regulations with Cross-Border Impact*, 27 CAN.-U.S. L.J. 235–55 (2001) [hereinafter Symposium, *Regulations*].

two federal governments.[73] As a result, some observers have begun to call for a renegotiation of the Treaty.[74]

D. Congressional Intervention

In the Water Resources Development Act of 1986, Congress prohibited any new diversions of water out of the Great Lakes basin without the consent of the governors of every basin State and of the International Joint Commission.[75] This is not an interstate compact, for it does not depend on the States agreeing to the terms of the statute, and no State is able to withdraw from the arrangement regardless of how onerous it might prove to be. The Act does not create a private right of action.[76] Private litigation, however, is seldom necessary to prevent diversions out of the Great Lakes.

The Michigan Governor's veto of just such a diversion for the town of Lowell, Indiana, in 1992 illustrates the problem created by the Water Resources Development Act of 1986.[77] The divide between the Great Lakes basin and the Mississippi Valley is as little as a mile from Lake Michigan in Indiana and Illinois (and only a few miles further in other Great Lakes States).[78] Because of the statute,

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73. *See* sources cited *supra* note 36.

74. *See, e.g.*, W.J. Christie, *The Ecosystem Approach to Managing the Great Lakes: The New Ideas and Problems Associated with Implementing Them*, 26 U. TOL. L. REV. 279 (1995); DeWitt, *supra* note 5; Earl, *supra* note 34; Gallagher, *supra* note 70.

75. Water Resources Development Act of 1986, 42 U.S.C. § 1962d-20 (2000 & Supp. 2001) (the date is part of the title because Congress enacts a "water resources development act" about every two years in order to authorize various projects); *see* Joseph W. Dellapenna, *The Right to Consume Water under "Pure" Riparian Rights*, *in* 1 WATERS AND WATER RIGHTS, *supra* note 7, § 7.05(c)(2) & nn.867–915 [hereinafter Dellapenna, *Pure Riparian Rights*]; Dellapenna, *Regulated Riparianism*, *supra* note 7, § 9.06(a); Stephen Frerichs & K. William Easter, *Regulation of Interbasin Transfers and Consumptive Uses from the Great Lakes*, 30 NAT. RESOURCES J. 561, 561–62 (1990); Glass, *supra* note 8; James P. Hill, *The Great Lakes Quasi-Compact: An Emerging Paradigm for Regional Governance of United States Water Resources*, 1989 DET. C.L. REV. 1; Joseph L. Sax, *A Model State Water Act for Great Lakes Management: Explanation and Text*, 18 CASE W. RES. J. INT'L L. 219 (1986). The governors of the basin states have pledged that they would also "consult" with the Premiers of Ontario and Québec regarding any proposed transbasin diversions, although this is neither required nor authorized by § 1962d-20. Annex 2001, *supra* note 10, directive #4. Two of the Great Lakes states require such coordination in their statutes implementing the Water Resources Development Act. MINN. STAT. § 103G.265(4) (West 1997); WIS. STAT. §§ 281.35(5)(b), (11) (West 2004).

76. Little Traverse Bay Bands of Odawa Indians v. Great Spring Waters of Am., Inc., 203 F. Supp. 2d 853 (W.D. Mich. 2002); *see* Dellapenna, *Regulated Riparianism*, *supra* note 7, § 9.06(b)(2) nn.1236.1–1236.4 (Supp. 2005); Glass, *supra* note 8; Hall, *supra* note 11, at 429.

77. George William Sherk, *Resolving Interstate Water Conflicts in the Eastern United States: The Re-Emergence of the Federal-Interstate Compact*, 30 WATER RESOURCES BULL. 397 (1994).

78. *See* SOCIAL SCIENCE RESEARCH SECTION, INLAND WATERS DIRECTORATE, DEPARTMENT OF THE ENVIRONMENT (CANADA), GREAT LAKES BASIN DRAINAGE AND POLITICAL

Indiana cannot provide water from Lake Michigan or a stream draining into Lake Michigan to large or small communities in the northern parts of the State if the community is across that divide—as is Lowell, although only ten miles from the lakeshore—without the consent of the governors of every of other State in the basin.[79] The Governor of Michigan did not veto a proposed diversion by the City of Akron, Ohio in 1998, but only after the city committed itself to return—at considerable expense—an equal amount of water to the source stream.[80] The statute protects other basin States if a State were to authorize large-scale diversions of Great Lake waters for uses far removed from the watershed (say to recharge the Ogallala Aquifer underlying the Great Plains, the fear that prompted enactment of the statute),[81] but it also prevents States from taking small steps to manage their own needs without serious or impossible negotiations with all the other basin States.

It is no accident that the Governors of Michigan take the hardest line. Michigan, alone of the Great Lakes States and Provinces, is located almost entirely within the Great Lakes basin.[82] Diversions of water in Michigan are subject to regulation only by Michigan

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DIVISIONS (1972) (map of the Great Lakes drainage basin); *see also* Frank H. Quinn, *The Potential Impacts of Climate Change on Great Lakes Transportation*, *in* THE POTENTIAL IMPACTS OF CLIMATE CHANGE ON TRANSPORTATION 115 fig.1 (2002), http://climate.volpe.dot.gov/workshop1002/workshop.pdf.

79. *See* Mark J. Dinsmore, *Like a Mirage in the Desert: Great Lakes Water Quantity Preservation Efforts and Their Punitive Effects*, 24 U. TOL. L. REV. 449, 468–69 (1993); Daniel A. Injerd, *Managing Great Lakes Water Diversions: A Diversion Manager's Viewpoint*, 1 BUFF. ENVTL. L.J. 299 (1993). Communities in other Great Lakes States, such as Wisconsin, have faced similar issues. Dan Egan, *Who Should Be Able to Tap Great Lakes? New Berlin Request is New, But Precedent is Not*, MILWAUKEE J. SENTINEL (WIS.), July 17, 2006, at 1; Dan Egan & Darryl Enriquez, *Michigan Shuts Tap to Lake: New Berlin Blocked in Request to Divert Water*, MILWAUKEE J. SENTINEL, July 1, 2006, at 1.

80. *See* A REPORT ON THE PROPOSED EXPANSION OF THE CITY OF AKRON WATER SYSTEM (July 1996).

81. *See* J.W. Bulkley et al., *Preliminary Study of the Diversion of 283 m3 s-1 (10,000 cfs) from Lake Superior to the Missouri River Basin*, 68 J. HYDROLOGY 461 (1984). For the ensuing debate, see Robert Haskell Abrams, *Interbasin Transfer in a Riparian Jurisdiction*, 24 WM. & MARY L. REV. 591 (1983); Mitch Irwin, *Guarding the Great Lakes: A Call to Action*, 64 MICH. B.J. 397 (1985); J. David Prince, *State Control of Great Lakes Water Diversion*, 16 WM. MITCHELL L. REV. 107, 146–48 (1990); Symposium, *Great Lakes Legal Seminar: Diversion and Consumptive Use*, 18 CASE W. RES. J. INT'L L. 1-259 (1986); Patrick E. Corbett, Note, *The Overlooked Farm Crisis: Our Rapidly Depleting Water Supply*, 61 NOTRE DAME L. REV. 454 (1986); David S. Hoffman, Note, *Who Owns the Great Lakes? Posturing for Control of an International Resource*, 16 CASE W. RES. J. INT'L L. 71 (1984); Robert W. Tubbs, Comment, *Great Lakes Water Diversion: Federal Authority over Great Lakes Water*, 1983 DET. C.L. REV. 919; Julie R. Wilder, Note, *The Great Lakes as a Water Resource: Questions for Ownership and Control*, 59 IND. L.J. 463 (1984). *See generally* Dellapenna, *Pure Riparian Rights*, *supra* note 75, § 7.05(c)(2) nn.870–915.

82. A tiny corner in the southwest of Michigan is located in the Mississippi-Ohio watershed. Moreover, only Michigan, of all the Great Lakes' States, has its capital within the basin. *See* Hall, *supra* note 11, at 430 n.142.

because no diversion within Michigan will be out of the basin. Proposed diversions in other States that would remove water from the basin (even if the water remains in the State of the diversion) require consent by the Governor of Michigan. This non-reciprocal relationship makes it easy for Michigan's Governor to withhold consent for no Governor in another State can hold up a Michigan project—a consent that might otherwise be traded for Michigan's consent.[83]

Without the Water Resources Development Act of 1986, a State that discriminates against interstate commerce in managing its waters would violate the "dormant commerce clause" of the Federal Constitution.[84] Michigan's refusal to approve interbasin diversions in other States, however, does not violate that clause because Michigan's actions are pursuant to express congressional authorization.[85] Perhaps Congress has given too much discretion to the Governors of the Great Lakes States.[86] Without the powers conferred by the Water Resources Development Act of 1986, States could do little to impede a massive diversion of water out of the Great Lakes by another State.[87]

Congress amended the Water Resources Development Act of 1986 in 2001.[88] The revisions finally recognized the need to "consult with" the Provinces of Ontario and Québec.[89] It also added the word "export" to the list of prohibited diversions of water out of the basin without the consent of the Governors of each Great Lakes State.[90] While adding the word "export" might not have been necessary, the change did preclude an argument that the export of

83. Dinsmore, *supra* note 79, at 468.

84. *See* Sporhase v. Nebraska *ex rel.* Douglas, 458 U.S. 941 (1982); Intake Water Co. v. Yellowstone River Compact Comm'n, 769 F.2d 568 (9th Cir. 1985), *cert. denied*, 476 U.S. 1163 (1986); City of El Paso v. Reynolds, 563 F. Supp. 379 (D.N.M. 1983), *aff'd on rehearing*, 597 F. Supp. 694 (D.N.M. 1984); Ponderosa Ridge LLC v. Banner Cty., 554 N.W.2d 151, 159–66 (Neb. 1996). *See generally* A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES §§ 10:29–10:35 (2005); Douglas L. Grant, *State Regulation of Interstate Water Export*, *in* 4 WATERS AND WATER RIGHTS ch. 48 (Robert E. Beck ed., repl. vol. 2004); Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1 (2003); Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341 (1996); Shafer, *supra* note 34, at 467–83.

85. *See* Abrams, *supra* note 81, at 620–21.

86. *See* A. Dan Tarlock, *How Well Can International Water Allocation Regimes Adapt to Global Climate Change?*, 15 J. LAND USE & ENVTL. L. 423, 440–41 (2000).

87. *See* Abrams, *supra* note 81; Hinkle, *supra* note 1, at 291–303; Cynthia Baumann, Note, *Water Wars: Canada's Upstream Battle to Ban Bulk Water Export*, 10 MINN. J. GLOBAL TRADE 109 (2001).

88. Pub. L. 106–541, § 504, 114 Stat. 2644 (2001), *codified at* 42 U.S.C. §§ 1962(d)-20–22 (2002); *see* Hinkle, *supra* note 1, at 312–14.

89. 42 U.S.C. §§ 1962(d)-20(b)(2), (b)(3), (d).

90. *Id.* §§ 1962(d)-20(b)(3), (d).

water in containers (whether in bottles, tanker trucks, or sea-going tankers—as opposed to through pipelines, ditches, or other diversion works) was not included within the requirement of gubernatorial approval. The amendments also reiterated the prohibition of all federal agencies from studying (or paying for a study of) the diversion of water out of the basin unless the study is approved by the Great Lakes Governors.[91] Congress further required a comprehensive study of the Great Lakes region to assure proper management and protection of the Lakes and related resources[92] and to develop a plan for the restoration and management of the Great Lakes fisheries.[93] And Congress adopted a non-binding "sense of the Congress" resolution requesting the Secretary of State to work with Canada to support the development of the new basin wide management mechanism.[94] While this supports the Annex 2001 process,[95] it is not anticipatory consent to the resulting draft interstate compact[96] and it does nothing to change the management regime for the Lakes.

Congress amended the Clean Water Act in 1990 to require the Environmental Protection Agency to comply with the standards created under the Great Lakes Water Quality Agreement when the Agency establishes water quality standards for the Lakes.[97] The United States thus undertook to transform what were essentially advisory standards into legal mandates, although this was not required by the Agreement itself, but did so by unilateral act rather than by acting cooperatively with Canada or the States.[98]

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91. *Id.* §§ 1962(d)-20(b)(4), (e).

92. *Id.* § 1962(d)-21.

93. *Id.* § 1962(d)-22.

94. Water Resources Development Act of 2000, Pub. L. No. 106–541, § 504(c), 114 Stat. 2572, 2644–45; *see also* 146 CONG. REC. H11,816, H11,828 (2000) (statement of Rep. Stupak noting the non-binding nature of the resolution).

95. *See infra* Part III.B.

96. At least that was the explicit statement of the bill's sponsors on the floor of the Senate. 146 CONG. REC. S11,405, S11,406 (2000) (statements of Sen. Levin and Sen. Baucus).

97. Great Lakes Critical Programs Act, 33 U.S.C. § 1268 (2000).

98. *See generally* Gallagher, *supra* note 70; Thomas Martin, *The Great Lakes Water Quality Initiative*, 14 NAT. RESOURCES & ENV'T. 15 (1999).

II. THE TEACHINGS OF CUSTOMARY INTERNATIONAL LAW

In 1966, the International Law Association approved the *Helsinki Rules on the Uses of International Rivers*[99] which quickly became the authoritative summary of the customary international law on transboundary (internationally shared) waters.[100] The UN General Assembly declined to endorse the *Helsinki Rules*, instead requesting the International Law Commission[101] to prepare a set of draft articles on the "non-navigational uses of international watercourses modeled on the *Helsinki Rules*."[102] The Commission completed its work on the project in 1994, producing the *Draft Articles on the Law of Non-Navigational Uses of International Watercourse*.[103] The Sixth (Legal) Committee of the General Assembly reworked the *Draft Articles* into the United Nations Convention on the Law of Non-Navigational Uses of International Watercourse, which the General Assembly approved by a vote of 103–3 on May 21, 1997.[104] While ratifications of the UN Convention have proceeded slowly and it has not yet entered into force, it was almost immediately recognized as the authoritative summary of the customary international law governing its issues.[105] Finally, on August 21, 2004, the International Law Association, meeting in Berlin, approved the *Berlin Rules*

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99. INT'L. L. ASS'N., THE HELSINKI RULES ON THE USES OF THE WATERS OF INTERNATIONAL RIVERS, REPORT OF THE FIFTY-SECOND CONFERENCE (1966) [hereinafter *Helsinki Rules*], *available at* http://internationalwaterlaw.org/IntlDocs/Helsinki_Rules.htm.

100. STEPHEN C. MCCAFFREY, THE LAW OF INTERNATIONAL WATERCOURSES: NON-NAVIGATIONAL USES 321 (2001) (describing the *Helsinki Rules* as a "monumental work" that "had a major impact upon the development of the law of international watercourses").

101. The International Law Commission is composed of thirty-four prominent legal experts elected by the General Assembly. It serves to undertake the codification and progressive development of international law. U.N. CHARTER, art. 13(1); G.A. Res. 174(II), U.N. GAOR, 2d Sess., at 296, U.N. Doc. A/519 (Nov. 21, 1947); *see generally* IAN SINCLAIR, THE INTERNATIONAL LAW COMMISSION (1987); Luigi Condorelli, *Custom*, *in* INTERNATIONAL LAW: ACHIEVEMENTS AND PROSPECTS 179, 194–97 (Mohammed Bedjaoui ed., 1991) [hereinafter ACHIEVEMENTS AND PROSPECTS]; B. Graefrath, *The International Law Commission Tomorrow: Improving Its Organization and Methods of Work*, 85 AM. J. INT'L L. 595 (1991).

102. G.A. Res. 2669(XXV), U.N. GAOR, 25th Sess., Supp. No. 28, at 127, U.N. Doc. A/8028 (Dec. 8, 1970).

103. INT'L. L. COMM'N., REPORT OF THE INTERNATIONAL LAW COMMISSION ON THE WORK OF ITS FORTY-SIXTH SESSION, U.N. GAOR, 49th Sess., Supp. No. 10, at 195–97, 326, U.N. Doc. A/49/10 (1994) [hereinafter ILC REPORT]. For summary histories of the Commission's work on international rivers, see MCCAFFREY, *supra* note 100, at 301–17; SINCLAIR, *supra* note 101, at 29–30, 40, 107–09, 114, 169–70.

104. Convention on the Law of the Non-Navigational Uses of International Watercourses, G.A. Res. 51/229, U.N. GAOR, 51st Sess., U.N. Doc. A/51/869 (May 21, 1997), *reprinted in* 36 I.L.M. 700 (1997) [hereinafter U.N. Convention]. If one adds the three nations that informed the Secretary General that they too supported the Convention, the vote could be counted as 106-3. *See* MCCAFFREY, *supra* note 100, at 315 n.63.

105. Gabcíkovo-Nagymaros Project (Hung. v. Slovk.), 1997 I.C.J. 92, ¶¶ 78, 85, 141 (Sept. 25).

on Water Resources as yet another authoritative summary of the customary international law applicable to waters—but this time to all waters and not just to transboundary or international waters.[106] I served as Rapporteur for the *Berlin Rules.* In the following subsections, I address the lessons to be learned from the study of the customary international law of water resources, focusing particularly on how those lessons are expressed in the *Berlin Rules.*

A. Sharing Waters: The UN Convention

Given the importance and growing scarcity of water resources in the world today,[107] few areas of international law are of greater importance than those relating to water resources. After all, water problems are magnified by the reality that water is an ambient resource that largely ignores human boundaries. Nearly all of the 264 largest rivers in the world are shared by more than one nation in water basins that are home to at least forty percent of the world's population.[108] The most cooperative of neighboring States have found it difficult to achieve mutually acceptable arrangements for governing transboundary surface waters, even in relatively humid regions where fresh water is usually sufficient to satisfy most or all needs.[109] In arid regions, such conflicts become endemic and intense despite otherwise friendly relations or even membership in a federal union.[110] No wonder the English derived the word "rival"

106. INT'L. L. ASS'N, *Final Report of the Water Resources Law Committee, in* REPORT OF THE SEVENTY-FIRST CONFERENCE OF THE INTERNATIONAL LAW ASSOCIATION (2004) [hereinafter *Berlin Rules*], http://www.ila-hq.org/pdf/Water%20Resources/Final%20Report%202004.pdf.

107. PETER H. GLEICK ET AL., THE WORLD'S WATER 2004–2005: THE BIENNIAL REPORT ON FRESHWATER RESOURCES (2004); MCCAFFREY, *supra* note 100, at 4–15; U.N. COMM'N ON SUSTAINABLE DEV., COMPREHENSIVE ASSESSMENT OF THE FRESH WATER RESOURCES OF THE WORLD, U.N. ESCOR, 5th Sess., U.N. Doc. E/CN.17/1997/9 (Feb. 4, 1997); U.N. ENV'T. PROGRAMME, GLOBAL ENVIRONMENTAL OUTLOOK 3: PAST, PRESENT AND FUTURE PERSPECTIVES 150–209 (2002), http://www.unep.org/geo/geo3/english/pdfs/chapter2-5_Freshwater.pdf, http://www.unep.org/geo/geo3/english/pdfs/chapter2-6_marine.pdf.

108. Aaron T. Wolf, *Conflict and Cooperation Along International Waterways,* 1 WATER POL'Y 251, 251–52 (1998); *see also* MCCAFFREY, *supra* note 100, at 15–17. The most important exception is the Yangtze River in China.

109. *See, e.g.,* LEGAL REGIME, *supra* note 6; MCCAFFREY, *supra* note 100, at 324–41; Dellapenna, *Struggles, supra* note 7; Dellapenna, *supra* note 4; Aaron T. Wolf et al., *International Waters: Identifying Basins at Risk,* 5 WATER POL'Y 29 (2003).

110. The dispute over the lower Colorado River has been before the Supreme Court of the United States eight times; the most important decisions are *Arizona v. California,* 373 U.S. 546 (1963), and *Arizona v. California,* 283 U.S. 423 (1931). For the most recent installment in this dispute, see *Arizona v. California,* 531 U.S. 1 (2001). The dispute between Colorado and Kansas over the Arkansas River has lasted even longer, producing its first decision in 1907 and its most recent in 2004. Kansas v. Colorado, 543 U.S. 86 (2004); Kansas v. Colorado, 206 U.S. 46 (1907). *See generally* Douglas L. Grant, *Interstate Water Allocation, in* 4 WATERS AND

from the Latin word "*rivalis*," meaning persons who live on opposite banks of a river.[111] The problems of transboundary aquifers have hardly begun to be faced.[112] As a result, many observers have concluded that there is considerable risk of war over water among neighboring nations or communities.[113]

The ambient nature of water creates a need for cooperation among groups contending over its allocation, and considerable evidence suggests that cooperative solutions to water scarcity problems are more likely than prolonged conflict.[114] India and Pakistan are an excellent example. They have engaged in three full-scale, albeit limited, wars since 1948, and numerous other skirmishes and attacks—all for reasons largely unrelated to their shared water resources.[115] They have even developed nuclear weapons specifically to threaten each other.[116] During this same time, however, the two States negotiated and implemented a complex treaty on sharing the waters of the Indus River basin; they carried through with their cooperative water management arrangements even during actual periods of full-scale hostilities.[117]

The problem is how to structure international cooperation so that it increases trust and eliminates water as a possible reason for war while simultaneously assuring efficient and ecologically sus-

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WATER RIGHTS, *supra* note 84, chs. 43–48. For examples from outside the United States, see Yvon-Claude Accariez, *Le régime juridique de l'Indus*, *in* LEGAL REGIME, *supra* note 6, at 53.

111. Stephen M. Schwebel, *Third Report on the Law of Non-Navigational Uses of International Watercourses*, U.N. Doc. A/CN.4/348 and Corr. 1, (1982), *reprinted in* [1982] 2 Y.B. Int'l L. Comm'n 65, 81 n.142.

112. *See generally* Gabriel & Yoram Eckstein, *A Hydrogeological Approach to Transboundary Ground Water Resources and International Law*, 19 AM. U. INT'L L. REV. 201 (2003); Symposium, *Transboundary Aquifers*, 28 WATER INT'L 143–200 (2003).

113. *See generally* Malin Falkenmark, *Fresh Water as a Factor in Strategic Policy and Action*, *in* GLOBAL RESOURCES AND INTERNATIONAL CONFLICT 86 (Arthur H. Westing ed., 1986); Jutta Brunnée & Stephen J. Toope, *Environmental Security and Freshwater Resources: Ecosystem Regime Building*, 91 AM. J. INT'L L. 26 (1997); George W. Down et al., *The Transformational Model of International Regime Design: Triumph of Hope or Experience*, 38 COLUM. J. TRANSNAT'L L. 465 (2000); Peter H. Gleick, *Water and Conflict: Fresh Water Resources and International Security*, 18 INT'L SECURITY 79 (1993); Thomas F. Homer-Dixon, *Environmental Scarcities and Violent Conflict*, 19 INT'L SECURITY 17 (1994); Christopher L. Kukk & David A. Deese, *At the Water's Edge: Regional Conflict and Cooperation over Fresh Water*, 1 UCLA J. INT'L L. & FOREIGN AFF. 21 (1996); Rafael Reuveny & John Maxwell, *Conflict and Renewable Resources*, 45 J. CONFLICT RESOL. 719 (2001).

114. *See* Joseph W. Dellapenna, *Population and Water in the Middle East: The Challenge and Opportunity for Law*, 7 INT'L J. ENV'T & POLLUTION 72, 82–83 (1997); Wolf, *supra* note 108.

115. *See* Amaury de Riencourt, *India and Pakistan in the Shadow of Afghanistan*, 61 FOREIGN AFF. 416 (1982).

116. *See, e.g.*, George H. Questor, *Nuclear Weapons and Indian Security: The Realist Foundations of Strategy*, 33 PARAMETERS 154 (2003) (book review); Tony Parkinson, *Musharraf Drags Pakistan Back from Precipice*, THE AGE, Jan. 10, 2004, at 11.

117. Indus Waters Treaty, India-Pak., Sept. 19, 1960, 419 U.N.T.S. 126; *see also* Accariez, *supra* note 110.

tainable water management and use. International law (particularly customary international law) by itself cannot solve this problem, but international law is an essential element of any solution.[118] Elsewhere, I have written at some length about the evolution of the customary international law applicable to water resources.[119] Here I will provide only a brief summary of that body of law as it exists today.

The principle of equitable utilization has long been the primary rule of customary international law for water resources.[120] The principle recognizes the right of all riparian States to use water from a common source so long as their uses do not interfere unreasonably with uses in another riparian State.[121] The *Reichsgerichtshof* (Germany's highest court) expressed the point:

> The exercise of sovereign rights by every State in regard to international rivers traversing its territory is limited by the duty not to injure the interests of other members of the international community. Due consideration must be given to one another by the States through whose territories there flows an international river. No State may substantially impair the natural use of the flow of such a river by its neighbours.[122]

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118. Dellapenna, *supra* note 114, at 89–91.

119. Joseph W. Dellapenna, *International Law Applicable to Water Resources Generally*, *in* 5 WATERS AND WATER RIGHTS, *supra* note 4, ch. 49 [hereinafter Dellapenna, *International Law*]; Joseph W. Dellapenna, *The Customary International Law of Transboundary Fresh Waters*, 1 INT'L J. GLOBAL ENVTL. ISSUES 264 (2001); Joseph W. Dellapenna, *Treaties as Instruments for Managing Internationally-Shared Water Resources: Restricted Sovereignty vs. Community of Property*, 26 CASE W. RES. J. INT'L L. 27, 42–47 (1994) [hereinafter Dellapenna, *Treaties*].

120. MCCAFFREY, *supra* note 100, at 137–49; Dellapenna, *International Law*, *supra* note 119, §§ 49.05–.05(c); Sheng Yu, *International Rivers and Lakes*, *in* ACHIEVEMENTS AND PROSPECTS, *supra* note 101, at 989, 991.

121. *See generally* MCCAFFREY, *supra* note 100, at 63, 76–111; Dellapenna, *International Law*, *supra* note 119, §§ 49.05–.05(a)(2); Yu, *supra* note 120, at 993–96.

122. Württemberg & Prussia v. Baden (The Donauversinkung Case), Deutscher Staatsgerichtshof [SGH] June 18, 1927, 116 Entscheidungen des Reichsgerichts in Zivilsachen [RGZ], Supp. 18, *reprinted in* 4 ANN. DIGEST OF PUB. INT'L L. CASES 128, 131 (H. Lauterpacht ed. 1931); *see also* Territorial Jurisdiction of the International Commission of the River Oder (U.K., Czechos., Den., Fr., Ger., Swed. v. Pol., 1929 P.C.I.J. (ser. A) No. 23, at 27 (Sept. 10), http://www.worldcourts.com/pcij/eng/decisions/1929.9.10_river_oder, (stating the same rule regarding navigational uses of shared waters); Jurisdiction of the European Commission of the Danube Between Galatz and Braila (Fr., Gr. Brit., It. v. Roum.), 1927 P.C.I.J. (ser. B) No. 14, at 61–64 (Dec. 8), http://www.worldcourts.com/pcij/eng/decisions/1927.12.08_danube; The Indus River Basin Case (Sind v. Punjab), REPORT OF THE INDUS (RAU) COMMISSION 10–11, *quoted in* 3 MARJORIE M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 943–44 (1964); The Lake Lanoux Arbitration (Fr. v. Spain), 24 I.L.R. 101, 111–12 (Arbitral Trib. 1957); Colorado v. New Mexico, 459 U.S. 176, 184-85 (1982); Zurich v. Aargau, 4 Entscheidungen des Schweizerischen Bundesgerichts [BGE] 34, 37 (Switz. 1898).

This principle has been included in each of the recent codifications of the customary international law applicable to water resources.[123]

These codifications also set forth a second principle, generally referred to as the "no-harm" rule.[124] In fact, the debates over the drafting and approval of the UN Convention centered on the relationship between the rule of equitable utilization and the no-harm rule.[125] The two rules, as approved by the General Assembly, are found in Articles 5 and 7 of the UN Convention:

> Article 5
> Equitable and reasonable utilization and participation
>
> 1. Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.
> 2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.[126]
>
> Article 7
> Obligation not to cause significant harm
>
> 1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.
> 2. Where significant harm nevertheless is caused to another watercourse State, the States whose use

123. *Berlin Rules*, *supra* note 106, art. 13; *Helsinki Rules*, *supra* note 99, art. V; U.N. Convention, *supra* note 104, art. 5(1).

124. *Berlin Rules*, *supra* note 106, art. 16; *Helsinki Rules*, *supra* note 99, art. V(2)(k); U.N. Convention, *supra* note 104, art. 7.

125. Dellapenna, *International Law*, *supra* note 119, § 49.05(a)(2).

126. U.N. Convention, *supra* note 104, art. 5.

> causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.[127]

While there is room for debate, paragraph 2 of Article 7 appears to subordinate the Article to the principle of equitable utilization in Article 5. Because each State's actions, if undertaken without regard for the interests of the other State, would inflict harm on the other, one could hardly reach any other conclusion.[128]

Overall, the UN Convention contains thirty-seven articles dealing with the obligations of riparian States to share the common resource, to consult with each other, to protect the environment, and to resolve disputes. The articles on international consultations, environmental protection, and the resolution of disputes go well beyond the comparable provisions of the *Helsinki Rules*.[129] The drafters of the UN Convention generally were cautious in their approach to their work, limiting it to transboundary water issues and even refusing to include groundwater within the scope of the Convention unless the groundwater was directly connected to a surface international watercourse.[130] The drafters' intent thus appears to have been to codify the traditional customary international law, rather than to "progressively develop" it or to incorporate related, but arguably distinct, bodies of customary international law of more recent vintage. The point is important because ratifications have proceeded slowly, raising doubt whether or when the UN Convention as such will enter into effect. Yet just because the Convention is not being ratified does not mean that it has had no effect. In the same year the General Assembly approved the Convention, the International Court of Justice referred to it as expressing the customary international law of transboundary waters—specifically referring to the new rules on environmental

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127. *Id.* art. 7.

128. *See, e.g.*, Joseph W. Dellapenna, *The Two Rivers and the Land between: Mesopotamia and the International Law of Transboundary Waters*, 10 BYU J. PUB. L. 213, 249–50 (1996). *See generally* Joseph W. Dellapenna, *Rivers as Legal Structures: The Examples of the Jordan and the Nile*, 36 NAT. RESOURCES J. 217 (1996); Albert E. Utton, *Which Rule Should Prevail in International Water Disputes: That of Reasonableness or that of No Harm?*, 36 NAT. RESOURCES J. 635 (1996).

129. *Compare* U.N. Convention, *supra* note 104, arts. 8, 9, 11–28, 29–33, *with Helsinki Rules*, *supra* note 99, arts. IX–XI, XXVI–XXXVIII. *See generally* MCCAFFREY, *supra* note 100, at 381–413.

130. *See* ILC REPORT, *supra* note 103, at 326.

protection as well as the rule of equitable utilization.[131] Whether the new mandates regarding international consultations and dispute resolution similarly reflect customary international law remains unclear.

B. Beyond Sharing: Customary International Law and National Waters

In part because the UN Convention was such a cautious document, the Water Resources Law Committee of the International Law Association, at a meeting in Edinburgh in January 1996, voted to compile and review the entire body of its and its predecessor committees' work from the *Helsinki Rules* of 1966 through various supplementary rules approved by the Association through 1996. The Committee and the Association confirmed this decision at the biennial conference of the Association in August 1996 and again in London in 2000.[132] I served as Rapporteur of this effort, which concluded in Berlin in 2004 with the International Law Association's approval of the *Berlin Rules on Water Resources.*[133]

The *Berlin Rules* set forth a coherent, cogent, and comprehensive summary of the relevant customary international law, incorporating the experience of the nearly four decades since the *Helsinki Rules* were adopted, taking into account the development of important bodies of complementary customary international law (including international environmental law,[134] international human rights law,[135] and the humanitarian law relating to the war and armed conflict[136]), as well as the General Assembly's adoption of the UN Convention. While there was some disagreement within the Committee over whether to undertake the project, the deci-

131. Gabcíkovo-Nagymaros Project (Hung. v. Slovk.), 1997 I.C.J. 92, ¶¶ 78, 85, 141 (Sept. 25).

132. *See* Int'l L. Ass'n, *supra* note 106, at 484.

133. *Berlin Rules*, *supra* note 106.

134. *See* Dellapenna, *International Law*, *supra* note 119, § 49.07.

135. *Id.* § 49.08.

136. *See generally* WILLIAM ARKIN ET AL., ON IMPACT: MODERN WARFARE AND THE ENVIRONMENT: A CASE STUDY OF THE GULF WAR (1991), http://www.greenpeace.org/raw/content/international/press/reports/on-impact-modern-warfare-and.pdf; FRANÇOISE BOUCHET-SAULNIER, THE PRACTICAL GUIDE TO HUMANITARIAN LAW (Laura Brav trans., 2002); INGRID DETTER, THE LAW OF WAR (2d ed. 2002); LESLIE C. GREEN, THE CONTEMPORARY LAW OF ARMED CONFLICT (2d ed. 2000); HILAIRE MCCOUBREY, INTERNATIONAL HUMANITARIAN LAW: THE REGULATION OF ARMED CONFLICTS (1990); GLEN PLANT, ENVIRONMENTAL PROTECTION AND THE LAW OF WAR (1992).

sions of the Association, including the final approval of the *Berlin Rules*, were by unanimous votes.[137]

The *Berlin Rules* address both national and international waters, to the extent that customary international law speaks to such waters.[138] Indeed, some of the rules extend beyond waters and address

137. *See* INT'L L. ASS'N, *supra* note 106, at 15–16, 940.

138. *Berlin Rules*, *supra* note 106, art. 1. The following treaties all include provisions governing national as well as international waters: *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)*, June 25, 1998, 38 I.L.M. 517 [hereinafter Aarhus Convention], http://www.unece.org/env/pp/documents/cep43e.pdf, *reprinted in* Stefano Burchi & Kerstin Mechlim, GROUNDWATER IN INTERNATIONAL LAW: COMPILATION OF TREATIES AND OTHER LEGAL INSTRUMENTS No. 8 (FAO Legis. Study no. 86, 2005) [hereinafter GROUNDWATER IN INTERNATIONAL LAW], ftp://ftp.fao.org/docrep/fao/008/y5739e/y5739e00.pdf; African Convention on the Conservation of Nature and Natural Resources, arts. II(1), VII(1), Sept. 15, 1968, OAU Doc. CAB/LEG/24.1, *available at* http://sedac.ciesin.org/entri/texts/african.conv.conserva.1969.html; Agreement Concerning the Niger River Commission and the Navigation and Transport on the River Niger, art. 12, Nov. 25, 1964, 587 U.N.T.S. 19; Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, arts. 1, 3, 7, Apr. 5, 1995, 34 I.L.M. 864 (1995) [hereinafter Mekong Agreement]; Association of South East Asian Nations (ASEAN) Agreement on the Conservation of Nature and Natural Resources, arts. 1, 14, 20(2), July 9, 1985, 15 Envtl Pol'y & L. 64, 68 (1985) [hereinafter ASEAN Agreement], *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra*, no. 5; Convention on the Cooperation for the Protection and the Sustainable Use of the Waters of the Luso–Spanish River Basins, arts. 2(1), 10(1)(b), 13(2), Port.-Spain, Nov. 30, 1998, 2099 U.N.T.S. 275 [hereinafter Luso-Spanish Convention]; Convention on the Protection of the Alps, art. 2(2), Nov. 7, 1991, 1917 U.N.T.S. 315 [hereinafter Alps Convention]; Convention on the Protection of Wetlands of International Importance, Especially as Waterfowl Habitat, Feb. 2, 1971, 996 U.N.T.S. 245 [hereinafter Ramsar Convention]; EU Water Framework Directive, Council Directive 2000/60/EC, art. 14(1), 2000 O.J. (L 327) 43, *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra*, no. 34; Framework Convention on the Protection and Sustainable Development of the Carpathians, art. 4, May 22, 2003 [hereinafter Carpathians Convention], *available at* http://www.carpathianconvention.org/text.htm, *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra*, no. 11; Protocol of San Salvador, art. 11, Nov. 17, 1988, O.A.S. T.S. 69; Treaty of the Rio de la Plata Basin, arts. 48, 49, Apr. 23, 1969, 875 U.N.T.S. 3 [hereinafter La Plata Treaty]; Tripartite Interim Agreement for Co-Operation on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses, Mozam.-S. Afr.-Swaz., Aug. 29, 2002, art. 3(b) [hereinafter Incomati Agreement], *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra*, no. 15; U.N. Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79, 31 I.L.M. 818 [hereinafter Biodiversity Convention].

For "soft law" instruments that recognize such obligations, see U.N. Conference on Environment and Development, Rio de Janeiro, Braz., Aug. 12, 1992, *Agenda 21*, ch. 23, pmbl., U.N. Doc. A/CONF.151/26 [hereinafter *Agenda 21*], *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra*, no. 39; International Conference on Water and Development, *Dublin Statement on Water and Sustainable Development*, Jan. 31, 1992, princ. 2, *available at* http://www.wmo.ch/web/homs/documents/english/icwedece.html [hereinafter *Dublin Statement*]; Int'l Conf. on Freshwater, Conference Report 25-34, recs. 1, 6, 11 (Bonn 2001), http://www.water-2001.de/ConferenceReport.pdf [hereinafter *Bonn Declaration*]; World Summit on Sustainable Development, *Johannesburg Declaration on Sustainable Development*, Sept. 4, 2002, U.N. Doc. A/CONF.199/L.6/Rev.2, princs. 4, 26, 138, 141, 164 [hereinafter *Johannesburg Declaration*], *available at* http://www.bmu.de/files/doc/application/msword/plan_final1009.doc; U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/5/Rev. 1, princ. 10 (1992) [hereinafter *Rio Declaration*].

the surrounding environment that relates to waters (the "aquatic environment") and the obligation to integrate the management of waters with the surrounding environment.[139] The major changes in the *Berlin Rules* relate to the rules of customary international law applicable to all waters, national as well as international, although there are certain refinements in the rules relating strictly to international waters. By including all of these matters within a single set of rules, a lawyer, a jurist, a water manager, a water policy maker, or anyone else concerned about the rules of customary international pertaining to water, will, for the first time, find all of the relevant law in one place, with attention to the interrelationships of the rules as well as to their clear statement.

C. The Content of the Berlin Rules

After an initial chapter setting forth the scope of the *Rules* and key definitions, Chapter II of the *Berlin Rules* summarizes the general principles applicable to all waters: the right of public participation,[140] the obligation to use best efforts to achieve both

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On whether these and many other international legal instruments create binding rules of customary international law, see ALEXANDRE KISS & DINAH SHELTON, INTERNATIONAL ENVIRONMENTAL LAW (3d ed. 2004); Frank Biermann, *"Common Concern of Humankind": The Emergence of a New Concept of International Environmental Law*, 34 ARCHIV DES VÖLKERRECHTS 426 (1996); Craig L. Carr & Gary L. Scott, *Multilateral Treaties and the Formation of Customary International Law*, 27 DENV. J. INT'L L. & POL'Y 71 (1999); Rudolph Dolzer, *Global Environmental Issues: The Genuine Area of Globalization*, 7 J. TRANSNAT'L L. & POL'Y 157 (1998); Eva M. Kornicker Uhlmann, *State Community Interests, Jus Cogens and Protection of the Global Environment: Developing Criteria for Peremptory Norms*, 11 GEO. INT'L ENVTL. L. REV. 101 (1998).

139. *Berlin Rules*, *supra* note 106, arts. 3(1), (6), 6, 22–29, 56(1), 57(3), 58(1), 62, 66(a), 68–71.

140. *Id.* art. 4. For international agreements recognizing a right of public participation in environmental decisions, see Aarhus Convention, *supra* note 138; ASEAN Agreement, *supra* note 138, art. 16(2); Carpathians Convention, *supra* note 138, arts. 2(2)(c), 13(1), (2); EU Water Framework Directive, *supra* note 138, art. 14(1); Incomati Agreement, *supra* note 138, art. 12; Luso-Spanish Convention, *supra* note 138, art. 6; North American Agreement on Environmental Cooperation, art. 1(h), Can.-Mex.-U.S., Sept. 13, 1993, 32 I.L.M. 1480; Ramsar Convention, *supra* note 138, art. 3(a); Revised African Convention on the Conservation of Nature and Natural Resources, arts. XVI, XX, July 11, 2003 [hereinafter Revised African Convention], *available at* http://www.intfish.net/treaties/africa2003.htm, *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra* note 138, no. 12; U.N. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, arts. 8, 11(3), 16(1), (2), Mar. 17, 1992, 31 I.L.M. 1312 [hereinafter Helsinki Convention].

For "soft law" instruments that recognize such obligations, see *Agenda 21*, *supra* note 138, ch. 23, pmbl.; *Dublin Statement*, *supra* note 138, princ. 2; *Bonn Declaration*, *supra* note 138, recs. 1, 6, 11; *Johannesburg Declaration*, *supra* note 138, princs. 4, 26, 138, 141, 164; *Rio Declaration*, *supra* note 138, princ. 10.

On whether these and many other international instruments create binding rules of customary international law, see KISS & SHELTON, *supra* note 138, at 678–81; Carl Bruch, *Charting New Waters: Public Involvement in the Management of International Watercourses*, 31

the conjunctive and the integrated management of waters,[141] and duties to achieve sustainability and the minimization of environmental harm.[142] Chapter III summarizes the basic principles

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ENVTL. L. REP. 11389 (2001); Dellapenna, *International Law*, *supra* note 119, § 49.08; Peggy Rodgers Kalas, *International Environmental Dispute Resolution and the Need for Access by Non-State Entities*, 12 COLO. J. INT'L ENVTL. L. & POL'Y 191 (2001); Lynn A. Maguire & E. Allan Lind, *Public Participation in Environmental Decisions: Stakeholders, Authorities and Procedural Justice*, 3 INT'L J. GLOBAL ENVTL. ISSUES 133 (2003), http://www.law.duke.edu/news/papers/envinstpap.pdf; Eric Mostert, *The Challenge of Public Participation*, 5 WATER POL'Y 179 (2003); Tun Myint, *Democracy in Global Environmental Governance: Issues, Interests, and Actors in the Mekong and the Rhine*, 10 IND. J. GLOBAL LEGAL STUD. 287 (2003).

For examples of participatory water management, see NEGOTIATING WATER RIGHTS (Bryan Randolph Bruns & Ruth S. Meinzen-Dick eds., 2000); REFLECTIONS ON WATER: NEW APPROACHES TO TRANSBOUNDARY CONFLICTS AND COOPERATION (Joachim Blatter & Helen Ingram eds., 2001); Ana Barreira, *The Participatory Regime of Water Governance in the Iberian Peninsula*, 28 WATER INT'L 350 (2003); Anna Blomqvist, *How Can Stakeholder Participation Improve European Watershed Management: The Water Framework Directive, Watercourse Groups and Swedish Contributions to Baltic Sea Eutrophication*, 6 WATER POL'Y 39 (2004); Shu-Hsiang Hsu, *Democratization and Water Management in Taiwan*, 29 WATER INT'L 61 (2004); Ben Page, *Has Widening Participation in Decision-Making Influenced Water Policy in the UK?*, 5 WATER POL'Y 313 (2003); Mark Seidenfeld & Janna Sitz Nugent, *"The Friendship of the People": Citizen Participation in Environmental Enforcement*, 73 GEO. WASH. L. REV. 269 (2005); A. Dan Tarlock, *Contested Landscapes and Local Voice*, 3 WASH. U. J.L. & POL'Y 513 (2000); Erik J. Woodhouse, Note, *The "Guerra del Agua" and the Cochabamba Concession: Social Risk and Foreign Direct Investment in Public Infrastructure*, 39 STAN. J. INT'L L. 295 (2003).

141. "Conjunctive management" means the management of the different phases of the hydrological cycle (surface waters, groundwater, etc.) as a whole; "integrated management" means the management of water resources combined with the management of other aspects of the environment. *See Berlin Rules*, *supra* note 106, arts. 5, 6, 37. For international agreements expressing such obligations, see *Agenda 21*, *supra* note 138, ch. 18; ASEAN Agreement, *supra* note 138, arts. 2, 8; *Bonn Declaration*, *supra* note 138, recs. 4–6, 9; EU Water Framework Directive, *supra* note 138, arts. 3, 5; Carpathians Convention, *supra* note 138, arts. 2(e), 6; Revised African Convention, *supra* note 140, art. VII(2)(b).

On whether these and many other international instruments create binding rules of customary international law, see KISS & SHELTON, *supra* note 138, at 461–93; MCCAFFREY, *supra* note 100, at 397–413; Dellapenna, *Treaties*, *supra* note 119, at 51–54; Alfred M. Duda & Mohamed T. El-Ashry, *Addressing the Global Water and Environment Crises through Integrated Approaches to the Management of Land, Water and Ecological Resources*, 25 WATER INT'L 115 (2000); Giorgos Kallis & David Butler, *The EU Water Framework Directive: Measures and Implications*, 3 WATER POL'Y 125 (2001); Uwe M. Erling, *Approaches to Integrated Pollution Control in the United States and the European Union*, 15 TUL. ENVTL. L.J. 1 (2001); Peter H. Gleick, *The Changing Water Paradigm: A Look at Twenty-First Century Water Resources Development*, 25 WATER INT'L 127 (2000); Tanya Heikkila, *Coordination in Water Resource Management: The Impact of Water Rights Institutions*, 5 WATER POL'Y 331 (2003); Meg Keen, *Integrated Water Management in the South Pacific: Policy, Institutional and Socio-Cultural Dimensions*, 5 WATER POL'Y 147 (2003); Richard Laster et al., *The Sound of One Hand Clapping: Limitations to Integrated Resources Water Management in the Dead Sea Basin*, 22 PACE ENVTL. L. REV. 123, 133–36 (2005); Stephen McCaffrey, *International Organizations and the Holistic Approach to Water Problems*, 31 NAT. RESOURCES J. 139, 150–61 (1991); Janusz Niemczynowicz, *Present Challenges in Water Management: A Need to See Connections and Interactions*, 25 WATER INT'L 139 (2000); Schwebel, *supra* note 111, at 81, 85, 175–81.

142. *Berlin Rules*, *supra* note 106, arts. 7, 8, 40. These duties were recognized in an International Court of Justice decision. Gabcíkovo-Nagymaros Project (Hung. v. Slovk.), 1997 I.C.J. 92, ¶¶ 53, 140 (Sept. 25). For international agreements recognizing such duties, see

applicable solely to international waters, including the right of basin States to participate in the management of shared water,[143] the duty of basin States to cooperate,[144] the principle of equitable utili-

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ASEAN Agreement, *supra* note 138, art. 1; Luso-Spanish Convention, *supra* note 138, arts. 1(e), 4(1), 10, 15; Convention on Cooperation for the Protection and Sustainable Use of the Danube River art. 2, June 29, 1994 [hereinafter Danube Convention], *available at* http://ksh.fgg.uni-lj.si/danube/envconv/, *reprinted in* 19 INT'L ENVTL. REP. 997 (1996), *and in* GROUNDWATER IN INTERNATIONAL LAW, *supra* note 138, no. 13; Convention on the Protection of the Rhine, arts. 3(1), 4(g), April 12, 1999 [hereinafter Rhine Convention], *available at* http://www.iksr.org/fileadmin/user_upload/documents/convention_on_the_protection_of__the_rhine.pdf, *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra* note 138, no. 14; EU Water Framework Directive, *supra* note 138, arts. 1, 4; Incomati Agreement, *supra* note 138, art. 1, 3(a), 7(l); *Johannesburg Declaration, supra* note 138; Mekong Agreement, *supra* note 138, arts. 1, 2, 7; North American Agreement on Environmental Cooperation, *supra* note 140, art. 1(a); Protocol on Shared Watercourse Systems in the Southern African Development Community Region arts. 1–4, Aug. 7, 2000, 40 I.L.M. 321 [hereinafter SADC Protocol], *reprinted in* GROUNDWATER IN INTERNATIONAL LAW, *supra* note 138, no. 10; *Rio Declaration, supra* note 138, princ. 7; La Plata Treaty, *supra* note 138, arts. 48, 49; Helsinki Convention, *supra* note 140, art. 2(2).

On whether these and many other international instruments create binding rules of customary international law, see MARIE-CLAIRE CORDONIER SEGGER & ASHFAQ KHALFAN, SUSTAINABLE DEVELOPMENT LAW: PRINCIPLES, PRACTICES, AND PROSPECTS (2004); ENVIRONMENTAL LAW, THE ECONOMY AND SUSTAINABLE DEVELOPMENT: THE UNITED STATES, THE EUROPEAN UNION, AND THE INTERNATIONAL COMMUNITY (Richard L. Revesz et al. eds., 2000); KISS & SHELTON, *supra* note 138, at 216–22; MCCAFFREY, *supra* note 100, at 381–96; Sumudu Atapattu, *Sustainable Development, Myth or Reality?: A Survey of Sustainable Development Under International Law and Sri Lankan Law*, 14 GEO. INT'L ENVTL. L. REV. 265 (2001); Bret C. Birdsong, *Adjudicating Sustainability: New Zealand's Environment Court*, 29 ECOLOGY L.Q. 1 (2002); Robert F. Blomquist, *Against Sustainable Development Grand Theory: A Plea for Pragmatism in Resolving Disputes Involving International Trade and the Environment*, 29 VT. L. REV. 733 (2005); Ximena Fuentes, *Sustainable Development and the Equitable Utilization of International Watercourses*, 69 BRIT. Y.B. INT'L L. 119 (1998).

On the meaning and application of "sustainable development," see COMMISSION ON SUSTAINABLE DEV., *supra* note 107; WORLD COMM'N ON ENV'T. & DEV., OUR COMMON FUTURE (1987); ROBIN CONNOR & STEPHEN DOVERS, INSTITUTIONAL CHANGE FOR SUSTAINABLE DEVELOPMENT (2004); STUMBLING TOWARD SUSTAINABILITY (John C. Dernbach ed., 2002); Robert W. Adler, *Fresh Water—Toward a Sustainable Future*, 32 ENVTL. L. REP. 10167 (2002); Bernard Barraqué, *Past and Future Sustainability of Water Policies in Europe*, 27 NAT. RESOURCES F. 200 (2003); Kallis & Butler, *supra* note 141; Margrethe Krontoft & William Testa, *NAFTA and the Great Lakes: How Can We Achieve Both Economic and Environmental Sustainability?*, 4 TOL. J. GREAT LAKES' L. SCI. & POL'Y 323 (2002); John E. Thorson, *Visions of Sustainable Interstate Water Management Agreements*, 43 NAT. RESOURCES J. 347 (2003).

143. *Berlin Rules, supra* note 106, art. 10; U.N. Convention, *supra* note 104, art. 4. For an example of the express recognition of the "participation principle," see Incomati Agreement, *supra* note 138, art. 3(b). *See also* Dellapenna, *International Law, supra* note 119, § 49.05(c); Schwebel, *supra* note 111, at 85.

144. *Berlin Rules, supra* note 106, art. 11. For international agreements recognizing a duty to cooperate over water, see ASEAN Agreement, *supra* note 138, arts. 18, 19; Carpathians Convention, *supra* note 138, art. 2(2)(d); Danube Convention, *supra* note 142, art. 2(2); Helsinki Convention, *supra* note 140, arts. 2(6), 9; Luso-Spanish Convention, *supra* note 138, arts. 2(1), (2), 4(1); Mekong Agreement, *supra* note 138, arts. 1, 4; Ramsar Convention, *supra* note 138, arts. 3, 4, 12; Revised African Convention, *supra* note 140, art. XXII(1)(a), (b), (d), (2)(e); SADC Protocol, *supra* note 142, art. 2(2), (6), (7).

zation,[145] and the obligation to avoid transboundary harm.[146] The remaining chapters develop these basic principles in significant detail. The refinements in the rules applicable solely to international waters (principally found in Chapters III, IX, and XI) mostly emphasize the importance of the obligations regarding environmental protection and public participation by applying those obligations even to international waters. The International Law Association once again revisited the recurring debate about the relation of the rule of equitable utilization and the rule requiring the avoidance of significant harm (the "no-harm" rule), with a new formulation of that relationship that will no doubt attract yet more discussion of the question.[147] Other chapters, relating to armed conflict (Chapter X), cooperative administration (Chapter XI), State responsibility (Chapter XII), private legal remedies (Chapter XIII), and the settlement of international disputes (Chapter XIV), also contain refinements without making a substantial departure from the *Helsinki Rules* and the UN Convention.

For "soft law" instruments that recognize such obligations, see *Bonn Declaration*, *supra* note 138, rec. 4; *Johannesburg Declaration*, *supra* note 138, ¶ 29; *Rio Declaration*, *supra* note 138, princs. 5, 27; U.N. Convention, *supra* note 104, arts. 8, 24.

On the need for cooperation on water, see generally Joachim Blatter & Helen Ingram, *States, Markets and Beyond: Governance of Transboundary Water Resources*, 40 NAT. RESOURCES J. 439 (2000); Franz Xaver Perrez, *The Efficiency of Cooperation: A Functional Analysis of Sovereignty*, 15 ARIZ. J. INT'L & COMP. L. 515 (1998).

145. *Berlin Rules*, *supra* note 106, arts. 12–15; U.N. Convention, *supra* note 104, arts. 5, 6. For international agreements recognizing the principle of equitable utilization, see Helsinki Convention, *supra* note 140, art. 2(2)(c); Danube Convention, *supra* note 142, art. 2(1); Incomati Agreement, *supra* note 138, art. 3(b); Mekong Agreement, *supra* note 138, art. 5; Revised African Convention, *supra* note 140, art. VII(3); SADC Protocol, *supra* note 142, art. 3(7), (8).

For "soft law" instruments that recognize such obligations, see *Bonn Declaration*, *supra* note 138, rec. 4; *Helsinki Rules*, *supra* note 99, arts. IV–VIII. *See generally* Dellapenna, *International Law*, *supra* note 119, § 49.05–.05(b)(3).

146. *Berlin Rules*, *supra* note 106, art. 16. For international agreements recognizing the obligation to avoid transboundary harm arising from water usage, see ASEAN Agreement, *supra* note 138, arts. 19(2)(a), 20(1); Carpathians Convention, *supra* note 138, art. 12(1); Helsinki Convention, *supra* note 140, art. 2(1); Luso-Spanish Convention, *supra* note 138, arts. 10(1), 15(1); Revised African Convention, *supra* note 140, art. VII(1)(b), (c).

For "soft law" instruments that recognize such obligations, see *Helsinki Rules*, *supra* note 99, § V(2)(k); *Rio Declaration*, *supra* note 138, princ. 2; U.N. Convention, *supra* note 104, art. 7. *See generally* Dellapenna, *International Law*, *supra* note 119, § 49.05(a)–(a)(2).

147. *Berlin Rules*, *supra* note 106, arts. 12, 16. The *Berlin Rules* posit that decision-makers, in resolving the rights and duties of States regarding their internationally shared waters, must not only give "due regard" to the right of equitable utilization in deciding whether there is a violation of the duty to avoid transboundary harm (as under the U.N. Convention, *supra* note 104, art. 7(2)), but also must give due regard to the obligation not to cause transboundary harm when deciding whether an actual or proposed use is equitable and reasonable (a provision with no counterpart in the U.N. Convention). What this change means, if anything, undoubtedly will lead to some interesting debates.

Much or most of the chapters pertaining to all waters (national and international) either are new or are significantly different from the content of the *Helsinki Rules* and the UN Convention, both of which restricted their coverage solely to international waters.[148] Chapter IV deals with the rights of persons, including the right of access to water,[149] the right to participate in decisions and to necessary information,[150] and the rights of persons organized as communities.[151] Chapter V deals in considerable detail with the protection of the environment, including the obligation to protect the ecological integrity of the aquatic environment,[152] the obliga-

148. *Helsinki Rules*, *supra* note 99, art. I; U.N. Convention, *supra* note 104, art. 1(1).

149. *Berlin Rules*, *supra* note 106, art. 17. The most important legal instrument to recognize this right is General Comment 15. U.N. Committee on Economic, Social, and Cultural Rights, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social, and Cultural Rights, *General Comment 15*, U.N. Doc. E/C.12/2002/11 (Nov. 26, 2002) [hereinafter *General Comment 15*], *available at* http://www.unhchr.ch/html/menu2/6/gc15.doc (the UN Committee is charged to provide authoritative interpretations of several human rights treaties; in this instance, it was interpreting the International Covenant on Economic, Social, and Cultural Rights art. 11, Dec. 16, 1966, 993 U.N.T.S. 3, http://www.ohchr.org/english/law/pdf/cescr.pdf).

For a "soft law" instrument expressly recognizing the human right to water, see *Dublin Statement*, *supra* note 138, princ. 3. For discussions of this right, see SALMAN M.A. SALMAN & SIOBHÁN MCINERNEY-LANKFORD, THE HUMAN RIGHT TO WATER: LEGAL AND POLICY DIMENSIONS (2004); Ignacio J. Alvarez, *The Right to Water as a Human Right*, *in* LINKING HUMAN RIGHTS AND ENVIRONMENT 76 (Romina Picolotti & Jorge D. Taillant eds., 2003), *available at* http://www.cedha.org.ar/docs/doc26.doc; Erik B. Bluemel, Comment, *The Implications of Formulating a Human Right to Water*, 31 ECOLOGY L.Q. 957 (2004); Peter H. Gleick, *The Human Right to Water*, 1 WATER POL'Y 487 (1998); Amy Hardberger, *Life, Liberty, and the Pursuit of Water: Evaluating Water as a Human Right and the Duties and Obligations it Creates*, 4 NW. J. INT'L. HUM. RTS. 331 (2005); Ramin Pejan, *The Right to Water: The Road to Justiciability*, 36 GEO. WASH. INT'L L. REV. 1181 (2004); Timothy J. Schorn, *Drinkable Water and Breathable Air: A Livable Environment as a Human Right*, 4 GREAT PLAINS NAT. RESOURCES J. 121 (2000).

150. *Berlin Rules*, *supra* note 106, arts. 18, 19. *See generally* sources cited *supra* note 140.

151. *Berlin Rules*, *supra* note 106, arts. 20, 21. For international agreements recognizing the rights of communities, see Ramsar Convention, *supra* note 138, art. 3(a); Revised African Convention, *supra* note 140, art. XVII(3). For "soft law" instruments recognizing the rights of communities, see *Bonn Declaration*, *supra* note 138, recs. 6(3), 11(1), (2); *Rio Declaration*, *supra* note 138, princ. 22. For discussions of the rights of communities, see MCCAFFREY, *supra* note 100, at 397–413; NEGOTIATING WATER RIGHTS, *supra* note 140.

152. *Berlin Rules*, *supra* note 106, arts. 22 (integrity generally), 24 (ecological flows), 25 (alien species). For international agreements recognizing the obligation to protect ecological integrity, see Alps Convention, *supra* note 138, art. 2(2)(f); ASEAN Agreement, *supra* note 138, art. 8(2)(b); Biodiversity Convention, *supra* note 138, arts. 8(d), (f), (h), 10(b); Carpathians Convention, *supra* note 138, arts. 2(2)(g), 4(1), (3), 6(c); Rhine Convention, *supra* note 142, art. 3(1)(c); EU Water Framework Directive, *supra* note 138, arts. 1, 4; Helsinki Convention, *supra* note 140, art. 2(2), (7); Incomati Agreement, *supra* note 138, arts. 6, 9; Luso–Spanish Convention, *supra* note 138, arts. 2(1), 10, 13(2), 16; Mekong Agreement, *supra* note 138, arts. 3, 6; Ramsar Convention, *supra* note 138, arts. 3(2), 4(1), (2); Revised African Convention, *supra* note 140, art. VII(1)(a); SADC Protocol, *supra* note 142, arts. 4(2)(c), 4(3)(b)(1).

tion to apply the precautionary approach,[153] and the duty to prevent, eliminate, reduce, or control pollution as appropriate[154] (including a special rule on hazardous substances[155]). Chapter VI addresses the obligation to undertake the assessment of the environmental impacts of programs, projects, or activities relating to all waters—national and international.[156] Chapter VII sets forth

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For "soft law" instruments recognizing the obligation to protect ecological integrity, see *Bonn Declaration*, *supra* note 138, recs. 4, 8; *Rio Declaration*, *supra* note 138, princ. 7; U.N. Convention, *supra* note 104, arts. 20, 22, 23, 25.

For discussions of the obligation to protect ecological integrity, see MCCAFFREY, *supra* note 100, at 388–96; Ali Ahmad & Carl Bruch, *Maintaining Mizan: Protecting Biodiversity in Muslim Communities*, 32 ENVTL. L. REP. 10020 (2002); A. Dan Tarlock, *International Water Law and the Protection of River System Ecosystem Integrity*, 10 BYU J. PUB. L. 181 (1996); Albert E. Utton & John Utton, *The International Law of Minimum Stream Flows*, 10 COLO. J. INT'L ENVTL. L. & POL'Y 7 (1999); Frank A. Ward & James F. Booker, *Economic Costs and Benefits of Instream Flow Protection for Endangered Species in an International Basin*, 39 J. AM. WATER RESOURCES ASS'N 427 (2003).

153. *Berlin Rules*, *supra* note 106, art. 23. For international agreements recognizing the precautionary approach, see ASEAN Agreement, *supra* note 138, art. 8(2)(c); Carpathians Convention, *supra* note 138, art. 2(2)(a); Danube Convention, *supra* note 142, art. 2(4); Helsinki Convention, *supra* note 140, art. 2(5)(j); Incomati Agreement, *supra* note 138, art. 3(b); Revised African Convention, *supra* note 140, art. IV; Rhine Convention, *supra* note 142, art. 4(b).

For "soft law" instruments recognizing the precautionary approach, see *Bonn Declaration*, *supra* note 138, rec. 6(2); *Rio Declaration*, *supra* note 138, princ. 15.

On the precautionary principle and its status as customary international law, see KISS & SHELTON, *supra* note 138, at 206–12; REINTERPRETING THE PRECAUTIONARY PRINCIPLE (Tim O'Riordan et al. eds., 2001); David A. Dana, *A Behavioral Economic Defense of the Precautionary Principle*, 97 NW. U. L. REV. 1315 (2003); Karl-Heinz Ladeur, *The Introduction of the Precautionary Principle into EU Law: A Pyrrhic Victory for Environmental and Public Health Law? Decision-Making under Conditions of Complexity in Multi-Level Political Systems*, 40 COMMON MKT. L. REV. 1455 (2003); Owen McIntyre & Thomas Mosedale, *The Precautionary Principle as a Norm of Customary International Law*, 9 J. ENVTL. L. 221 (1997); *The Precautionary Principle and Its Operationalisation in International Environmental Regimes and Domestic Policymaking*, 5 INT'L J. GLOBAL ENVTL. ISSUES (SPECIAL ISSUE) 1–113 (2005).

154. *Berlin Rules*, *supra* note 106, arts. 26-28. For international agreements recognizing a duty to minimize or otherwise control pollution, see ASEAN Agreement, *supra* note 138, art. 11; Carpathians Convention, *supra* note 138, art. 2(2)(b); Danube Convention, *supra* note 142, art. 2(4); EU Water Framework Directive, *supra* note 138, art. 3(a), (b); Helsinki Convention, *supra* note 138, arts. 2, 11; Incomati Agreement, *supra* note 138, arts. 4(a), 8(1)(c); Luso-Spanish Convention, *supra* note 138, arts. 10(1)(b), 13, 14; North American Agreement on Environmental Cooperation, *supra* note 140, art. 1(v), (vi); Revised African Convention, *supra* note 140, art. VII(e); SADC Protocol, *supra* note 142, art. 4(2)(b)(i).

For "soft law" instruments recognizing a duty to minimize or otherwise control pollution, see *Bonn Declaration*, *supra* note 138, rec. 8; *Rio Declaration*, *supra* note 138, princ. 16; U.N. Convention, *supra* note 104, arts. 21, 23. On the status of these duties as customary international law, see ANDRÉ NOLLKAEMPER, THE LEGAL REGIME FOR TRANSBOUNDARY WATER POLLUTION: BETWEEN DISCRETION AND CONSTRAINT (1993); Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931 (1997).

155. *Berlin Rules*, *supra* note 106, art. 26. For international instruments addressing hazardous substances, see EU Water Framework Directive, *supra* note 138, art. 1(c); Great Lakes Water Quality Agreement, *supra* note 69, art. II(d); *see also* U.N. Convention, *supra* note 104, art. 21(3)(c).

156. *Berlin Rules*, *supra* note 106, arts. 29–31.

obligations for cooperative and separate responses to extreme situations, including highly polluting accidents, floods, and droughts.[157]

Perhaps the most significant innovations in the *Berlin Rules* are in Chapter VIII, dealing with groundwater.[158] No prior compilation of the customary international law pertaining to waters said much about groundwater. The *Seoul Rules*, approved by the International Law Association in 1986 as a supplement to the *Helsinki Rules*, merely stated that the rules for surface waters also applied to groundwater.[159] The UN Convention said even less about groundwater.[160] While in principle the same rules apply to surface waters and groundwater (the obligation of conjunctive management implies as much), the characteristics of groundwater are so different from surface water sources that the *Berlin Rules* spell out in some detail how the general principles and rules apply specifically to the management of aquifers. Most of the rules in Chapter VIII apply to all aquifers (national and international), although one rule speaks specifically to the legal issues that relate to transboundary aquifers.[161] Chapter VIII also makes explicit that its rules apply to all aquifers, regardless of whether the aquifer is connected to surface waters or whether it receives any significant contemporary recharge.[162]

The *Berlin Rules* represent a bold departure in the formulation of the customary international law of water resources when compared to the *Helsinki Rules* or the UN Convention. Yet compared to international environmental law and the international law of human rights, the *Berlin Rules* are not bold at all. Time will tell whether governments, courts, and international lawyers will accept the *Berlin Rules* as fully or as quickly as they accepted the *Helsinki Rules*. The nature of customary international law always leaves room to debate both whether a particular practice of States has reached the status of binding international law and the precise content of the customary rules.[163] Some of the new articles are firmly grounded in international human rights law, and are well

157. *Id.* arts. 32–35.

158. *Id.* arts. 36–42.

159. INT'L L. ASS'N, THE SEOUL RULES ON INTERNATIONAL GROUNDWATERS, REPORT OF THE SIXTY-SECOND CONFERENCE 24 (1986), *available at* http://www.internationalwaterlaw.org/IntlDocs/Seoul_Rules.htm.

160. *See* MCCAFFREY, *supra* note 100, at 414–33.

161. *Berlin Rules*, *supra* note 106, art. 42.

162. *Id.* art. 36.

163. *See generally* KAROL WOLFKE, CUSTOM IN PRESENT INTERNATIONAL LAW (2d ed. 1993).

beyond question.[164] Other articles are supported strongly by international environmental agreements that have entered into force and are widely followed, even in nations that have not ratified them.[165] The International Law Association concluded that the *Berlin Rules* correctly summarize the current state of customary international law as it pertains to water resources.

In sum, the International Law Association approved a new paradigm for synthesizing the somewhat disparate rules into a coherent whole based on a recognized set of legal principles. The new paradigm includes five general principles, already described, that apply to States in the management of all waters, wholly national or domestic waters as well as internationally shared waters:

1. Participatory water management;[166]
2. Conjunctive management;[167]
3. Integrated management;[168]
4. Sustainability;[169] and
5. Minimization of environmental harm.[170]

The *Berlin Rules* also posit four further principles relating to water in a strictly international or transboundary context:

6. Cooperation;[171]
7. Equitable utilization;[172]
8. Avoidance of transboundary harm;[173] and
9. Equitable participation.[174]

This new paradigm—a coherent, cogent, and comprehensive vision of the current state of the relevant customary international law—should serve lawyers, water managements, and other decision-makers well.

164. *See generally* Dellapenna, *International Law*, *supra* note 119, § 49.08.
165. *See generally id.* § 49.07.
166. *Berlin Rules*, *supra* note 106, arts. 4, 17–21, 30, 69–71.
167. *Id.* arts. 5, 37.
168. *Id.* arts. 6, 22–24, 37–41.
169. *Id.* arts. 7, 10(1), 12(2), 13(2)(h), 22, 23(1), 29, 35(2)(c), 38, 40, 54(1), 58(3), 62, 64(1).
170. *Id.* arts. 8, 13(2)(i), 22–35, 38–41.
171. *Id.* arts. 9(2), 10, 11, 32-35, 42, 56–67.
172. *Id.* arts. 12–15, 42.
173. *Id.* arts. 16, 42.
174. *Id.*

III. CONTEMPORARY CHALLENGES AND THE LESSONS OF CUSTOMARY INTERNATIONAL LAW

The foregoing analysis demonstrates the complexity of the existing arrangements (including interstate compacts, informal interstate arrangements, two international agreements, and acts of Congress) relating to transboundary management of the Great Lakes and allows a comparison between the Law of the Lakes and the standards of customary international law. Despite the complexity of the Great Lakes arrangements, they still fall short of providing adequate transboundary management for the Lakes. The realization of this failure led to the efforts to negotiate a new interstate compact over the last five years. The question is whether the proposed new compact will resolve the problems confronting the Lakes and the users of the Lakes. In this Part, I first describe some of the salient contemporary challenges to the management of the Lakes. I next outline the features of the proposed new legal and quasi-legal governance regime. Finally, I compare the proposed new regime with the relevant international legal standards.

A. Contemporary Challenges

The Great Lakes have long featured a number of difficult issues relating to water allocation that have not been resolved, including lake levels and flows, water quality, waterborne transportation, fisheries, and energy.[175] Lake levels and minimum flows are particularly vexing because levels fluctuate constantly, with fluctuations of two or three feet having different effects on shipping, power generation, shore properties, and recreation.[176] Navigation interests prefer high levels, hydropower interests prefer flows through their facilities as high as possible (which tend to lower lake levels), and shore property interests prefer as little fluctuation as possible. Achieving a perfect balance of benefits and detriments among the various interests has proven nearly impossible.[177] Demands upon the Lakes, however, have only continued to increase.

175. *See generally* Dellapenna, *supra* note 4, § 50.06–.06(b); Leonard B. Dworsky, *The Great Lakes: 1955–1985*, 26 NAT. RESOURCES J. 291, 308 (1986).

176. *See, e.g.*, Hugh McDiarmid, Jr., *Miller Seeks Federal Study of Erosion Link to Lakes' Water Loss*, DET. FREE PRESS, Mar. 3, 2005, at 2B; Schwartz et al., *supra* note 1; Yin, *supra* note 1.

177. Dworsky, *supra* note 175, at 308–09.

The case of *Wisconsin v. Illinois*,[178] which lasted from the 1950s to 1980, illustrates the conflicts that the increasing demand for water from the Lakes generates. Three small Illinois communities (Elmhurst, Villa Park, and Lombard) sought to use Lake Michigan water because it was the cheapest source of additional water to meet the demands of their increasing populations. The proposed withdrawal, however, threatened to establish a dangerous precedent, and the other Great Lakes States objected. The State of Illinois sought a declaratory judgment from the Supreme Court of the United States. The matter was not brought before the International Joint Commission because the withdrawal of water for domestic and sanitary uses always trumps other uses under the Boundary Waters Treaty.[179]

While the withdrawal of water by three small communities for domestic purposes may not pose a serious threat to the Lakes, the aggregate effect of similar withdrawals by many communities around the Lakes raised concerns about lake levels.[180] Then in the 1980s came proposals to divert vast amounts of water to recharge the Ogallala aquifer or for other exports out of the basin.[181] The result was the creation of the Great Lakes Charter[182] in 1985, the enactment of the Water Resources Development Act of 1986,[183] as well as a "finding" by the International Joint Commission that there is no surplus water available for export.[184] Canada has also been alarmed by proposals to export water from the Lakes, but thus far has not taken any effective action to bar it.[185]

Unresolved questions about the effects of global and regional trade regimes on trade in bulk water complicate efforts to restrict

178. Wisconsin v. Illinois, 360 U.S. 712 (1959), *Master's report filed*, 385 U.S. 996 (1967), *decree entered*, 388 U.S. 426 (1967), *modified*, 449 U.S. 48 (1980); *see* Daniel A. Injerd, *Lake Michigan Water Diversion: A Case Study*, 1 BUFF. ENVTL. L.J. 307 (1993).

179. Boundary Waters Treaty, *supra* note 4, arts. III, VIII.

180. *See* A REPORT ON THE PROPOSED EXPANSION OF THE CITY OF AKRON WATER SYSTEM, *supra* note 80; Sherk, *supra* note 77.

181. *See* sources collected *supra* at 81.

182. Great Lakes Charter, *supra* notes 34–38 and accompanying text.

183. 42 U.S.C. § 1962d-20 (2000 & Supp. 2001); *see supra* notes 75–96 and accompanying text for an analysis of the statute.

184. INT'L JOINT COMM'N, FINAL REPORT ON PROTECTION OF THE WATERS OF THE GREAT LAKES (2000), *available at* http://www.ijc.org/php/publications/html/finalreport.html; *see also* Diaz & Dubner, *supra* note 2; Rajabi et al., *supra* note 1.

185. *See* Lorrayne Anthony, *Crisis Looms as Canada Waffles on Water Sales*, PRINCE GEORGE CITIZEN (BRITISH COLUMBIA), Aug. 13, 2001, at 7; Baumann, *supra* note 87; Isabel Dendauw, *The Great Lakes Region and Bulk Water Exports Issues of International Trade in Water: Equitable and Sustainable Access to Water*, 25 WATER INT'L 565 (2000); Glass, *supra* note 8, at 310–12; Christopher S. Maravilla, *The Canadian Bulk Water Moratorium and Its Implications for NAFTA*, 10 CURRENTS: INT'L TRADE L.J. 29 (2001) (discussing proposed legislation rather than an enacted statute).

exports from the basin.[186] Upon joining the North American Free Trade Agreement ("NAFTA") in 1993, Canada and the United States sought to forestall disputes over water exports by issuing a joint statement declaring that "[w]ater in its natural state, in lakes, rivers, reservoirs, aquifers, water basins and the like is not a good or product, is not traded, and therefore is not and never has been subject to the terms of any trade agreement."[187] While that statement might have a significant impact on claims under NAFTA,[188] it is of questionable relevance if asserted as a defense to an alleged violation of the General Agreement on Tariffs and Trade brought before the World Trade Organization.[189]

Nor have the several interstate and international initiatives, supplemented by public/private partnerships, dealt adequately with water quality concerns—even though several scholars have concluded that the International Joint Commission is the "exemplary model" of transboundary ecosystem management.[190] These institutions have been more successful in dealing with the strictly

186. *See* CAN. ENVTL. L. ASS'N, NAFTA AND WATER EXPORTS (1993); JON JOHNSON, WATER EXPORTS AND FREE TRADE: ANOTHER PERSPECTIVE IN CANADIAN WATER EXPORTS AND FREE TRADE (1989); Baumann, *supra* note 87; Jamie W. Boyd, Comment, *Canada's Position Regarding an Emerging International Fresh Water Market with Respect to the North American Free Trade Agreement*, 5 NAFTA: L. & BUS. REV. AM. 325 (1999); Dundauw, *supra* note 185; Christine Elwell, *NAFTA Effects on Water: Testing for NAFTA Effects in the Great Lakes Basin*, 3 TOL. J. GREAT LAKES' L. SCI. & POL'Y 151 (2001); Robert J. Girouard, Note, *Water Export Restrictions: A Case Study of WTO Dispute Settlement Strategies and Outcomes*, 15 GEO. INT'L ENVTL. L. REV. 247 (2003); Krontoft & Testa, *supra* note 142; Andrew Lang, *The GATS and Regulatory Autonomy: A Case Study of Social Regulation of the Water Industry*, 7 J. INT'L ECON. L. 801 (2004); Scott Philip Little, *Canada's Capacity to Control the Flow: Water Exports and the North American Free Trade Agreement*, 8 PACE INT'L L. REV. 127 (1996); Maravilla, *supra* note 185; Rona Nardone, Note, *Like Oil and Water: The WTO and the World's Water Resources*, 19 CONN. J. INT'L L. 183 (2003).

187. Press Release, Office of the Prime Minister, Prime Minister Announces NAFTA Improvements; Canada To Proceed With Agreement (Dec. 2, 1993). *See generally* Boyd, *supra* note 186; Little, *supra* note 186.

188. *See* David A. Gantz, *Potential Conflicts Between Investor Rights and Environmental Regulation under NAFTA's Chapter 11*, 33 GEO. WASH. INT'L L. REV. 651 (2001); Marcia Valiante, *Harmonization of Great Lakes Water Management in the Shadow of NAFTA*, 81 U. DET. MERCY L. REV. 525 (2004).

189. *See* Dendauw, *supra* note 185. *See generally* Sanford E. Gaines, *The Problem of Enforcing Environmental Norms in the WTO and What to Do About It*, 26 HASTINGS INT'L & COMP. L. REV. 321 (2003); Andrew Green, *Climate Change, Regulatory Policy and the WTO: How Constraining Are Trade Rules?*, 8 J. INT'L ECON. L. 143 (2005); Terra Lawson-Remer, Student Article, *Values under Siege: NAFTA, GATS, and the Propertization of Resources*, 14 N.Y.U. ENVTL. L.J. 481 (2006); Richard Skeen, Note, *Will the WTO Turn Green? The Implications of Injecting Environmental Issues Into the Multilateral Trading System*, 17 GEO. INT'L ENVTL. L. REV. 161 (2004).

190. PATRICIA W. BIRNIE & ALAN E. BOYLE, INTERNATIONAL LAW AND THE ENVIRONMENT 327 (2d ed. 2002); DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 809 (2d ed. 2002).

engineering aspects of water management than with pollution.[191] Still, these limited mechanisms have been somewhat effective in improving the water quality of the lakes despite the lack of stronger basin wide institutions.[192] Yet such improvements in water quality as there have been in recent decades have resulted from loosely coordinated steps taken independently by the several States and Provinces or the two federal governments.[193] Much improvement remains necessary and possible, leading to numerous suggestions over many years for the consolidation of technical and management skills in a separate organization with the authority to tackle the transboundary problems more effectively.[194]

B. The Proposed Great Lakes Governance Regime

Responding to the inadequacies of the existing regional water management regime and fearing that growing external pressures could lead to the export of water from the Great Lakes, the Governors of the eight Great Lakes States and the Premiers of the two Great Lakes Provinces signed "Annex 2001" to the Great Lakes Charter, committing themselves to creating a regional management system for the Lakes that would have real teeth within three years.[195] The process actually took a bit longer, but it did produce an agreement on a new interstate compact (the "Proposed Compact"), including the eight Great Lakes States but not the

191. *See generally* INT'L JOINT COMM'N, TWELFTH BIENNIAL REPORT ON GREAT LAKES WATER QUALITY (2004), http://www.ijc.org/php/publications/html/12br/pdf/12thbrfull_e.pdf; Christie, *supra* note 74, at 290–93; DeWitt, *supra* note 5, at 313–14; Michael J. Donahue, *The Great Lakes: A Report Card*, 28 CAN.-U.S. L.J. 457 (2002); Fassbender, *supra* note 71; Sadler, *supra* note 70, at 385–86; Siros, *supra* note 34, at 303–10; Verweij, *supra* note 71.

192. BILLUPS ET AL., *supra* note 70; Symposium, *Great Lakes*, *supra* note 70; Symposium, *Ground Water Contamination*, *supra* note 8.

193. Arvin, *supra* note 70; Gallagher, *supra* note 70, at 472–73, 476–87; Siros, *supra* note 34, at 287–303; Symposium, *Interplay*, *supra* note 72; Symposium, *Regulations*, *supra* note 72.

194. LYLE E. CRAINE, FINAL REPORT ON INSTITUTIONAL AGREEMENTS FOR THE GREAT LAKES 2–3 (1972); Richard B. Bilder, *Controlling Great Lakes Pollution: A Study of United States-Canadian Environmental Cooperation*, 70 MICH. L. REV. 469 (1972); Christie, *supra* note 74; DeWitt, *supra* note 5, at 317–33; Dworsky, *supra* note 175, at 321–22, 329–26; Gallagher, *supra* note 70; Great Lakes Charter, *supra* note 34, at 36; Earl, *supra* note 34; LeMarquand, *supra* note 5, at 239.

195. Annex 2001, *supra* note 10. For analysis of the reasons for and goals of the Annex 2001 process, see Ballesteros, *supra* note 10; Edstrom et al., *supra* note 10; Everhardt, *supra* note 1; Hinkle, *supra* note 1, at 306–10; Hall, *supra* note 11, at 432–35; Olson, *supra* note 10, at 35; Mark Squillace & Sandra Zellmer, *Managing Interjurisdictional Waters under the Great Lakes Charter Annex*, 18 NAT. RESOURCES & ENV'T., Fall 2003, at 8; Sandra Zellmer et al., *The Improvement of Water and Water-Dependent Resources Under the Great Lakes Charter Annex*, 4 TOL. J. GREAT LAKES' L. SCI. & POL'Y 289 (2002).

Provinces, that the Governors signed on December 13, 2005.[196] The negotiators also produced a parallel agreement (the "Great Lakes Agreement") that included the eight States and the two Provinces.[197] The Proposed Compact and the Great Lakes Agreement are nearly identical except for the list of participants and that the Great Lakes Agreement, in contrast to the Proposed Compact, is not intended to be legally binding. By keeping the agreement between the States and Provinces informal (in the sense of lacking legal obligation), the parties avoided the need to bring in the two federal governments to negotiate a treaty or other international agreement, a process that would further complicate what had proven already to be a complex and difficult task.[198] Despite (or because of) its non-binding character, most of the Great Lakes Agreement came "into effect" from the moment of its signing or soon thereafter,[199] whatever that means for a non-binding agreement. Despite its non-binding character, the States and Provinces provide for an elaborate dispute resolution process should disagreements arise relating to the agreement.[200]

The Proposed Compact creates a Great Lakes-St. Lawrence River Basin Water Resources Council (the "Council") composed of the governors of each State (or their designated representative).[201] The parallel body under the Great Lakes Agreement, identical in all respects except that it adds the Premiers of the two Provinces, is the Great Lakes-St. Lawrence Water Resources Regional Body (the "Regional Body").[202] The Council and the Regional Body are charged to determine (and to evaluate on an ongoing basis) the basin wide objectives to be implemented and enforced by the participating States and Provinces.[203]

196. Proposed Compact, *supra* note 9. *See generally* Hall, *supra* note 11, at 435–48; Hubbard, *supra* note 11, at 28.

197. Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement, Dec. 13, 2005, http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Sustainable_Water_Resources_Agreement.pdf [hereinafter Great Lakes Agreement]; *see also* Hall, *supra* note 11, at 445–48.

198. Great Lakes Agreement, *supra* note 197, art. 700(2); *see also* U.S. CONST. art. I, § 10, cl. 3. *See generally* Jennetten, *supra* note 36; Edward T. Swaine, *Does Federalism Constrain the Treaty Power?*, 103 COLUM. L. REV. 403 (2003).

199. Great Lakes Agreement, *supra* note 197, art. 709.

200. *Id.* arts. 600, 601.

201. Proposed Compact, *supra* note 9, §§ 1.2, 2.1, 2.2; *see also* Hall, *supra* note 11, at 444.

202. Great Lakes Agreement, *supra* note 197, art. 400; *see also* Hall, *supra* note 11, at 447.

203. Proposed Compact, *supra* note 9, §§ 4.1–4.2; Great Lakes Agreement, *supra* note 197, art. 400(2)(f).

The Proposed Compact and the Great Lakes Agreement also lay down rather specific standards to govern the "diversion" of water from the basin.[204] "Diversion" is defined as the:

> [T]ransfer of Water from the [Great Lakes] Basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer, including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a watercourse, a tanker ship, tanker truck or rail tanker[,] but does not apply to Water that is used in the Basin or Great Lakes watershed to manufacture or produce a Product that is then transferred out of the Basin or watershed.[205]

In both agreements, the effectuation of these standards, however, is left largely to the individual State(s) wherein the proposed diversion is to occur (the "originating Party").[206] The Proposed Compact makes only a very general provision for the Council to review proposed diversions upon submission by the originating Party to the Council.[207] The Council is to apply the terms of the Compact and its "Standards of Review and Decision" in passing on such submissions.[208]

Curiously, no general provision sets forth which proposed diversions States must submit to Council review, although a general provision defines which proposed diversions are subject to "regional review"—review by the Regional Body under the nonbinding Great Lakes Agreement.[209] One finds requirements for Council review (and unanimous approval) buried in specific provisions relating to "intra-basin transfers"[210] and "straddling counties."[211] For "straddling communities," the only criterion is that

204. Proposed Compact, *supra* note 9, §§ 4.8, 4.9, 4.11; Great Lakes Agreement, *supra* note 197, arts. 200, 201, 203; *see also* Hall, *supra* note 11, at 441–44.

205. Proposed Compact, *supra* note 9, § 1.2; Great Lakes Agreement, *supra* note 197, art. 103.

206. Proposed Compact, *supra* note 9, §§ 4.1, 4.3, 4.4, 4.6, 4.9, 4.10, 4.12, 4.15; Great Lakes Agreement, *supra* note 197, art. 202; *see also* Hall, *supra* note 11, at 439–44 (discussing the Proposed Compact).

207. Proposed Compact, *supra* note 9, § 4.7.

208. *Id.* § 4.7(2). Presumably this is a reference to sections 4.5 and 4.11, although that is not made explicit.

209. *Id.* §§ 4.5 (defining the scope of "regional review"), 4.7(2) ("The Council shall not take action on a Proposal subject to Regional Review pursuant to this Compact unless the Proposal shall have been first submitted to and reviewed by the Regional Body.").

210. *Id.* § 4.9(2)(c)(iii), (iv); Great Lakes Agreement, *supra* note 197, arts. 201(2)(c)(iii), (iv).

211. Proposed Compact, *supra* note 9, §§ 4.9(3)(f), (g); Great Lakes Agreement, *supra* note 197, arts. 201(3)(f), (g).

proposed diversions larger than 5,000,000 gallons per day ("gpd") must undergo regional review—there is no provision for Council review of these diversions.[212] Because actions taken pursuant to the Great Lakes Agreement are not legally binding, the outcome of the "regional review" is merely something for the Council to "consider" in making its decision.[213] At this point, one might wonder whether the Proposed Compact and the Great Lakes Agreement are so entangled with each other that the claim that the Agreement is not legally binding, and therefore does not tread upon the foreign affairs power of the federal government,[214] can be sustained if it were challenged.

The standards that are to govern "diversions" under the Proposed Compact and the Great Lakes Agreement focus on water quantity issues with hardly a mention of quality issues. The first requirement is that each State and Province maintain a water resources inventory and require each person who uses an average of 100,000 gpd or more to register the use, but does not require any information on water quality.[215] The two documents further require the States and Provinces to develop and implement water conservation and efficiency programs, but make no reference to water quality.[216] The standards for evaluating proposed diversions require that all "diversions" be environmentally sound, but provide no specifics on what "environmentally sound" means or requires.[217] Sustainability is mentioned only as an important concern justifying the imposition of the two institutions' regulatory standards.[218]

In contrast to the vague water quality and environmental sustainability standards, these standards spell out in considerable detail water quantity concerns that are to govern whether a State or Province or the Council or Regional Body is to approve a "diversion." This begins with a quantitative threshold for Council or Regional review—namely, a new or increased consumptive use of

212. Proposed Compact, *supra* note 9, § 4.9(1)(c); Great Lakes Agreement, *supra* note 197, art. 201(1)(c).

213. Proposed Compact, *supra* note 9, § 4.7(2). Recall that the standards for reviewing diversions under the Proposed Compact and the Great Lakes Agreement are identical. *See* Great Lakes Agreement, *supra* note 197, ch. 500.

214. *See* sources cited *supra* note 198.

215. Proposed Compact, *supra* note 9, § 4.1; Great Lakes Agreement, *supra* note 197, arts. 301(1), (3).

216. Proposed Compact, *supra* note 9, § 4.2; Great Lakes Agreement, *supra* note 197, art. 304.

217. Proposed Compact, *supra* note 9, §§ 4.9(2)(b)(ii), (c)(ii), (4)(e), 4.11(3); Great Lakes Agreement, *supra* note 197, arts. 201(b)(ii), (c)(ii), 4(e), 203(3).

218. Proposed Compact, *supra* note 9, § 1.3(e); Great Lakes Agreement, *supra* note 197, pmbl.

5,000,000 gpd, averaged over any ninety-day period.[219] An applicant for a "diversion" must demonstrate that all water (except for an "allowance for Consumptive Use") will return to the source watershed[220] and that the proposed use is "reasonable."[221] Determining the reasonableness of a proposed use requires consideration of:

1. whether the use is efficient and without waste;[222]
2. the balance between economic, social, and environmental needs;[223]
3. the potential availability of water;[224]
4. the duration of adverse impacts (particularly on other users);[225] and
5. the possible restoration of "hydrologic conditions."[226]

While some of these factors do refer in a general way to environmental factors, the clear focus is on quantitative measures and not on the maintenance of water quality.

The focus on quantity issues is made clear by the exception for certain "diversions" made within "straddling communities" or between sub-basins of the Great Lakes watershed.[227] Such "diversions" are exempted from Council or Regional Body review if they involve less than 100,000 gpd of diversion or less than 5,000,000 gpd of consumptive use.[228] While larger diversions are prohibited,[229] smaller diversions are to be regulated solely by the States. "Diversions" within "straddling counties," however, require unanimous consent of the Council, after review by the Regional Body, as do

219. Proposed Compact, *supra* note 9, § 4.6(1); Great Lakes Agreement, *supra* note 197, art. 205(1).

220. Proposed Compact, *supra* note 9, §§ 4.9(4)(c), 4.11(1); Great Lakes Agreement, *supra* note 197, arts. 201(4)(c), 203(1).

221. Proposed Compact, *supra* note 9, §§ 4.09(4)(b), 4.11(5); Great Lakes Agreement, *supra* note 197, arts. 201(4)(b), 203; *see also* Hall, *supra* note 11, at 436–39.

222. Proposed Compact, *supra* note 9, §§ 4.09(4)(a), 4.11(5)(a), (b); Great Lakes Agreement, *supra* note 197, arts. 201(4)(a), (e), 203(5)(a), (b).

223. Proposed Compact, *supra* note 9, § 4.11(5)(c); Great Lakes Agreement, *supra* note 197, art. 203(5)(c).

224. Proposed Compact, *supra* note 9, § 4.11(5)(d); Great Lakes Agreement, *supra* note 197, art. 203(5)(d).

225. Proposed Compact, *supra* note 9, §§ 4.09(4)(d), 4.11(5)(e); Great Lakes Agreement, *supra* note 197, arts. 201(4)(d), 203(5)(e).

226. Proposed Compact, *supra* note 9, § 4.11(5)(f); Great Lakes Agreement, *supra* note 197, art. 203(5)(f).

227. Proposed Compact, *supra* note 9, §§ 1.2, 4.9; Great Lakes Agreement, *supra* note 197, arts. 103, 201.

228. Proposed Compact, *supra* note 9, § 4.09(1)(b), (c); Great Lakes Agreement, *supra* note 197, arts. 201(1)(b), (c); *see also* Hall, *supra* note 11, at 441–43.

229. Proposed Compact, *supra* note 9, § 4.8; Great Lakes Agreement, *supra* note 197, art. 200(1).

intra-basin transfers averaging more than 100,000 gpd.[230] The legal standards that States are to apply to these diversions when they are not subject to Council or regional review are substantially the same as for those subject to review by the Council or the Regional Body.[231]

The Proposed Compact and the Great Lakes Agreement both provide for public participation in water management decisions[232] and for consultations with Native American tribes.[233] The right of public participation expressly includes a right of access to information[234] and, under the Proposed Compact, the right of an aggrieved party (including a State or Province) to judicial review under the applicable administrative procedures laws.[235] This right is to extend to the right of an aggrieved person to sue any individual water user whose use violates the terms of the Proposed Compact, with the prevailing party entitled to recover attorneys fees and expert witness fees.[236]

The two accords promote the development and application of scientific knowledge to the management of the waters of the basin.[237] They also grandfather all existing withdrawals without the possibility of review by any collective agency.[238] They also expressly protect[239] the allocations under *Wisconsin v. Illinois*,[240] which allows the diversion of water from Lake Michigan through the Chicago

230. Proposed Compact, *supra* note 9, §§ 4.09(2)(c)(iii), (iv) (intra-basin transfers), (3)(f), (g) (straddling counties); Great Lakes Agreement, *supra* note 197, arts. 201(2)(c)(iii), (iv) (intra-basin transfers), (3)(f), (g) (straddling counties).

231. *Compare* Proposed Compact, *supra* note 9, § 4.9, *and id.* § 4.11, *with* Great Lakes Agreement, *supra* note 197, art. 201, *and id.* art. 203. *See generally* Hall, *supra* note 11, at 441 n.207.

232. Proposed Compact, *supra* note 9, §§ 4.3(3), 6.1, 6.2; Great Lakes Agreement, *supra* note 197, arts. 401(10), (11), 503.

233. Proposed Compact, *supra* note 9, §§ 5.1, 8.1(3); Great Lakes Agreement, *supra* note 197, arts. 504, 702.

234. Proposed Compact, *supra* note 9, §§ 4.1(5), 6.2; Great Lakes Agreement, *supra* note 197, arts. 302(2), 303, 401(8), (9), 503(2).

235. Proposed Compact, *supra* note 9, § 7.3. As the Great Lakes Agreement is not binding, it expressly excludes judicial remedies under it. Great Lakes Agreement, *supra* note 197, art. 701(1).

236. Proposed Compact, *supra* note 9, § 7.3(3).

237. *Id.* §§ 4.1(6), 4.5(4), 4.15(1)(a); Great Lakes Agreement, *supra* note 197, arts. 209(1), (2), 301(4), 302, 505.

238. Both documents expressly limit their effect to "new or increased" diversions. Proposed Compact, *supra* note 9, §§ 4.3(1), 4.8, 8.1; Great Lakes Agreement, *supra* note 197, art. 200(1).

239. Proposed Compact, *supra* note 9, § 4.14; Great Lakes Agreement, *supra* note 197, art. 207(10)–(14).

240. 281 U.S. 179 (1930). This is a different case from *Wisconsin v. Illinois*, 388 U.S. 426 (1967), discussed *supra* note 178, though the two cases are related. *See also* Hall, *supra* note 11, at 419–22; Robert V. Percival, *The Clean Water Act and the Demise of the Federal Common Law of Interstate Nuisance*, 55 ALA. L. REV. 717, 718–32 (2004).

Sanitary and Shipping Canal into the Mississippi watershed. Curiously, no mention is made of the power of the governors to veto "diversions" under the Water Resources Development Act of 1986,[241] unless one considers the requirement that all "diversions" be consistent with all relevant state and federal laws.[242]

When the first drafts of the proposed accords were released for public comment, public opinion in the Great Lakes States and Provinces was sharply divided.[243] Canadians were particularly put off by the non-binding nature of the Great Lakes Agreement—the agreement under which they are given a voice in regional management decisions.[244] While the two accords were modified into the form described above before they were finally signed by the governors and premiers (as appropriate), these changes have not silenced the sometimes strident debate about their merits.[245]

C. The Lessons from International Law

There are a number of unresolved problems in the Proposed Compact and the Great Lakes Agreement. What these are and how they might be resolved are illuminated by comparing the agreements' provisions to the provisions of the *Berlin Rules*—the most up-to-date summary of the rules of the customary international law relating to water resources. Because the Great Lakes are internationally shared, I begin by considering the principles relating to

241. 42 U.S.C. § 1962d-20 (2000 & Supp. 2001); *see supra* notes 75–96 and accompanying text.

242. Proposed Compact, *supra* note 9, §§ 4.11(4), 8.4; Great Lakes Agreement, *supra* note 197, art. 203(4). It is unclear why there is such a provision in the Great Lakes Agreement given its "non-binding" character. *See* Great Lakes Agreement, *supra* note 197, arts. 700–704 (establishing that the Great Lakes Agreement has no effect on federal statutes or treaties, nor on the rights of tribes).

243. *See, e.g.*, sources cited *supra* note 13.

244. *See, e.g.*, sources cited *supra* note 12.

245. For a sampling of the critical articles, see, for example, Richard Brennan, *Border States Protect Lakes: Ontario, Quebec, U.S. Governors Sign Pact, Bid to Protect Area's Resources from "Dry" States*, TORONTO STAR, Dec. 14, 2005, at A18; Bob Burtt, *Deal Will Sink Huron Pipeline Plans: Moving Water between Great Lakes Basins Will Be Banned under New Agreement*, KITCHENER (ONT.) RECORD, Dec. 12, 2005, at B2; Editorial, *Great Lakes Compact Needs Change to Close Big Loophole on Bottled Water*, CAPITAL TIMES (Madison, Wis.), Nov. 29, 2005, at 7A; Dan Egan, *Governors Poised to Sign Great Lakes Water Rules, But Restrictions on Diversions Aren't Ironclad Just Yet*, MILWAUKEE J. SENTINEL, Dec. 12, 2005, at B1; Peter Luke, *Great Lakes' Enemy No. 1 is us; People, Governments in Region Take Water for Granted*, GRAND RAPIDS PRESS, Dec. 18, 2005, at B3; Melissa K. Scanlan, *Stop Exporting Wisconsin Water*, WIS. ST. J., July 27, 2006, at A10; Michael Miner, *They Need It; We Waste It*, 34 CHI. READER, no. 16, at 1 (Jan. 13, 2006). Supportive articles are fewer. *See, e.g.*, Rob Fanjoy, *Governors Sign Great Lakes Compact*, PLANNING, Feb. 2006, at 50; Anita Weier, *Great Lakes Governors OK Plan to Block Water Diversion*, CAPITAL TIMES (Madison, Wis.), Dec. 14, 2005, at 4A.

such waters. These principles are cooperation, equitable utilization, avoidance of harm, and equitable participation.[246] The issues that arise in the new accords relative to these principles largely relate to the managerial structures the accords create for the Lakes. I then turn to certain issues arising from the principles and rules that apply to all waters.[247] Among the principles and rules applicable to all waters, the primary concerns under the new accords relate to participatory rights and to environmental concerns.

1. The Managerial Regime

In comparing the new structures to the *Berlin Rules*, one must consider primarily the Great Lakes Agreement, for that is the accord that addresses the international nature of the Lakes. The Great Lakes Agreement certainly provides for some measure of cooperation. Neither it nor the Proposed Compact, however, address even the most basic traditional issue of international water law: how much water is the equitable share of a given State or Province (or of the two nations).[248]

Turning to the issues that the Great Lakes Agreement does address, how much cooperation will result from the Agreement is unclear because of its "non-binding" nature[249] and because of its dependence on and confusing relationship to the "binding" Proposed Compact.[250] This is even more confusing given that a great deal of the "non-binding" Agreement has come "into effect,"[251] while none of the "binding" Compact is in effect and it cannot come into effect until it is approved by all of the state legislatures and consented to by Congress.[252] Presumably, the participating States and Provinces expect that the Agreement will become the primary mechanism for cooperative management of the lakes, yet the decisions by the Regional Body are not binding on the Compact's Council, nor, apparently, do decisions by either the Regional Body or the Council prevent unilateral vetoes by the governor of a single State under the Water Resources Development Act of

246. *See supra* text accompanying notes 171–174.

247. *See supra* text accompanying notes 166–170.

248. *Contra Berlin Rules*, *supra* note 106, arts. 12, 13; *Helsinki Rules*, *supra* note 99, arts. IV, V; U.N. Convention, *supra* note 104, arts. 5, 6.

249. Great Lakes Agreement, *supra* note 197, art. 701(1).

250. *See supra* text accompanying notes 209–214.

251. Great Lakes Agreement, *supra* note 197, art. 709.

252. *See* U.S. CONST. art. 1, § 10, cl. 3.

1986.[253] As if this is not enough, there is also the question of how the decisions of the Regional Body and the Council are to relate to the decisions of the International Joint Commission, which still exists and the regulatory authority of which overlaps to a significant extent with the authority of these new institutions.[254] This last question is resolved in the Great Lakes Agreement and the Proposed Compact, both of which indicate that they are subordinate to the International Joint Commission.[255]

None of this precludes effective cooperative decision-making, but neither does it assure such decision-making. The very complexity of the interrelationships, however, could, at least at times, impede effective cooperative decision-making. The *Berlin Rules* provide a template for how to create a simpler, more centralized, cooperative decision-making institution.[256] The design of the new institutions is a step forward, for example, in expressly recognizing the importance of scientific input into the decision making process.[257] But the two accords do not attempt to set up a system for the "integrated management of waters of an international drainage basin."[258] The authority of the new institutions is too limited, is not clearly defined, and will clash with other institutions (e.g., the International Joint Commission, the veto power of the governors) with overlapping authority. Yet such an integrated system is essential if the increasing stresses on the water resources of the region are to be managed properly.[259]

At bottom the new institutions are designed to prevent the export of water from the basin, and to do little more than that. As far as the Proposed Compact goes, such a discriminatory purpose will be insulated from commerce clause challenges by the congressional consent necessary to make a compact legally effective.[260] Yet such a clearly discriminatory intent might very well invite claims

253. 42 U.S.C. § 1962d-20 (2000 & Supp. 2001); *see supra* notes 75–96 and accompanying text; *see also* Proposed Compact, *supra* note 9, §§ 4.11(4), 8.4; Great Lakes Agreement, *supra* note 197, art. 203(4).

254. *See* Boundary Waters Treaty, *supra* note 4, arts. VIII, IX. *See generally* Dellapenna, *supra* note 4, §§ 50.02(b), (c), 50.06(a).

255. Proposed Compact, *supra* note 9, § 8.2(3); Great Lakes Agreement, *supra* note 197, art. 701(2).

256. *Berlin Rules*, *supra* note 106, arts. 64–67.

257. *Compare* Proposed Compact, *supra* note 9, §§ 4.1(6), 4.5(4), 4.15(1), *and* Great Lakes Agreement, *supra* note 197, arts. 209(1), (2), 301(4), 302, 505, *with Berlin Rules*, *supra* note 106, art. 65(1)(a). *See generally* Krantzberg, *supra* note 23; Stephanie Tai, *Three Asymmetries of Informed Environmental Decisionmaking*, 78 TEMP. L. REV. 659 (2005).

258. *Berlin Rules*, *supra* note 106, art. 64(1).

259. *See, e.g.*, Susan H. MacKenzie, *Toward Integrated Resource Management: Lessons About the Ecosystem Approach from the Laurentian Great Lakes*, 21 ENVTL. MGMT. 173 (1997).

260. *See* Dellapenna, *Regulated Riparianism*, *supra* note 7, § 9.06(a).

under NAFTA or the WTO as violations of the international trade regime.[261] Only a truly integrated management regime, one that applies without discrimination to uses within and without the basin, will pass muster under international trade law.[262] This concern also leads to issues regarding what might be termed "participatory rights."

2. Participatory Rights

The *Berlin Rules* recognize a panoply of rights for persons to participate in the utilization of water resources, including, of course, a right to have a voice in decisions affecting their lives.[263] The Proposed Compact and the Great Lakes Agreement both provide for significant public participation and public access to information,[264] as does the Great Lakes Water Quality Agreement administered by the International Joint Commission.[265] As with management issues generally, there has emerged an overlapping and somewhat confusing set of parallel institutions to assure public participation,[266] to which the Proposed Compact and the Great Lakes Agreement will simply add further avenues for public input. While there is no provision for direct public control over management decisions regarding the basin's waters (such as direct voting or the election of members of the governing bodies), this is neither required nor necessarily recommended under customary international law as summarized in the *Berlin Rules.*[267]

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261. *See* sources cited *supra* note 186.

262. *Cf.* Panel Report, *United States–Standards for Reformulated and Conventional Gasoline* (Brazil & Venezuela v. United States), WT/DS2/R (Jan. 29, 1996), *available at* 1996 WL 738802 (striking down U.S. regulations on imported gasoline because the standards discriminated in favor of gasoline refined in the United States).

263. *Berlin Rules*, *supra* note 106, arts. 4, 17–21. *See* sources cited *supra* note 140.

264. Proposed Compact, *supra* note 9, §§ 4.1(5), 4.3(3), 6.1, 6.2; Great Lakes Agreement, *supra* note 197, arts. 302(2), 303, 401(8)–(11), 503, 702. *But cf. Berlin Rules*, *supra* note 106, arts. 18, 19.

265. 1987 Protocol, *supra* note 69; *see* Mimi Larsen Becker, *The International Joint Commission and Public Participation: Past Experiences, Present Challenges, Future Tasks*, 33 NAT. RESOURCES J. 235, 246–49 (1993); Bradley Karkkainen, *Marine Ecosystem Management & A "Post-Sovereign" Transboundary Governance*, 6 SAN DIEGO INT'L L.J. 113, 131–33 (2004); Jack Manno, *Advocacy and Diplomacy in the Great Lakes: A Case History of Non-Governmental-Organization Participation in Negotiating the Great Lakes Water Quality Agreement*, 1 BUFF. ENVTL. L.J. 1 (1993).

266. *See* Gallagher, *supra* note 70, at 472–87; Karkkainen, *supra* note 265, at 133; *see also* Arvin, *supra* note 70 (describing the ineffectiveness of efforts to prevent the discharge of dioxin into the Great Lakes, due at least in part to the confusing and overlapping institutions responsible for regulating water quality in the Great Lakes). *See generally* Dellapenna, *supra* note 4, § 50.06(b) & nn.336–44.

267. *Berlin Rules*, *supra* note 106, art. 18.

The Proposed Compact and the Great Lakes Agreement also appear to make adequate provision for consultation and the protection of the rights of indigenous peoples.[268] Unlike the *Berlin Rules*,[269] however, the two accords do not acknowledge the possible existence of other especially vulnerable communities, such as communities that will be inundated when a reservoir is constructed. Thus the agreements do not recognize such communities' need for special consideration and protection. Presumably, the Proposed Compact's promise of full access to the courts for any person aggrieved by a decision taken under the Compact is expected to fully protect any community.[270] Such access, however, does not obligate anyone—court, Council, or State officer—to acknowledge the special circumstances of vulnerable communities, and thus is not likely to assure such communities of the appropriate protection mandated by customary international law.[271]

Finally, the Proposed Compact and the Great Lakes Agreement, designed as they are to block the export of water from the basin (with limited exceptions for "straddling communities" and "straddling counties"[272]), expressly contradict one of the most important participatory rights summarized in the *Berlin Rules*—the right of access to water.[273] There certainly is wide recognition today of a human right to a clean and healthy environment,[274] and there is a

268. Proposed Compact, *supra* note 9, §§ 5.1, 8.1(3); Great Lakes Agreement, *supra* note 197, art. 504.

269. *Berlin Rules*, *supra* note 106, arts. 20, 21.

270. Proposed Compact, *supra* note 9, § 7.3. Recall that because the Great Lakes Agreement is not binding, it expressly excludes judicial remedies for its decisions. Great Lakes Agreement, *supra* note 197, art. 701(1).

271. *See, e.g.*, Revised African Convention, *supra* note 140, art. XVII(3) (recognizing a right in local communities to participate in the planning and management of locally important natural resources).

272. Proposed Compact, *supra* note 9, §§ 1.2, 4.9(1), (3); Great Lakes Agreement, *supra* note 197, arts. 103, 201(1), (3).

273. *Berlin Rules*, *supra* note 106, art. 17.

274. *See, e.g.*, African [Banjul] Charter on Human and Peoples' Rights, art. 24, June 27, 1981, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982) [hereinafter African Charter]; Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights, art. 11(1), Nov. 17, 1988, O.A.S. T.S. No. 69, [hereinafter OAS Protocol]; Hatton v. United Kingdom, 37 Eur. Ct. H.R. 611 (2003), *available at* http://www.echr.coe.int/ECHR/ (click on "Case-Law," next click on "HUDOC," then fill in "Hatton" as the Case Title and "United Kingdom" as the Respondent State and click "Search") (inferring a right to a safe and healthful environment from the European Convention of Human Rights and Fundamental Freedoms, Nov. 4, 1950, 213 U.N.T.S. 222); Social and Economic Rights Action Center v. Nigeria), Comm. No. 155/96, African Comm'n on Human and Peoples' Rights (2001) [hereinafter Action Center], *available at* http://www1.umn.edu/humanrts/africa/comcases/155-96.html (holding that dumping toxic wastes into water violates Article 24 of the African Charter, guaranteeing "a satisfactory environment"). Contrary to the growing international authority for such a right, some U.S.

growing acceptance of a human right to water.[275] Any doubt about the existence of a right to water was largely resolved by a "general comment" adopted by the UN Economic and Social Council at its Twenty-Ninth Session in Geneva in November 2002,[276] concluding that a human right to water is implicit in the right to an adequate standard of living of the International Covenant on Economic, Social, and Cultural Rights.[277]

The general comment presents a long and persuasive analysis of the legal basis for such a right, although some resist recognition of this right for fear that its recognition will impose a serious burden on governments by requiring them to provide water to everyone. The *Berlin Rules* do not recognize such an expansive interpretation of the right to water, but merely a government's obligation to ensure that no one encounters improper barriers to access the water they need.[278] Barriers might be imposed by governments or by private actors, but in either case it is the government's responsibility to see that, notwithstanding such barriers, each person has "access to sufficient, safe, acceptable, physically accessible, and affordable water to meet that individual's vital human needs."[279] The emphasis

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courts have declined to recognize the right. *See, e.g.*, Flores v. S. Peru Copper Corp., 343 F.3d 140 (2d Cir. 2003).

For commentary on whether such a right forms a part of international law, see BIRNIE & BOYLE, *supra* note 190, at 196–97; KISS & SHELTON, *supra* note 138, at 661–731; THE RIGHT OF THE CHILD TO A CLEAN ENVIRONMENT (Agata Fijalkowski & Malgosia Fitzmaurice eds., 2000); Carl Bruch et al., *Legislative Representation and the Environment in African Constitutions*, 21 PACE ENVTL. L. REV. 119 (2003); J. Mijin Cha, *A Critical Examination of the Environmental Jurisprudence of the Courts of India*, 10 ALB. L. ENVTL. OUTLOOK J. 197 (2005); Shubhankar Dam & Vivek Tewary, *Polluting Environment, Polluting Constitution: Is a "Polluted" Constitution Worse Than a Polluted Environment?*, 17 J. ENVTL. L. 383 (2005); Sueli Giorgetta, *The Right to A Healthy Environment, Human Rights and Sustainable Development*, 2 INT'L ENVTL. AGREEMENTS: POL. L. & ECON. 173 (2002); Parvez Hassan & Azim Azfar, *Securing Environmental Rights through Public Interest Litigation in South Asia*, 22 VA. ENVTL. L.J. 215 (2004); Barry E. Hill et al., *Human Rights and the Environment: A Synopsis and Some Predictions*, 16 GEO. INT'L EVNTL. L. REV. 359 (2004); Daniel A. Sabsay, *Constitution and Environment in Relation to Sustainable Development*, 21 PACE ENVTL. L. REV. 155 (2003).

275. *See, e.g.*, *Dublin Statement*, *supra* note 138, princs. 1–4. On whether such a right forms a part of international law, see HILAL ELVER, PEACEFUL USES OF INTERNATIONAL RIVERS: THE EUPHRATES AND TIGRIS RIVERS DISPUTE 256–86 (2002); SALMAN & MCINERNEY-LANKFORD, *supra* note 149; Alvarez, *supra* note 149; Jason Astle, Student Article, *Between the Market and the Commons: Ensuring the Right to Water in Rural Communities*, 33 DENV. J. INT'L L. & POL'Y 585 (2005); Bluemel, *supra* note 149; Gleick, *supra* note 149; Hardberger, *supra* note 149; Pejan, *supra* note 149.

276. *General Comment 15*, *supra* note 149.

277. International Covenant on Economic, Social and Cultural Rights arts. 11, 12(1), Dec. 16, 1966, 993 U.N.T.S. 3; *see also* OAS Protocol, *supra* note 274, arts. 10(1), 12(1); Convention on the Elimination of All Forms of Discrimination against Women art. 14(2)(h), Dec. 18, 1979, 1249 U.N.T.S. 13; Convention on the Rights of the Child art. 27(1), Nov. 20, 1989, 1577 U.N.T.S. 3; Action Center, *supra* note 272.

278. *Berlin Rules*, *supra* note 106, art. 17.

279. *Id.* art. 17(1).

is on individuals in need of water meeting their own needs without such barriers stopping them. In affluent countries like Canada and the United States, this is more than enough to satisfy the right to water. We need not resolve whether the right goes further in other contexts. In any event, the effectuation of this right requires a transparent process for decision-making regarding water resources.[280]

Nothing in the right of access to water limits it to persons living within the basin or watershed of the water source. If someone lives only a few miles from a major source of fresh water, but happens to live outside the basin of that water source, it might be that the most reasonable way for that person to access the water she needs is to cross the watershed line to obtain water from the nearby source. That is precisely what the Water Resource Development Act of 1986 has been used to prevent.[281] While the Proposed Compact and the Great Lakes Agreement will provide for many such persons through the exceptions for straddling communities and straddling counties,[282] one need not travel very far from the shores of the lakes or the banks of tributary streams to leave the straddling communities and counties.

This is more than just an abstract dispute about theoretical legal rights. The world's water resources are already under stress.[283] Stress arises from increasing populations,[284] economic

280. *Id.* art. 17(4).

281. *See* Dinsmore, *supra* note 79, at 468–69; Egan, *supra* note 79; Egan & Enriquez, *supra* note 79; Sherk, *supra* note 77.

282. Proposed Compact, *supra* note 9, §§ 1.2, 4.9(1), (3); Great Lakes Agreement, *supra* note 197, arts. 103, 201(1), (3). This assumes, of course, that no Governor will exercise a veto under the Water Resources Development Act of 1986.

283. *See, e.g.*, MAUDE BARLOW & TONY CLARKE, BLUE GOLD: THE FIGHT TO STOP THE CORPORATE THEFT OF THE WORLD'S WATER (2002); MARQ DE VILLIERS, WATER: THE FATE OF OUR MOST PRECIOUS RESOURCE (2000); GLEICK ET AL., *supra* note 107; QUENCHING THE WATER CRISIS: A PROACTIVE APPROACH (Donald A. Wilhite ed., 2005); U.N. COMM'N ON SUSTAINABLE DEV., *supra* note 107; U.N. ENVTL. PROGRAMME, *supra* note 107, at 151–210; Gilberto C. Gallopín & Frank Rijsberman, *Three Global Water Scenarios*, 1 INT'L J. WATER 16 (2000), *available at* http://www.ulb.ac.be/students/desge/cours/Envi045_travail_WWVisions.pdf; Leslie M. MacRae, *Water, Water Everywhere, But Much Less Than You Think*, 11 PENN ST. ENVTL. L. REV. 189 (2003); Igor A. Shiklomanov, *Appraisal and Assessment of World Water Resources*, 25 WATER INT'L 11 (2000).

284. MARK W. ROSEGRANT ET AL., WORLD WATER AND FOOD TO 2025: DEALING WITH SCARCITY (2002), *available at* http://www.ifpri.org/pubs/books/water2025/water2025.pdf; Diana D.M. Babor, *Population-Environment Linkages in International Law*, 27 DENV. J. INT'L L. & POL'Y 205 (1999); Mahesh C. Chaturvedi, *Water for Food and Rural Development: Developing Countries*, 25 WATER INT'L 40 (2000); Dellapenna, *supra* note 114; Otto J. Helweg, *Water for a Growing Population: Water Supply and Groundwater Issues in Developing Countries*, 25 WATER INT'L 33 (2000).

development,[285] and growing recognition of ecological or environmental needs for water.[286] Global climate change is likely to increase this stress dramatically.[287] If these projections are correct, it seems unrealistic to expect that the Great Lakes—twenty percent of the world's freshwater—can be kept off limits to demands for at least some water users outside the watershed. Relying on a water management regime that is legally suspect because it discriminates so clearly against users from outside the basin will not secure the Lakes from the possibly excessive demands of such users.[288] A comprehensive, integrated, non-discriminatory legal regime that actually allows for basin-wide management of the Lakes, however, could achieve a reasonable level of protection for the Lakes. If one is to take the goal of a comprehensive integrated legal regime for the Lakes seriously, one must consider environmental concerns as well as quantitative allocation concerns. This brings us to the last of the major areas where the Proposed Compact and the Great Lakes Agreement come up short.

3. Environmental Concerns

The Proposed Compact and the Great Lakes Agreement mention sustainability as an important concern justifying the new institutions' regulatory authority without any attempt at operation-

285. *See, e.g.*, SANDRA POSTEL, PILLAR OF SAND: CAN THE IRRIGATION MIRACLE LAST? (1999).

286. Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COLO. L. REV. 361 (2001); Vladimir Scakhtin et al., *A Pilot Global Assessment of Environmental Water Requirements and Scarcity*, 29 WATER INT'L 307 (2004).

287. *See* IMPACTS OF CLIMATE CHANGE AND CLIMATE VARIABILITY ON HYDROLOGICAL REGIMES (Jan C. van Dam ed., 1999); Levi D. Brekke et al., *Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California*, 40 J. AM. WATER RESOURCES ASS'N 149 (2004), *available at* http://www-esd.lbl.gov/ESD_staff/miller/pubs/brekke_2004.pdf; Heejun Chang et al., *The Effects of Climate Change on Stream Flow and Nutrient Loading*, 37 J. AM. WATER RESOURCES ASS'N 973 (2001); Woonsup Choi, *Climate Change, Urbanisation and Hydrological Impacts*, 4 INT'L J. GLOBAL ENVTL. ISSUES 267 (2004); Brian H. Hurd et al., *Climatic Change and U.S. Water Resources: From Modeled Watershed Impacts to National Estimates*, 40 J. AM. WATER RESOURCES ASS'N 129 (2004), *available at* http://agecon.nmsu.edu/bhurd/hurdhome/Hurd%20Pubs/Hurd-JAWRA-climatewater.pdf; Ashutosh S. Limaye et al., *Macroscale Hydrologic Modeling for Regional Climate Assessment Studies in the Southeastern United States*, 37 J. AM. WATER RESOURCES ASS'N 709 (2001); Norman L. Miller et al., *Potential Impacts of Climate Change on California Hydrology*, 39 J. AM. WATER RESOURCES ASS'N 771 (2003), *available at* http://www-esd.lbl.gov/ESD_staff/miller/pubs/miller_jawra2003.pdf; Mike R. Scarsbrook et al., *Effects of Climate Variability on Rivers: Consequences for Long Term Water Quality Analysis*, 39 J. AM. WATER RESOURCES ASS'N 1435 (2003); Mark C. Stone et al., *Impacts of Climate Change on Missouri River Basin Water Yield*, 37 J. AM. WATER RESOURCES ASS'N 1119 (2001); Symposium, *Water Resources and Climate Change*, 35 J. AM. WATER RESOURCES ASS'N 1297-1665 (pt. I) (1999), 36 J. AM. WATER RESOURCES ASS'N 251-432 (pt. II) (2000).

288. *See* sources cited *supra* note 186.

alizing the concept.[289] The two accords refer to protecting the environment only in a vague, general way—allocations must be "environmentally sound."[290] This is similar to the Boundary Waters Treaty, which mentioned a single environmental concern—pollution—only in broad, general language.[291] The International Joint Commission is dependent upon references from the two governments before being able to undertake studies of environmental problems because it lacks specific authority over pollution problems. The Commission largely failed to address the problem for the first sixty years of its existence.[292] The Council and the Regional Body, acting under the vague mandates of the Proposed Compact and the Great Lakes Agreement, respectively, can hardly be expected to do better, if only because they will be able to consider environmental problems only in the context of reviewing proposed diversions of water out of the Great Lakes basin.

Canada and the United States did eventually enter into an agreement designed to address the growing environmental problems in the Great Lakes—the Great Lakes Water Quality Agreement in 1972, amended in 1978 and 1987.[293] Despite this agreement, however, the Lakes are still being degraded by a complex of interrelated problems including excess nutrients, airborne toxic pollutants, contaminated sediments in rivers and harbors, declining fisheries, wetlands loss, and alteration of natural stream flows from approximately 6000 tributaries across the 300,000 square mile basin—problems that can fairly be described as requiring an ecosystem approach to water management.[294] The 1978

289. Proposed Compact, *supra* note 9, § 1.3(e); Great Lakes Agreement, *supra* note 197, pmbl.

290. Proposed Compact, *supra* note 9, §§ 4.9(2)(b)(ii), (2)(c)(ii), (4)(e), 4.11(3); Great Lakes Agreement, *supra* note 197, arts. 201(2)(b)(ii), (2)(c)(ii), (4)(e), 203(3).

291. Boundary Waters Treaty, *supra* note 4, art. IV ("It is further agreed 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.").

292. Frederick J.E. Jordan, *Recent Developments in International Environmental Control*, 15 MCGILL L.J. 279, 295–96, 298–300 (1969); *see also* Dworsky, *supra* note 175, at 318.

293. Great Lakes Water Quality Agreement, *supra* note 69. *See generally Berlin Rules*, *supra* note 106, art. 22 (discussing the obligation to maintain the ecological integrity of water resources); Dellapenna, *supra* note 4, § 50.06(b); DeWitt, *supra* note 5, at 311–13; Gallagher, *supra* note 70, at 468–72, 474–76.

294. *See* PERSPECTIVES ON ECOSYSTEM MANAGEMENT FOR THE GREAT LAKES, *supra* note 50; Arvin, *supra* note 70; Christie, *supra* note 74; Michael J. Donahue, *Toward an Ecosystem Management in the Great Lakes Basin: The Overlapping Impacts of Water Quantity and Quality*, 25 U. TOL. L. REV. 443 (1994); Durnil, *supra* note 50; George R. Francis & Henry A. Regier, *Barriers and Bridges to the Restoration of the Great Lakes Basin Ecosystem*, *in* BARRIERS AND BRIDGES TO THE RENEWAL OF ECOSYSTEMS AND INSTITUTIONS 239 (Lance H. Gunderson, C.S. Holling & Stephen S. Light eds. 1995); Russell S. Jutlah, *An Economic Perspective on the Great Lakes Ecosystem Approach*, 19 TEMP. ENVTL. L. & TECH. J. 55 (2000); McKenzie, *supra* note 259.

amendments to the Great Lakes Water Quality Agreement did introduce the ecosystem approach,[295] but this approach failed to achieve the gains expected because the governments starved the International Joint Commission for funds and support after signing the Protocol.[296] Moreover, the Commission's efforts were criticized as "empire building."[297] The result has been an egregious example of ecosystem mismanagement, as is shown by the decimation of the Great Lakes fish stocks through over-fishing and other poor decisions.[298]

CONCLUSION

Noah Hall, who served as a member of the Advisory Committee to the Working Group that drafted the Proposed Compact has concluded that the two documents represent a major new approach to interstate water management, which he calls "cooperative interstate federalism."[299] He argues that "cooperative interstate federalism" has the virtue of imposing collective, but locally defined, standards without unduly interfering with a state's right to manage its own affairs while accommodating the transboundary nature of the problems without treading upon the supremacy of, or becoming overly dependant on distant federal law. Whether this will prove true, or whether the Proposed Compact (assuming it is duly ratified and comes into effect) will prove to be just a more elaborate form of the "let's keep in touch" model of interstate compacts that have failed the eastern States,[300] remains to be seen. Meanwhile, it seems clear that the Great Lakes Agreement is precisely a more elaborate "let's keep in touch" kind of agreement, one that has few teeth with the Proposed Compact in place and no teeth at all should the Proposed Compact never

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On ecosystem management generally, see GARY K. MEFFE ET AL., ECOSYSTEM MANAGEMENT: ADAPTIVE, COMMUNITY-BASED CONSERVATION (2002); NATIONAL RESEARCH COUNCIL, VALUING ECOSYSTEM SERVICES: TOWARD BETTER ENVIRONMENTAL DECISIONMAKING (2005).

295. 1978 Amendments, *supra* note 69, pmbl.

296. Christie, *supra* note 74, at 291; Young, *supra* note 6, at 50–51.

297. *See* LeMarquand, *supra* note 5; Don Munton, *The View from the Pearson Building, in* THE INTERNATIONAL JOINT COMMISSION SEVENTY YEARS ON 60 (Robert Spencer, John Kirton & Kim Richard Nossal eds. 1981).

298. *See, e.g.*, Tracy Dobson, Henry A. Regier & William W. Taylor, *Governing Human Interactions with Migratory Animals, with a Focus on Humans Interacting with Fish in Lake Erie: Then, Now, and in the Future*, 28 CAN.-U.S. L.J. 389 (2002).

299. Hall, *supra* note 11, at 448–54.

300. Dellapenna, *Struggles*, *supra* note 7, at 838–39.

come into effect—despite the Agreement's provision that much of it is immediately "in effect."[301]

Even if the two accords come into effect, we are left with an incomplete version of what internationally is coming to be called "equitable participation."[302] Under customary international law, States (that is, communities organized as sovereign entities) have a right to participate in the management of their shared water resources.[303] Individuals also have a right of access to the water resources necessary for their survival.[304] Establishing an informal arrangement in the hope that matters will work smoothly without the creation of any real decision-making authority (as in the Great Lakes Agreement), or leaving most decisions up to individual States without effective collective control, simply does not fulfill the obligation to ensure the achievement of these rights. While the Proposed Compact would create legally binding norms and institutions to implement those norms, the Compact lacks the geographic scope and neglects environmental and other issues to such a degree that one can question whether it will fulfill its goals as well.

301. Great Lakes Agreement, *supra* note 197, art. 709.
302. Dellapenna, *International Law*, *supra* note 119, § 49.05(c).
303. *Berlin Rules*, *supra* note 106, arts. 16, 42.
304. *Id.* art. 17.